Appendix 4-1

Transportation Impact Analysis and Technical Appendices

Prepared for

San Francisco Planning Department

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Mission Rock (Seawall Lot 337 and Pier 48) Mixed-Use Project

Transportation Impact Study

CASE NO. 2013.0208E

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TABLE OF CONTENTS

1 Introduction 1

1.1 Project Study Area 2

1.2 Project Description 5

1.2.1 Land Use Program 5

1.2.2 Project Transportation Changes Assumed in the Analysis 7

1.2.3 Roadway and Bicycle Network Changes 8

1.2.4 Bicycle Circulation and Parking 10

1.2.5 Parking 11

1.2.6 Commercial Loading 11

1.2.7 Passenger Loading 12

1.2.8 Emergency Vehicle Access 12

1.2.9 Event Transportation Management 12

1.2.10 Pedestrian Network 12

1.2.11 Transit Network 13

1.2.12 Transportation Demand Management Program 14

1.3 Report Organization 18

2 Existing Conditions 20

2.1 Elements of Analysis 20

2.2 Roadway Facilities 20

2.2.1 Regional Access 20

2.2.2 Local Access 21

2.3 Transit Network 25

2.3.1 San Francisco Muni 25

2.3.2 Regional Transit Service 37

2.3.3 Other Transit Providers 40

2.4 Pedestrian Facilities 41

2.4.1 No-Event Pedestrian Conditions 41

2.4.2 Event Pedestrian Conditions 42

2.4.3 Pedestrian Crosswalk LOS 43

2.5 Bicycle Circulation 48

2.6 Loading Facilities 51

2.7 Emergency Services & Access 51
2.8 Parking Conditions 52
2.8.1 On-Street Parking 52
2.8.2 Off-Street Parking 53

3 Baseline Conditions 61
3.1 Transit Operations 62
3.2 Pedestrian Network 66
3.3 Bicycle Network 66

4 Travel Demand Analysis 67
4.1 Trip Generation 67
4.2 Trip Distribution 71
4.3 Travel Modes 72
4.4 Trip Assignment 76
4.5 Freight Delivery and Service Vehicle Demand 82
4.6 Parking Demand 84

5 Impact Analysis 87
Significance Criteria 87
Construction 87
Vehicle Miles Traveled (VMT) 87
Traffic 87
Transit 87
Pedestrians 88
Bicycles 88
Loading 88
Emergency Access 88
Parking 88
5.1 Construction Impacts 88
5.2 VMT Impacts 91
5.2.1 Influence of Parking Supply on VMT 92
5.2.2 Induced Travel 95
5.3 Traffic Impacts 96
5.4 Muni Transit Capacity Impacts 97

5.4.1 Muni Downtown Screenlines, Subcorridors, and Individual Routes 98
5.4.2 10 Townsend Route 107
5.4.3 Muni Project-Specific Cordon 110
5.4.4 30 Stockton Route 110
5.5 Regional Transit Capacity ImpactS 112
5.5.1 High Residential Assumption 112
5.5.2 High Commercial Assumption 114
5.6 Transit Delay Impacts 116
5.7 Pedestrian Hazard Impacts 121
5.7.1 Pedestrian Hazards 121
5.8 Pedestrian Capacity Impacts 123
5.9 PEDESTRIAN Safety Impacts At Unsignalized Intersections 124
5.10 Bicycle Impacts 127
5.10.1 Bicycle Hazards 127
5.10.2 Bicycle Parking 129
5.11 Loading Impacts 130
5.11.1 Residential and Commercial Loading 130
5.12 Emergency Access Impacts 132
5.13 PARKING Impacts 135

6 Cumulative Conditions 138
6.1 Cumulative Construction Impacts 143
6.2 Vehicle-Miles Traveled Estimates 145
6.3 Cumulative Traffic Impacts 146
6.4 Cumulative Muni Transit Capacity Impacts 147
6.4.1 Muni Downtown Screenlines, Subcorridors, and Individual Routes 147
6.4.2 Muni Project-Specific Cordon 157
6.5 Cumulative Regional Transit Capacity Impacts 158
6.5.1 High Residential Assumption 158
6.5.2 High Commercial Assumption 160
6.6 Transit Delay Impacts 163
6.7 Cumulative Pedestrian Impacts 164
6.8 Cumulative Bicycle Impacts 164
6.9 Cumulative Loading Impacts 164

6.10 Cumulative Emergency Vehicle Access Impacts 165
6.11 Cumulative Parking Impacts 166

7 Intersection and Freeway Operations Analysis (For Informational Discussion Only) 168
7.1 Existing Conditions 170
7.1.1 Intersection Operations 170
7.1.2 Freeway Ramp Operating Conditions 180
7.2 Baseline Conditions 182
7.2.1 Intersection Operations 182
7.2.2 Freeway Ramp Operations 188
7.3 Intersection and Freeway Potential Measure Analysis 189
7.3.1 Signalized Intersection Analysis Criteria 189
7.3.2 Unsignalized Intersection Analysis Criteria 189
7.3.3 Freeway Analysis Criteria 189
7.3.4 Intersection Analysis 190
7.3.5 Freeway Analysis 238
7.3.6 Cumulative Traffic Analysis 245
7.3.7 Cumulative Freeway Analysis 276

8 Mitigation and Improvement Measures **283**
a. Construction 283
b. Traffic 284
c. Transit 284
d. Pedestrian 287
e. Bicycle 288
f. Loading 288
g. Emergency Access 289
h. Parking Discussion 290
i. Cumulative Conditions 290
j. Improvement Measures from Level of Service Analysis 292

Appendices 293

APPENDICES

Appendix A: Approved Scope of Work

Appendix B: Roadway Network Classifications (From SF General Plan)

Appendix C: Transit Line Capacity calculations

Appendix D: Pedestrian Level of Service Description and CAlculations

Appendix E: Traffic Volume and Intersection Turning Movement Counts

Appendix F: Parking Supply and Occupancy Demand

Appendix G: Project Travel Demand Memorandum

Appendix H: Intersection Level of Service Calculations and Proposed Project Contribution

Appendix I: Freeway Level of Service Calculations

Appendix J: Queue Analysis

LIST OF TABLES

Table 1: Proposed Project Land Uses 7

Table 2: Local Roadway Network Descriptions 21

Table 3: Local Muni Operations 27

Table 4: Muni Peak Hour Load and Capacity Utilization By Line 29

Table 5: Muni Downtown Screenline Groupings 32

Table 6: Muni Downtown Screenlines and Project-Specific Lines – Existing Conditions 36

Table 7: Muni Downtown Screenlines: Routes For Other Lines Subcorridors – Existing Conditions 37

Table 8: Regional Transit Screenlines – Existing/Baseline Conditions 40

Table 9: Pedestrian Crosswalk/Sidewalk Level of Service – Existing/Baseline Conditions 44

Table 10: On-Street Parking Spaces by Type 53

Table 11: Off-Street Parking Facilities 55

Table 12A: Muni Downtown Screenlines and Project-Specific Routes – Baseline Conditions 64

Table 12B: Muni Downtown Screenlines and Project-Specific Routes – Baseline Conditions 65

Table 13: Regional Transit Screenlines – Baseline Conditions 66

Table 14: Person-Trip Generation (Internal and External Trips) 69

Table 15: Person-Trip Generation (External Trips Only) 70

Table 16: Trip Distribution 72

Table 17: Proposed Project External Trip Generation By Mode – AM Peak Hour 74

Table 18: Proposed Project External Trip Generation By Mode – PM Peak Hour 75

Table 19: Proposed Project Delivery/Service Vehicle Trips and Loading Demand 83

Table 20: Proposed Project Peak Parking Demand 86

Table 21: Daily Vehicle-Miles Traveled 92

Table 22A: Muni Downtown Screenlines – AM Peak Hour Baseline and Baseline Plus Project Conditions (High Residential Assumption) 100

Table 22B: Muni Downtown Screenlines: Routes for Other Lines SubCorridors – AM Peak Hour Baseline and Baseline Plus Project Conditions (High Residential Assumption) 101

Table 23A: Muni Downtown Screenlines – PM Peak Hour Baseline and Baseline Plus Project Conditions (High Residential Assumption) 102

Table 23B: Muni Downtown Screenlines: Routes for Other Lines SubCorridors – PM Peak Hour Baseline and Baseline Plus Project Conditions (High Residential Assumption) 103

Table 24A: Muni Downtown Screenlines – AM Peak Hour Baseline and Baseline Plus Project Conditions (High Commercial Assumption) 104

Table 24B: Muni Downtown Screenlines: Routes for Other Lines SubCorridors – AM Peak Hour Baseline and Baseline Plus Project Conditions (High Commercial Assumption) 105

Table 25A: Muni Downtown Screenlines – PM Peak Hour Baseline and Baseline Plus Project Conditions (High Commercial Assumption) 106

Table 25B: Muni Downtown Screenlines: Routes for Other Lines SubCorridors – PM Peak Hour Baseline and Baseline Plus Project Conditions (High Commercial Assumption) 107

Table 26: Regional Transit Screenlines – AM Peak Hour Baseline and Baseline Plus Project Conditions (High Residential Assumption) 113

Table 27: Regional Transit Screenlines – AM Peak Hour Baseline and Baseline Plus Project Conditions (High Commercial Assumption) 115

Table 28: Regional Transit Screenlines – PM Peak Hour Baseline and Baseline Plus Project Conditions (High Commercial Assumption) 116

Table 29: Pedestrian Crosswalk/Sidewalk Level of Service – AM Peak Hour 125

Table 30: Pedestrian Crosswalk/Sidewalk Level of Service – PM Peak Hour without Giants game 126

Table 31: Pedestrian Crosswalk/Sidewalk Level of Service – PM Peak Hour With Giants Game 127

Table 32: Bicycle Parking Code Requirements 130

Table 33: Parking Supply and Demand 137

Table 34: Daily Vehicle-Miles Traveled 145

Table 35A: Muni Downtown Screenlines AM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Residential Assumption) 149

Table 35B: Muni Downtown Screenlines: Routes for Other Subcorridors AM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Residential Assumption) 150

Table 36A: Muni Downtown Screenlines PM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Residential Assumption) 151

Table 36B: Muni Downtown Screenlines: Routes for Other Subcorridors PM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Residential Assumption) 152

Table 37A: Muni Downtown Screenlines AM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Commercial Assumption) 153

Table 37B: Muni Downtown Screenlines: Routes for Other Subcorridors AM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Commercial Assumption) 154

Table 38A: Muni Downtown Screenlines PM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Commercial Assumption) 155

Table 38B: Muni Downtown Screenlines: Routes for Other Subcorridors PM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Commercial Assumption) 156

Table 39: Regional Transit Screenlines AM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Residential Assumption) 159

Table 40: Regional Transit Screenlines PM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Residential Assumption) 160

Table 41: Regional Transit Screenlines AM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Commercial Assumption) 162

Table 42: Regional Transit Screenlines PM Peak Hour – Cumulative and Cumulative Plus Project Conditions (High Commercial Assumption) 163

Table 43: Signalized Intersection LOS Criteria 169

Table 44: Unsignalized Intersection LOS Criteria 169

Table 45: Freeway Merge and Diverge Segment LOS Criteria 170

Table 47: Peak Hour Intersection Level of Service – Existing Conditions 179

Table 48: Freeway Levels of Service – Existing Conditions 182

Table 49: Peak Hour Intersection Level of Service – Baseline Conditions 186

Table 50: Freeway Levels of Service – Baseline Conditions 188

Table 51: Weekday AM Peak Hour Intersection Levels of Service – Baseline Plus Project (Maximum Commercial Scenario) 195

Table 52: Weekday PM Peak Hour Intersection Levels of Service – Baseline Plus Project (Maximum Commercial Scenario) 197

Table 53: Weekday PM Peak Hour with Giants Game Intersection Levels of Service – Baseline Plus Project (Maximum Commercial Scenario) 199

Table 54: Weekday AM Peak Hour Intersection Levels of Service - Baseline Plus Project (Maximum Residential Scenario) 201

Table 55: Weekday PM Peak Hour Intersection Levels of Service - Baseline Plus Project (Maximum Residential Scenario) 203

Table 56: Weekday PM Peak Hour with Giants Game Intersection Levels of Service - Baseline Plus Project (Maximum Residential Scenario) 205

Table 57: Baseline Plus Project Intersection Level Of Service Summary (Maximum Commercial Scenario) 235

Table 58: Baseline Plus Project Intersection Level Of Service Summary (Maximum rESIDENTIAL Scenario) 237

Table 59: AM Peak Hour Freeway Levels of Service – Baseline Plus Project Conditions (Maximum Commercial Scenario) 240

Table 60: PM Peak Hour Freeway Levels of Service – Baseline Plus Project Conditions (Maximum Commercial Scenario) 241

Table 61: PM Peak Hour with Giants Game Freeway Levels of Service – Baseline Plus Project Conditions (Maximum Commercial Scenario) 242

Table 62: AM Peak Hour Freeway Levels of Service – Baseline Plus Project Conditions (Maximum Residential Scenario) 243

Table 63: PM Peak Hour Freeway Levels of Service – Baseline Plus Project Conditions (Maximum Residential Scenario) 244

Table 64: PM Peak Hour with Giants Game Freeway Levels of Service – Baseline Plus Project Conditions (Maximum Residential Scenario) 245

Table 65: Cumulative Vehicle Trip Generation Comparison 247

Table 66: Weekday AM Peak Hour Intersection Levels of Service - Cumulative Plus Project (Maximum Commercial Scenario) 248

Table 67: Weekday PM Peak Hour Intersection Levels of Service – Cumulative Plus Project (Maximum Commercial Scenario) 250

Table 68: Weekday PM Peak Hour with Giants Game Intersection Levels of Service – Cumulative Plus Project (Maximum Commercial Scenario) 252

Table 69: Weekday AM Peak Hour Intersection Levels of Service - Cumulative Plus Project (Maximum Residential Scenario) 254

Table 70: Weekday PM Peak Hour Intersection Levels of Service – Cumulative Plus Project (Maximum Residential Scenario) 256

Table 71: Weekday PM Peak Hour with Giants Game Intersection Levels of Service – Cumulative Plus Project (Maximum Residential Scenario) 258

Table 72: Baseline Plus Project Intersection Level Of Service Summary (Maximum Commercial Scenario) 268

Table 73: Baseline Plus Project Intersection Level Of Service Summary (Maximum rESIDENTIAL Scenario) 270

Table 74: AM Peak Hour Freeway Levels of Service – Cumulative Conditions (Maximum Commercial Scenario) 277

Table 75: PM Peak Hour Freeway Levels of Service – Cumulative Conditions (Maximum Commercial Scenario) 278

Table 76: PM Peak Hour with Giants Game Freeway Levels of Service – Cumulative Conditions (MAximum Commercial Scenario) 279

Table 77: AM Peak Hour Freeway Levels of Service – Cumulative Conditions (Maximum Residential Scenario) 280

Table 78: PM Peak Hour Freeway Levels of Service – Cumulative Conditions (Maximum Residential Scenario) 281

Table 79: PM Peak Hour with Giants Game Freeway Levels of Service – Cumulative Conditions (Maximum Residential Scenario) 282

LIST OF FIGURES

Figure 1: Project Study Area 4
Figure 2: Proposed Project Site Plan 6
Figure 3: Project Traffic Control 15
Figure 4: Project Bicycle Circulation 16
Figure 5: Project Loading Diagram 17
Figure 6: Existing Transit Network 26
Figure 7: Transit Screenlines and SF Superdistricts 31
Figure 8: Existing Pedestrian Network 45
Figure 9-A: Existing Bicycle and Pedestrian Volumes (Part 1) 46
Figure 10: Existing Bicycle Network 50
Figure 11-A: On-Street Parking Occupancy (1:30-3:00 PM) 57
Figure 12: Off-Street Parking Supply 60
Figure 13: Trip Distribution 77
Figure 14-A: Trip Assignment – Maximum Commercial Scenario (Part 1) 78
Figure 15-A: Trip Assignment – Maximum Residential Scenario (Part 1) 80
Figure 16: Study Intersections 173
Figure 17-A: Existing Peak Hour Lane Configurations, Traffic Control and Volumes (Part 1) 174
Figure 18: Observed AM/PM Vehicle Queue Lengths 178
Figure 19-A: Baseline Peak Hour Lane Configurations, Traffic Control and Volumes (Part 1) 184
Figure 20-A: Baseline Plus Project Peak Hour Traffic Volumes – Maximum Commercial Scenario (Part 1) 191
Figure 21-A: Baseline Plus Project Peak Hour Traffic Volumes – Maximum Residential Scenario (Part 1) 193
Figure 22-A: Cumulative Plus Project Peak Hour Traffic Volumes – Maximum Commercial Scenario (Part 1) 272
Figure 23-A: Cumulative Plus Project Peak Hour Traffic Volumes – Maximum Residential Scenario (Part 1) 274

1 INTRODUCTION

This report addresses the impacts that transportation and land use changes related to the Seawall Lot 337 and Pier 48 Mixed-Use Project (Mission Rock Project or proposed project) would have on traffic, transit, bicycle and pedestrian travel and circulation, loading, and emergency access. The report describes existing transportation conditions on the project site and in the transportation study area, and presents the baseline transportation conditions against which project impacts are measured. Project-specific impacts are presented for both the High Residential Assumption and the High Commercial Assumption, and mitigation measures are identified when feasible. A cumulative impact discussion is identified for each transportation mode. This report also presents information on the proposed project's parking demand in relation to the proposed parking supply.

The analysis uses methods consistent with the 2002 San Francisco Transportation Impact Analysis Guidelines for Environmental Review (SF Guidelines) and San Francisco Planning Commission Resolution No. 19579, adopted on March 3, 2016. Planning Commission Resolution No. 19579 removes automobile delay as described solely by level of service (LOS) or similar measure of vehicular capacity or traffic congestion as a factor in determining significant transportation impacts on the environment, pursuant to the California Environmental Quality Act (CEQA). The resolution replaces automobile delay with vehicle miles traveled (VMT) criteria, which are designed to promote the reduction of greenhouse gas (GHG) emissions, the development of multimodal transportation networks, and a diversity of land uses, consistent with proposed and forthcoming changes to the CEQA Guidelines by the Office of Planning and Research, as mandated by Senate Bill 743.

Prior to adoption of Resolution No. 19579 on March 3, 2016, some projects, including the proposed project, were in the process of environmental review and had substantively completed transportation impact studies using the methodology and automobile delay (i.e., LOS) CEQA significance criteria formerly used by the SF Guidelines. Accordingly, this TIS has been updated to reflect the shift by the City and County of San Francisco (City) to VMT and the removal of automobile delay as a significance criterion. However, Section 7 includes a discussion of LOS conditions for informational purposes only under project and cumulative conditions.

As stated in Attachments E and F to the Planning Department's Executive Summary for the March 3, 2016, Planning Commission hearing regarding Resolution No. 19579, for projects that require localized circulation impact analysis (e.g., analysis of potential impacts related to transit delay, bicycle and pedestrian safety, emergency vehicle access, and loading), the Planning Department continues to use the localized trip generation rates and trip distribution identified in the SF Guidelines.

The assessment of transportation impacts in this report include a description of existing conditions as well as an evaluation of project impacts for both a baseline and a cumulative scenario. The NOP for the proposed project was released in 2013. Following the release of the NOP, the proposed building heights for the proposed project were reduced in response to neighborhood concerns. These adjusted heights were approved by the voters with the passage of Proposition D in 2015. At that time, it was determined that the existing conditions as of the NOP should be updated to account for new development and infrastructure projects that had been approved since the NOP was released and would be in place at the start of the project. The existing conditions plus these updates is referred to as the baseline conditions for purposes of the transportation analysis.

Data used in the transportation analysis was collected between 2013 and 2016. The quantitative analysis of pedestrian and parking conditions in the environmental setting section is based on data collected in the fall of 2013 upon release of the project NOP. The qualitative description of existing roadway, bicycle, and loading zone facilities in the setting section is based on conditions as of December 2016. The 2015 Baseline scenario includes development and infrastructure projects that were either under construction or approved and funded for construction at the end of July 2015 and will be completed prior to or during construction of the proposed project. In addition to those projects included in the baseline scenario, approved projects that were considered to be less certain in terms of their timing are analyzed as part of the cumulative scenario. The cumulative scenario includes reasonably foreseeable transportation network improvements and forecast growth in jobs and employment in San Francisco by 2040.

This chapter summarizes the key attributes of the Proposed Project relating to transportation conditions, outlines the report structure, and describes the methodology used for analysis. The scope of work is provided in **Appendix A**.

1.1 PROJECT STUDY AREA

The approximately 28-acre project site is bounded by the San Francisco Bay (Bay), Terry A. Francois Boulevard, Third Street, and Mission Rock Street, and Pier 50. The Mission Rock project site is located in the Mission Bay neighborhood, an approximately 303-acre neighborhood of biotechnology research and development uses, hospitals, event facilities, offices, and mixed-use housing uses. The South of Market (SOMA) neighborhood, located to the north and west of the Mission Bay neighborhood, is home to museums, the Moscone Convention Center, retail centers, housing, and office uses. The transportation study area (study area) for the proposed project consists of the area bound by The Embarcadero, Howard Street, Seventh Street, Cesar Chavez Street, Illinois Street, and Terry A. Francois Boulevard. AT&T Park, home of the San Francisco Giants professional baseball team, is located just over 0.1 mile to the north of the project site. The Golden State Warriors, a professional basketball team, currently based in Oakland, is constructing an event center and mixed-use development project approximately 0.3 mile south of the Mission Rock Project site on Mission Bay South, Blocks 29–32. That project broke ground in January 2017. The Golden State Warriors project includes a multi-purpose event center that will accommodate up to 18,500 patrons, 605,000 gross square feet (gsf) of office space, 125,000 gsf of retail space, and 950 parking spaces on an approximately 11-acre site. **Figure 1** shows the location of the project site and the study area.

The study area is defined by travel corridors and by facilities such as transit routes and stations, bicycle routes and amenities, pedestrian sidewalks and crossings, and the overall vehicular roadway network that residents and visitors would use in traveling to and from the project site. This includes bicycle and pedestrian safety conditions, loading, transit delay, and emergency vehicles access.

A total of 36 existing intersections within the study area were identified as key locations likely to be affected by the proposed project, and were selected for detailed study, particularly for pedestrian conditions. These study intersections include major intersections along Third Street, Fourth Street, Terry A. Francois Boulevard, 16th Street, and Mariposa Street, as well as numerous local intersections along access routes to and from U.S. Highway 101 (US 101) and Interstate (I) 280 within the study area. Currently, the intersection of 16th Street/Terry A. Francois Boulevard does not exist.

Intersections farther away were not analyzed as part of the study because project-generated travel remaining on local streets would be dispersed to lower levels; consequently, the proposed project's effects

would be small in comparison to the volumes existing on those streets. The study intersections are identified by number in **Figure 1**.

Not to Scale

PROJECT STUDY AREA

FIGURE 1

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SF13-0697 Seawall_Lot_337\Graphics

1.2 PROJECT DESCRIPTION

The Proposed Project includes a mixed-use, multi-phase development of Seawall Lot 337 and rehabilitation/reuse of Pier 48. The Project would construct approximately 5.4 acres of net new public open space, for a total of approximately 8 acres of open space on the site, and up to approximately 3.9 million gross square feet (gsf) of mixed-use development including 11 development parcels (excluding the two proposed parking garages), an internal grid of public streets, and a bicycle and pedestrian network including a segment of the City's proposed Blue Greenway (a multi-use pathway along the eastern waterfront). The Project Site is owned by the Port of San Francisco.

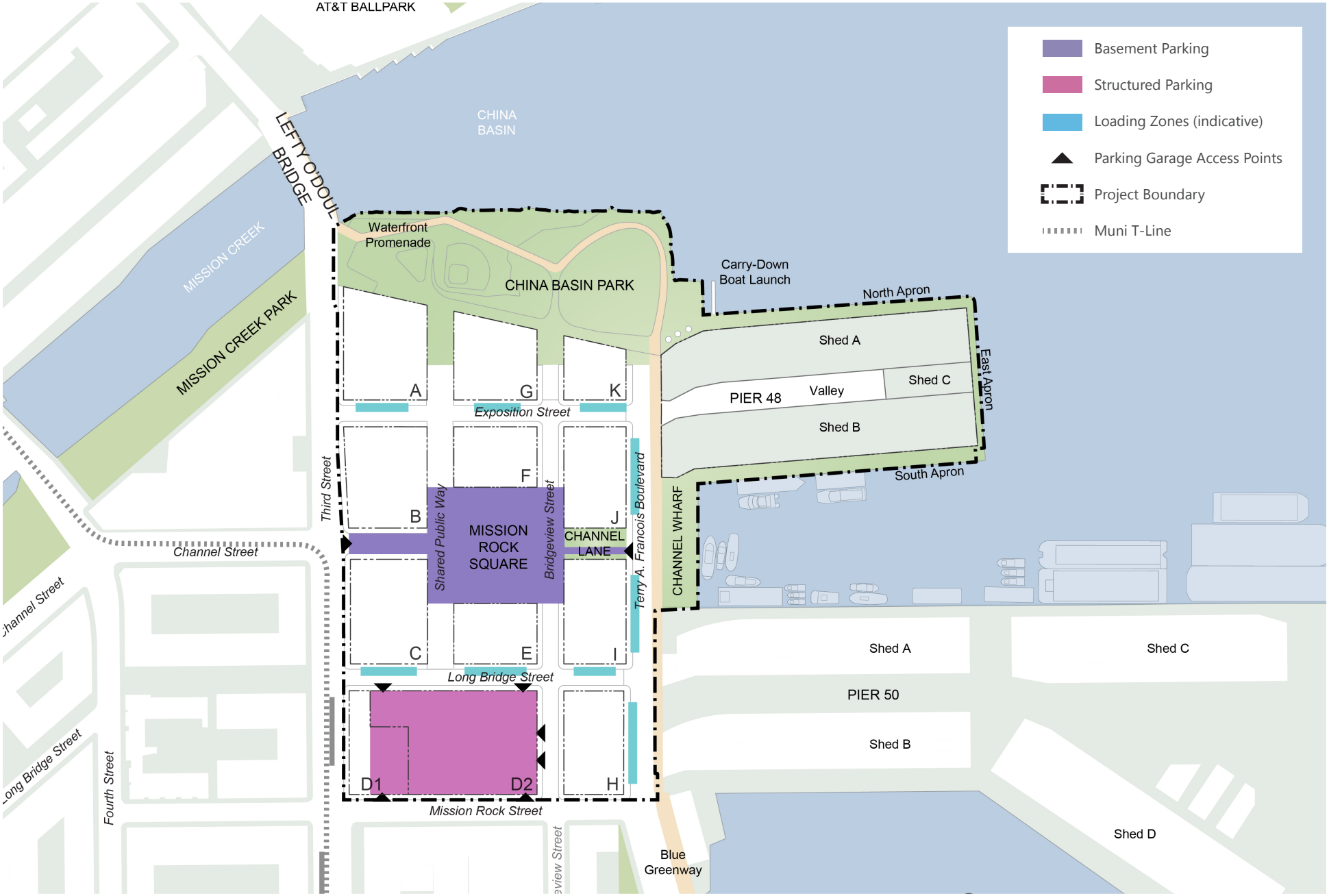
1.2.1 Land Use Program

The project site, which is owned by the Port of San Francisco, encompasses approximately 28 acres and includes several sub-areas (e.g., Seawall Lot 337, Pier 48, China Basin Park, adjacent streets and access areas). The project site is located in the Mission Bay neighborhood of the city, adjacent to the Mission Bay South Redevelopment Plan area.

Seawall Lot 337 is currently a surface parking lot that provides approximately 2,170 parking spaces for patrons of AT&T Park and daytime commuters, and also is used for occasional special events, such as Cirque du Soleil and Cavalia. Seawall Lot 337 currently includes a temporary installation called The Yard at Mission Rock. The Yard, which is open from February through November from 7:00 a.m. to 10:00 p.m., is made out of 16 recycled shipping containers. It hosts food vendors, public gatherings, and programming opportunities for the community. Except for two small, portable pay-station kiosks and a billboard, Seawall Lot 337 does not contain any permanent structures; it functions as a surface parking lot and an area for pop-up retail and recreation.

Pier 48 includes two one-story sheds used for parking (only for AT&T Park events) and special events, which are connected by a third one-story shed. Currently, the Seawall Lot 337 and Pier 48 site hosts approximately 50 special events per year (e.g., festivals, performances). Attendance levels can vary. Approximately 200,000 to 250,000 guests visit the site annually for events.

The project includes expansion of the existing China Basin Park and two new park/open space areas within a central square and along the waterfront. The project would have a total of approximately 8 acres of new and expanded parks and improved shoreline access. All 11 development blocks on Seawall Lot 337 would include a mix of commercial/office, retail, and market-rate and affordable residential uses. One of these 11 above-grade blocks (Block D2) would include an 837,230 gsf, 10-level, 2,300-space parking structure. An additional below-grade 250,000 gsf, three-level parking structure with approximately 700 spaces would be located below Mission Rock Square and adjacent streets, with full access from the Third Street/Channel Street intersection to the west and an exit ramp to Terry A. Francois Boulevard to the east. Small amounts of parking (up to 10 spaces) would be located below grade, at grade, or above grade within each of the 11 development blocks (other than Block D2, which would have the parking structure), for a total of up to 100 additional spaces. Parking could also be included on Pier 48 as an interim use but only until completion of the proposed Pier 48 rehabilitation and improvements.



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PROPOSED PROJECT SITE PLAN

FIGURE 2

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SF13-0697 Seawall Lot 337\Graphics

TABLE 1: PROPOSED PROJECT LAND USES

Parcel	Use[1]	Maximum Height (feet) [2]	Parking (stalls)
Parcel A	Residential	240	10
Parcel B	Commercial	120	10
Parcel C	Commercial	190	10
Parcel D	Parking/Residential[3]	240	2,300
Parcel E	Commercial	90	10
Parcel F	Residential	240	10
Parcel G	Commercial	190	10
Parcel H	Flexible – Residential/Office/Commercial	90 (commercial)/ 120 (residential)	10
Parcel I	Flexible – Residential/Office/Commercial	90 (commercial)/ 120 (residential)	10
Parcel J	Flexible – Residential/Office/Commercial	90 (commercial)/120 (residential)	10
Parcel K	Residential	120	10
Mission Rock Square Parking	Parking	N/A (below grade)	700
Total	**-**	**-**	***3,100***

Source: Seawall Lot 337 Associates, LLC, 2015.

Notes:

1. All blocks could include retail or other active uses on the lower floors.
2. The number of stories for each building can be estimated using the assumption that residential buildings average 10 feet per story and commercial buildings average 14 feet per story, and ground floor heights are about 18 feet.
3. Block D would include two separate, but attached, buildings totaling approximately 1.1 million gsf. A building along Third Street could include approximately 250,000 gsf of residential. The parking structure building on the remainder of Block D, adjacent to Bridgeview Street, would be approximately 837,200 gsf, plus approximately 14,000 gsf of active/retail on the lower floors. The parking structure would include 12 floors (10 aboveground floors and two subterranean floors). Vehicle stackers would be implemented on the two subterranean floors.

1.2.2 Project Transportation Changes Assumed in the Analysis

The roadway network changes, transit changes, bicycle circulation changes, pedestrian circulation changes, on-street loading provisions, and the TDM Program that are assumed in the transportation and circulation analyses of the proposed project are expanded on below, based on the Mission Rock Transportation Plan, the Mission Rock Design Controls, the Mission Rock TDM Strategy, and the Mission Rock Infrastructure Plan. Although the TDM Program measures would be included in the proposed project, the analysis does not include specific reductions in the overall travel demand calculations as a result of any of these specific features. The changes and TDM Program would be the same for both the High Residential Assumption and the High Commercial Assumption.

1.2.3 Roadway and Bicycle Network Changes

Figure 3 shows the proposed project street network and traffic control plan. A new traffic signal would be constructed at the new intersection of Third Street/Exposition Street. The existing traffic signal at Third Street/Terry A. Francois Boulevard intersection would be modified to serve a pedestrian crossing. All-way stop control would be provided at all internal intersections except for the intersection of Bridgeview Street/Long Bridge Street which would have stop controls only on the Long Bridge Street approaches.

Figure 4 shows the project street network, the project bicycle circulation, and existing and planned traffic signals on Third Street along the project frontage. This below section describes the streets that would be constructed or modified by the proposed project as well as the location of access points for proposed project parking facilities. The two subsequent sections describe how circulation on the project site would work for bicycles and vehicles when accessing the proposed project's parking facilities.

The project site would be accessible via Third Street, Mission Rock Street, and Terry A. Francois Boulevard, which are all existing streets. The project would include vehicular, bicycle, pedestrian, and parking changes to accommodate the increase in on-site activity. The existing streets and proposed streets serving the project site are described below.

- **Third Street.** The segment of Third Street between Channel Street and the Lefty O'Doul Bridge would be enhanced with replacement sidewalks, curbs, and gutters on the eastern side of the street. A new 12-foot-wide sidewalk would be constructed on the east side of the street. The existing east–west section of Terry A. Francois Boulevard, including the connection to Third Street, would be eliminated to allow for expansion of China Basin Park. The existing traffic signal at the intersection of Third Street/Terry A. Francois Boulevard would be retained for bicycle and pedestrian crossings of Third Street. New east–west interior neighborhood streets that would be constructed by the project, between Third Street and the north–south section of Terry A. Francois Boulevard, are Exposition Street and Long Bridge Street. Third Street would be restriped to allow for two 11-foot-wide travel lanes in each direction as well as a new southbound left-turn lane at Exposition Street. A traffic signal would be installed at the new intersection of Third Street/Exposition Street, with all movements allowed including the southbound left turn. During Giants games and major events at AT&T Park, southbound left-turn movements for vehicles would be restricted. Changes on the western side of Third Street are planned and would be provided as part of the implementation of Mission Bay Redevelopment Plan and, therefore, are not included as part of the proposed project.

- **Mission Rock Street.** Mission Rock Street would serve as a primary access route to the 2,300-space parking garage (Block D2), waterfront uses along Terry A. Francois Boulevard, and the Blue Greenway. A 12-foot-wide sidewalk would be constructed on the north side of the street. A two-way cycle track would be provided on the north side of the street between Bridgeview Street and the Blue Greenway along Terry A. Francois Boulevard. The roadway would accommodate two-way vehicular traffic, with two eastbound travel lanes and one westbound travel lane. Two access points to the Block D2 parking garage would be located on Mission Rock Street between Third Street and Bridgeview Street. The internal intersection at Mission Rock Street and Bridgeview Street would be controlled by an all-way stop control.

- **Terry A. Francois Boulevard.** Terry A. Francois Boulevard would be a working waterfront street that would support active maritime, industrial, and production uses at the waterfront. This shared curbless street would include a new section to the Blue Greenway that would connect to China

Basin Park and The Embarcadero, thereby contributing to uninterrupted public Bay access along San Francisco's eastern waterfront. Terry A. Francois Boulevard would include a 24-foot-wide area for social spaces and three 9-foot-wide loading zones adjacent to Blocks H, I, and J on the west side of the street; a vehicular turnaround at the north end of the street with two vehicle loading/drop-off spaces adjacent to Block K; a 12-foot-wide pedestrian throughway on the west side of the street adjacent to the social space/loading zones; a 26-foot-wide shared zone for pedestrians and vehicles; and the Blue Greenway (with a minimum width of 16 feet) adjacent to the Bay and Piers 48 and 50 on the east side of the street. The shared zone would accommodate two-way vehicular traffic. The shared street would follow street design approaches along key walking corridors and streets, per the Better Streets Plan standards. Visual and tactile cues (e.g., changes in the color or texture of pavers, bollards, street furniture, light fixtures, plantings, tactile warning strips) would differentiate areas that would be dedicated to pedestrian movement and areas that would be shared by pedestrians, bicycles, and vehicles. This cross-section would extend from Mission Rock Street to the new terminus of Terry A. Francois Boulevard, just north of Exposition Street.

- **Exposition Street.** Exposition Street would be a new east–west interior neighborhood street that would support residential and commercial uses between Third Street and Terry A. Francois Boulevard. A new traffic signal would be installed at the intersection of Third Street and Exposition Street. Sidewalks on Exposition Street would be 12 feet wide along the north side and 14 feet wide along the south side. A 5-foot-wide Class II bike lane would be provided in the westbound direction. The 26-foot-wide roadway would accommodate two-way vehicular traffic and the bike lane. The Exposition Street/Shared Public Way intersection would be a raised intersection. The internal intersections at Bridgeview Street and the Shared Public Way would be controlled by all-way stop controls. The 60-foot right-of-way for Exposition Street would also include a 9-foot-wide shared loading and stormwater zone on the north side of the street. Three on-street loading/servicing zones would be provided on the north side of the roadway. Four passenger accessible loading spaces would also be provided on the north side of the roadway.

- **Shared Public Way.** The proposed Shared Public Way would be a new north–south promenade located one block east of Third Street, extending from the proposed Long Bridge Street to the south to just beyond Exposition Street to the north. The public way would give priority to pedestrians over bicycles and automobiles. This street would consist of a single shared 60-foot-wide paved surface with no curbs or gutters. Vehicles on the Shared Public Way would be limited to northbound travel in the shared zone for drop-offs, pickups, and deliveries. The Shared Public Way would include a streetlife zone adjacent to the shared zone, providing space for street rooms, stormwater gardens, and tree groves to activate ground-floor retail uses. Raised intersections, with visual/tactile detection surfaces marking the pedestrian route, would be provided at Exposition Street and Long Bridge Streets. Two on-street loading zones would be provided on the west side of the roadway. At times when AT&T Park hosts games or other major events, the Shared Public Way would be for pedestrian use and restricted to emergency vehicles only.

- **Channel Street/Channel Lane.** Channel Street would link Third Street to the Shared Public Way for bicycles and pedestrians and provide vehicle access to the Mission Rock Square parking garage. One 11-foot travel lane would be provided in each direction on the ramp down to the garage from the Third Street/Channel Street intersection, with at-grade pedestrian throughways on either side of the ramp connecting to Mission Rock Square. Raised barriers would separate the at-grade pedestrian throughways and the garage ramp. During non-event days, the only access to the Mission Rock Square parking garage would be via the Third Street/Channel Street intersection.

Channel Lane, east of Mission Rock Square, would include an exit ramp from the underground garage to Terry A. Francois Boulevard. Channel Lane would also include pedestrian throughways, on either side of the exit ramp from the garage, for people traveling between Mission Rock Square and Channel Wharf. As with the Channel Street garage access, raised barriers would separate the at-grade pedestrian throughways and the garage ramp. The Channel Lane exit ramp from the underground garage to Terry A. Francois Boulevard would be closed at all times except during Giants games and major AT&T Park events. As such, vehicular traffic from the underground garage would not exit onto Terry A. Francois Boulevard via the Channel Lane exit ramp during weekday a.m. or p.m. peak hours under nonevent conditions. The purpose of the exit ramp is to allow non-event parkers to exit onto Terry A. Francois, thereby reducing congestion on Third Street, during event periods. A portion of both Channel Street and Channel Lane would include a ramp that would descend from Third Street and Terry A. Francois Boulevard, respectively, under the Shared Public Way and Bridgeview Street for access to the underground parking garage below Mission Rock Square at the center of the project site.

- **Long Bridge Street.** Long Bridge Street would be a new east-west interior neighborhood street that would support residential and commercial uses between Third Street and Terry A. Francois Boulevard, provide access to the Block D2 parking garage, and provide access to the Shared Public Way. All-way stop control would be provided at the intersection with Shared Public Way and side-street stop control at Bridgeview Street. The Long Bridge Street/Shared Public Way and Long Bridge Street/Bridgeview Street intersections would be raised intersections. Long Bridge Street would have one 10.5-foot-wide travel lane in each direction, a 9-foot-wide shared loading and stormwater zone, 15-foot-wide sidewalks on each side of the street, three on-street loading zones on the north side of the street, two vehicular access points to the 2,300-space parking garage (Block D2) on the south side of the street just east of Third Street, and shared bicycle lane markings (i.e., sharrows) for both travel directions.

- **Bridgeview Street.** Bridgeview Street would be a new north-south interior neighborhood street that would support residential and commercial uses between Mission Rock Street and the paseo to China Basin Park and provide access to the Block D2 parking garage. All-way stop control would be provided at the intersection with Exposition Street and side-street stop control at Long Bridge Street. Bridgeview Street would have one 10.5-foot-wide travel lane in each direction, a 12-foot-wide sidewalk on the west side of the street and a 14-foot-wide sidewalk on the east side of the street, a raised two-way 10-foot-wide cycle track with a 3-foot-wide buffer (including 1 foot for the curb) on the east side of the street, and two vehicular access points to the 2,300-space parking garage (Block D2) on the west side of the street between Mission Rock Street and Long Bridge Street.

1.2.4 Bicycle Circulation and Parking

The proposed project would include on-street bicycle facilities on several streets:

- Between Mission Rock Street and China Basin Park, a new section of the Blue Greenway would be provided consisting of a two-way north-south cycle track with a minimum width of 16 feet along Terry A. Francois Boulevard;

- Between Mission Rock Street and Exposition Street, a raised two-way north-south 13-foot-wide cycle track would be provided along the east side of Bridgeview Street;

- Between Exposition Street and the Third Street Bridge, a 5-foot-wide Class II bike lane with a buffer would be provided in the northbound direction on the east side of Third Street;
- Between Bridgeview Street and Terry A. Francois Boulevard, a two-way east-west cycle track would be provided on the north side of Mission Rock Street;
- Between Third Street and Terry A. Francois Boulevard, a 5-foot-wide Class II bike lane would be provided in the westbound direction and sharrows in the eastbound direction on Exposition Street; and
- Sharrows would also be provided along Long Bridge Street in both directions.

The project would provide bicycle parking facilities, including a network of spaces in public areas and secure spaces inside the site's residential and office buildings. The project may also include Bay Area Bike Share pods on the site. The High Residential Assumption would provide 2,090 Class I bicycle parking facilities and 692 Class II bicycle racks. The High Commercial Assumption would provide 1,715 Class I bicycle parking facilities and 675 Class II bicycle racks. Bike parking facilities could be located on the ground-floor or basement level of project buildings, as well as scattered throughout the district (e.g., in plaza areas, building entries, open space), in accordance with the Mission Rock Special Use District (SUD) and Design Controls. Lockers and showers would also be provided to encourage cycling.

1.2.5 Parking

Driveway curb cuts for the new off-street parking facilities, other than the Block D2 garage, would occupy approximately 10 to 25 of horizontal feet of frontage. The two driveways on Mission Rock Street for the Block D2 garage, would occupy approximately 40-55 feet of frontage, on the eastern and western driveways, respectively. All other Block D2 garage driveway curb cuts would occupy approximately 26 feet of frontage. Each block will also be permitted one driveway to off-street loading or parking (maximum 10 off-street spaces per block) for individual buildings on its Exposition or Long Bridge street frontage.

1.2.6 Commercial Loading

The project would generate commercial loading activity, including goods deliveries to businesses and parcel deliveries to residents. The project would actively manage parcel deliveries and service vehicle loading through the following strategies:

- Encourage building servicing (e.g., trash pickup, maintenance) early in the morning or late at night
- No parking would be allowed in loading zones.

Figure 5 shows the loading zone areas. Exposition Street and Long Bridge Street would have 24-hour commercial loading zones. The east side of Third Street and the west side of Terry A. Francois Boulevard would be available for parcel deliveries in designated areas. A total of 650 linear feet of on-street curb space would be designated for commercial loading on the above-noted streets for Seawall Lot 337 uses. If there are curb cuts for individual building driveways, this total of 650 linear feet of on-street curb space would be reduced. Commercial deliveries would occur on Pier 48 at designated locations that would accommodate five 75-foot vehicles.

Trash pickups would use the six commercial/parcel delivery spaces (i.e., yellow curb) on Exposition Street and Long Bridge Street to service all uses on the site (commercial, residential, and retail/restaurant). Trash pickups would occur on Pier 48 at designated locations. Most trash pickup activity is expected to happen on weekdays in the early morning hours, before the peak morning period for commute-related travel. A dedicated space would be provided in each building for garbage storage and recycling to avoid the use of commercial loading areas and public rights-of-way. The garbage storage and recycling space would be clearly accessible from either a driveway or a clear access path to/from an adjacent loading zone.

1.2.7 Passenger Loading

ADA-compliant accessible passenger loading spaces would be provided on the east side of Third Street, the east side of the Shared Public Way, the east side of Terry A. Francois Boulevard, the north side of Exposition Street, the north side of Long Bridge Street, and inside the Block D2 parking garage. During weekday daytime business hours, commercial loading zones would be provided on the west side of Terry A. Francois Boulevard and the east side of Third Street. Outside of these hours (e.g., during evenings and on weekends), the commercial loading zones would be converted to passenger loading zones.

1.2.8 Emergency Vehicle Access

All project streets would be designed to provide appropriate clearance for emergency vehicles such as large fire trucks. Intersections would be designed to accommodate the turning needs of such vehicles. The site's street grid would allow emergency access to all site buildings. Streets that would be closed to general vehicle traffic would be accessible to emergency vehicles.

1.2.9 Event Transportation Management

The Mission Rock Transportation Plan (Chapter 5) [1] includes an event management approach for a primary event at AT&T Park (40,000+ attendees), a secondary event at AT&T Park (15,000 to 25,000 attendees), and onsite events (2,000 to 5,000 attendees). The approach to managing pedestrian activity, vehicle flow, and bicycle parking is outlined in the document. Key strategies include the designation of pedestrian priority routes; pricing for event parking; vehicle circulation restrictions for onsite streets, including closure of the Shared Public Way, the primary north–south pedestrian route between the main garage and AT&T Park, to vehicle traffic; bicycle valet parking facilities; Parking Control Officers (PCOs) to manage heavy traffic flows; and drop-off and pickup locations for people with mobility limitations as well as taxi and shared-ride drivers.

1.2.10 Pedestrian Network

The project street network would include several elements that relate to pedestrians. The Blue Greenway is a multi-use trail that would be extended through the site near the waterfront, in the expanded China Basin Park, and on the east side of Terry A. Francois Boulevard to Mission Rock Street. Shared streets, with a curbless design so that all modes mix across the entire street cross section, would be the backbone of north–south pedestrian circulation on Terry A. Francois Boulevard and the Shared Public Way. The shared street would follow the street design approaches along key walking corridors and streets, per Better Streets Plan standards. Visual and tactile cues (e.g., changes in the color or texture of pavers, bollards, street

[1] Mission Rock Transportation Plan, August 31, 2016.

furniture, light fixtures, plantings, tactile warning strips) would differentiate between areas that would be dedicated to pedestrian movement and areas that would be shared by pedestrians, bicycles, and vehicles.

The proposed project includes sidewalk network and traffic control devices, such as multi-way stop controls at intersections. The project proposes several new internal streets, including pedestrian paseos that restrict nonemergency vehicle access, and a Shared Public Way that prioritizes safe pedestrian movement. Twelve- to 15-foot-wide sidewalks are proposed throughout the project site, including new internal streets and the existing streets on the project perimeter. The proposed sidewalk network would comply with City standards for sidewalks on residential streets, per the San Francisco Better Streets Plan. All new sidewalks would include new landscaping on all streets. Street and sidewalk changes would be constructed in phases that would serve the associated development or open space.

Specifically, the proposed project includes construction of new 12-foot-wide sidewalks along the east side of Third Street and the north side of Mission Rock Street as well as on both sides of Exposition Street, Long Bridge Street, and Bridgeview Street internal to the project site. Pedestrian changes to Terry A. Francois Boulevard would include a 6-foot-wide pedestrian throughway on the west side of the right-of-way and a minimum 16-foot-wide Blue Greenway on the east side. Several east-west pedestrian paths would be provided within the China Basin Park, connecting north-south streets within the project site to the waterfront and the Lefty O'Doul Bridge.

A north–south Shared Public Way, located one block east of Third Street between the proposed Exposition Street and Long Bridge Street, would give priority to pedestrians over automobiles. The street would be at grade with no curbs or gutters. The shared street would follow the street design approaches along key walking corridors and streets, per Better Streets Plan standards. Visual and tactile cues (e.g., changes in the color or texture of pavers, bollards, street furniture, light fixtures, plantings, tactile warning strips) would differentiate between areas that would be dedicated to pedestrian movement and areas that would be shared by pedestrians, bicycles, and vehicles. Vehicles would access the shared street by curb cuts similar to a typical driveway. During major public events, the Shared Public Way would be closed to vehicles, with the exception of emergency vehicles.

The project proposes to construct a new signal-controlled intersection on Third Street at Exposition Street and a new side-street stop-controlled intersection at Long Bridge Street. The existing traffic signal at Third Street and Terry A. Francois Boulevard would be retained as a pedestrian crossing and draw bridge control. The project's other access points along Third Street would include the existing signalized intersections at Channel Street and Mission Rock Street. All intersections would comply with City design standards.

Raised intersections would be provided at several locations. High visibility crosswalks and directional ramps would be provided at intersections along Terry A. Francois Boulevard, Mission Rock Street, and all other internal intersections.

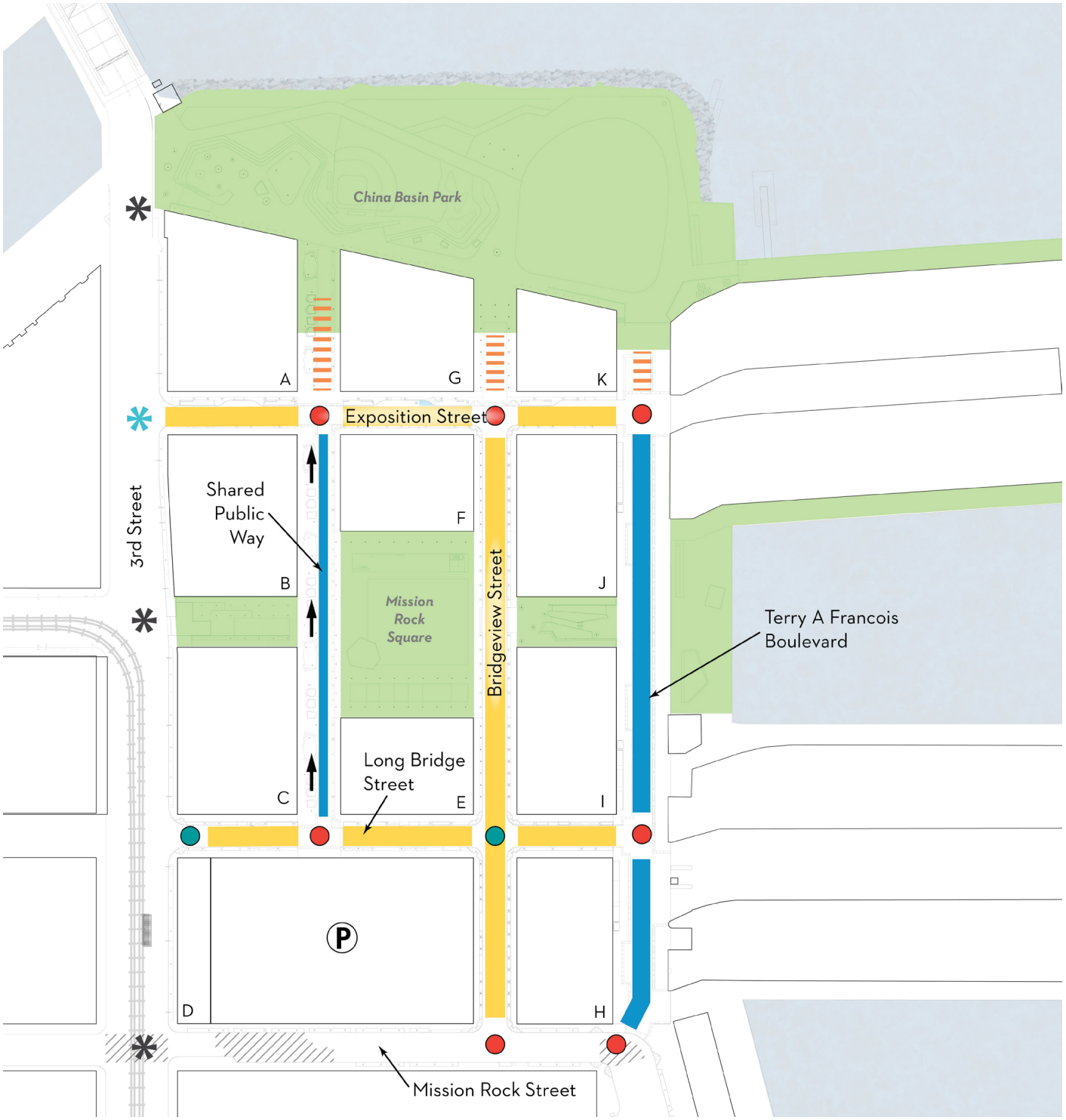
1.2.11 Transit Network

The overall transit network that would serve the proposed project is shown in **Figure 6.** No changes to the public transit system are proposed as part of the proposed project.

1.2.12 Transportation Demand Management Program

The proposed project includes a TDM Program that provides a strategy to manage the transportation demands created by the project. Monitoring and other applicable requirements for the TDM Program are specified in the proposed project Environmental Impact Report Section 4.G, Air Quality, in Mitigation Measure M-AQ-2c.[2]

[2] Seawall Lot 337 and Pier 48 Mixed-Use Project Environmental Impact Report, 2017



Shared Street (No Street Parking)

2-Way Street (No Street Parking)

Paseo with Emergency Vehicle Access

All-Way Stop

One/Two-Way Stop

Existing Traffic Signal

Planned Traffic Signal

Figure 3

Project Traffic Control

Planned Bike Path (Class I/IV)

Planned Bike Lane (Class II)

Planned Bike Route (Class III)

Existing Signal Location

Planned Signal Location

Figure 4

Project Bicycle Circulation Concept

ADA-Accessible Passenger Loading

Commercial Delivery Zone

Time-Limited Commercial Delivery Zone
(Accessible Loading All Other Times)

Accessible Sidewalk

Curbless Street

Other Major Accessible Areas

▲ Driveway to Off-Street Loading

✱ Existing Traffic Signal

✱ Planned Traffic Signal

Keep Clear Zone

Figure 5

Project Loading Diagram

1.3 REPORT ORGANIZATION

The remainder of this report is divided into the following chapters:

Chapter 2 – Existing Conditions describes the existing transportation network in the Proposed Project study area, including the surrounding roadway network. Additionally, this section describes the public transit network, bicycle facilities, pedestrian facilities, existing loading operations, and emergency service activity and access. A discussion of current on- and off-street parking conditions is also included.

Chapter 3 – Baseline Conditions describes changes to Existing Conditions as a result of land use and transportation changes near the Project study area that were either under construction or approved and funded for construction at the end of July 2015. Typically, transportation analyses include an Existing and an Existing plus Project analysis to isolate the impacts associated with a project by comparing conditions with the Proposed Project in place to the existing baseline. However, in select circumstances, it may be appropriate to establish a different baseline than existing conditions, particularly in cases where comparison to the existing conditions may provide misleading information or information that does not provide value to the public or to decision-makers. In this case, a modified baseline is a more appropriate basis than existing conditions for analyzing the Project's impacts, because the additional changes to existing conditions included in the Baseline Conditions are all anticipated to have been constructed and in place prior to the Project becoming operational. Therefore, the Project's impacts in Chapter 5 are determined by adding the Project to the Baseline Conditions described in Chapter 3 and comparing the Plus Project scenario to these results.

Chapter 4 – Travel Demand Analysis includes the Proposed Project's trip generation, trip distribution, mode split, and trip assignment forecasts for private vehicles, as well as taxi, shuttle bus, transit, bicycle, pedestrian, and loading travel demand for the two Project scenarios described earlier.

Chapter 5 – Transportation Impact Analysis describes the anticipated operating conditions of the transportation network with the Proposed Project in place and identifies the extent to which Proposed Project travel demand would impact the transportation network.

Baseline Plus Project Conditions describes the anticipated operating conditions of the transportation network (under conditions with and without a San Francisco Giants home game) assuming full operation of the Proposed Project, as well as travel demand associated with either under construction or approved and funded at the end of July 2015. Operations of the transportation network after the addition of the travel demand from the project and approved and under construction projects are described, including the project's impacts on transit, bicycles, pedestrians, loading, emergency vehicles, and the potential impacts of the project construction on the transportation network. Vehicle-Miles Traveled (VMT) forecasts are presented to indicate the total increase in VMT due to the Proposed Project and whether the VMT from the Proposed Project would exceed the City's standard. This section also includes a discussion of the Proposed Project's parking supply in relation to its forecasted demand.

Chapter 6 – Cumulative 2040 Conditions describes the anticipated operating conditions of the transportation network with traffic associated with the Proposed Project and other reasonably foreseeable development projects and transportation investments through the year 2040. The Proposed Project's contribution to future transit ridership and associated cumulative impacts in the area is described.

Chapter 7 – Intersection and Freeway Operations Analysis, provided for information purposes only, describes the operating conditions of the existing roadway intersection and freeway network in the Proposed Project study area for vehicles, including the surrounding roadway network, for a typical weekday AM peak hour, PM peak hour, and PM peak hour with Giants game. This is done for Existing Conditions, Baseline Conditions (including the approved and under construction projects in the area), Baseline Plus Project Conditions, and for Cumulative Conditions, in which future year traffic forecasts without the Proposed Project were estimated using the San Francisco County Transportation Authority's travel demand model, SF-CHAMP. The Proposed Project's contribution to future traffic growth in the area is described.

Because intersection and freeway traffic operations are no longer considered a significant impact, this information is provided for informational discussion purposes only. Potential measures to address congestion are noted for each location that incurs what would previously have been designated a significant impact based on the City's previous impact criteria.

Chapter 8 – Transportation Mitigation and Improvement Measures summarizes the proposed mitigation measures identified to reduce significant transportation impacts that may be created by the Proposed Project. In addition, improvement measures are provided in cases where project impacts are less-than-significant but measures to improve circulation or project access may be beneficial.

2 EXISTING CONDITIONS

This chapter provides a description of the existing transportation and circulation setting within the vicinity of the proposed project. This section includes descriptions of the existing roadway network, current intersection and freeway operating conditions, transit network and service, pedestrian and bicycle conditions, on-street loading and emergency access, as well as existing on- and off-street parking supply and occupancy in the study area.

2.1 ELEMENTS OF ANALYSIS

The study examines existing conditions related to the following transportation elements:

- Traffic Conditions – Vehicle Miles Traveled (VMT);
- Roadway Conditions – informational discussion of intersection and freeway operations;
- Transit Conditions – Muni and regional transit operations into and within the study area;
- Pedestrian and Bicycle Conditions – operations along facilities through the study area;
- Loading and Emergency Service Conditions – operations within the study area; and
- Parking Conditions – characterization of supply and demand throughout the study area, generally near the project site.

2.2 ROADWAY FACILITIES

This section describes the regional and local roadway system in the study area. Roadway classification definitions, according to the Transportation Element of the San Francisco General Plan, are contained in **Appendix B**. The study area is served by three freeways providing regional access and multiple local streets providing access to the project site. A section describing regional freeways is followed by a description of the local roadways serving the study area.

2.2.1 Regional Access

Regional access to the Proposed Project study area is provided by several major regional freeways, as discussed below.

Interstate 80 (I-80) provides the primary regional access to the Proposed Project site from the east. I-80 runs through the southern portion of the study area and connects San Francisco to the East Bay and other points east via the San Francisco-Oakland Bay Bridge. There are multiple on- and off-ramps throughout the study area that provide access to and from I-80. Within the study area, I-80 has eight lanes (four in each direction).

Interstate 280 (I-280) provides regional access to the study area from the South Bay and Peninsula. I-280 and U.S. 101 have an interchange to the south of the study area, and I-280 terminates in the study area at the King and Fifth street intersection. I-280 is generally a six-lane freeway. The on- and off-ramp at King and Fifth streets provides primary access to the project from I-280.

U.S. Highway 101 (U.S. 101) provides access to the north and south of the study area. U.S. 101 is to the west of the study area and provides access to the Peninsula and South Bay. U.S. 101 connects with I-80 and the San Francisco–Oakland Bay Bridge to the northeast of the project site. U.S. 101 also connects San Francisco and the North Bay via the Golden Gate Bridge, via surface streets (i.e., Van Ness Avenue and Lombard Street). Van Ness Avenue and Lombard Street are part of the Citywide Pedestrian Network outlined in the Transportation Element of the *San Francisco General Plan*.

2.2.2 Local Access

Local access to the Proposed Project study area is provided by an urban street grid network. Key local roadways through the study area are summarized in **Table 2** and discussed in detail in **Appendix B**.

TABLE 2: LOCAL ROADWAY NETWORK DESCRIPTIONS

Street Name	Direction	Lanes (typ.)	Geographic Extent	General Plan Designation[1]	Transit Routes[1]	Bicycle Facilities (typ.) [12]
Second Street	N-S	4	Market Street – King Street	Secondary Transit Preferential Street	10, 12	Class III
Third Street	N-S	4	Market Street – Bayshore Blvd.	Congestion Management Network Major Arterial Metropolitan Transportation System Street Primary Transit Important Preferential Street Citywide Pedestrian Network Street Neighborhood Commercial Pedestrian Street	8X, 8AX, 8BX, 30, 45, 54, 81X, T	Class III[34]
Fourth Street	N-S	4	Market Street – Channel Street	Congestion Management Network Major Arterial Metropolitan Transportation System Street Primary Transit Important Preferential Street Citywide Pedestrian Network Street Neighborhood Commercial Pedestrian Street	8X, 8AX, 8BX, 30, 45	Class II
Fifth Street	N-S	4	Market Street – Berry Street	Congestion Management Network Major Arterial Metropolitan Transportation System Street	8X, 8AX, 8BX, 30, 45, 76	Class III

TABLE 2: LOCAL ROADWAY NETWORK DESCRIPTIONS						
Street Name	Direction	Lanes (typ.)	Geographic Extent	General Plan Designation[1]	Transit Routes[1]	Bicycle Facilities (typ.) [12]
Sixth Street	N-S	6 [5]	Congestion Management Network Major Arterial Metropolitan Transportation System Street Neighborhood Commercial Pedestrian Street	14X, 27	-	
Seventh Street	N-S	4[6]	Market Street – 16th Street	Congestion Management Network Major Arterial Metropolitan Transportation System Street	19	Class II
16th Street	E-W	4	Corona Heights Park – Illinois Street	Congestion Management Network Secondary Arterial Metropolitan Transportation System Street	22, 23, 55	Class II
22nd Street	E-W	2	Grand View Ave. – Illinois Street/Potrero Point	-	48	-
Beale Street	N-S	2	Market Street – The Embarcadero	-	7, 7R, 10, 38, 38R, 70, 81X, 82X	Class II
Brannan Street	E-W	4[7]	Ninth Street – The Embarcadero	-	82X	-
Bryant Street	E-W	2-3[8]	Eleventh Street – The Embarcadero	Primary Transit Important Preferential Street	8X, 8AX, 8BX, 27, 47	-
Cesar Chavez Street	E-W	4	Douglas Street – Maryland Street	Congestion Management Network Major Arterial Metropolitan Transportation System Street	-	Class I/Class II
Channel Street	E-W	2[9]	Mission Creek Garden – Third Street	-	-	-

TABLE 2: LOCAL ROADWAY NETWORK DESCRIPTIONS						
Street Name	Direction	Lanes (typ.)	Geographic Extent	General Plan Designation[1]	Transit Routes[1]	Bicycle Facilities (typ.) [12]
The Embarcadero	N-S	4	Fisherman's Wharf – Townsend Street	Congestion Management Network Major Arterial Metropolitan Transportation System Street Primary Transit Important Preferential Street Neighborhood Commercial Pedestrian Street	F, N, T	Class I/Class II
Folsom Street	E-W	4	Twelfth Street – The Embarcadero	Congestion Management Network Major Arterial Metropolitan Transportation System Street	12, GGT	Class II
Fremont Street	N-S	4	Market Street – Harrison Street	Congestion Management Network Major Arterial Primary Transit Important Preferential Street	76, GGT	-
Harrison Street	E-W	4-5	Twelfth Street – The Embarcadero	Congestion Management Network Major Arterial Primary Transit Important Preferential Street Neighborhood Commercial Pedestrian Street	8X, 8AX, 8BX, 12, 27, 47	-
Howard Street	E-W	4-5	Twelfth Street – The Embarcadero	Congestion Management Network Major Arterial Metropolitan Transportation System Street	76, GGT	Class II / Class III
Illinois Street	N-S	2	16th Street – Cargo Way	-	48	Class II
King Street	E-W	4	Townsend Street – Fifth Street	Congestion Management Network Major Arterial Metropolitan Transportation System Street Primary Transit Important Preferential Street Neighborhood Pedestrian Network Connection Street	N, T	Class II / Class III
Mariposa Street	E-W	4[10]	Harrison Street – Illinois Street	-	-	Class III
Mission Bay Drive	E-W	5	Seventh Street – Owens Street	-	-	-
Mission Rock Street	E-W	2	~ 600 ft west of Terry A. Francois Blvd.	-	-	-

TABLE 2: LOCAL ROADWAY NETWORK DESCRIPTIONS

Street Name	Direction	Lanes (typ.)	Geographic Extent	General Plan Designation[1]	Transit Routes[1]	Bicycle Facilities (typ.) [12]
Mississippi Street	N-S	2	16th Street – 22nd Street	-	-	Class II[11]
Owens Street	N-S	2	Mission Bay Drive – 16th Street	-	-	-
Terry A. Francois Blvd.	N-S	2	Third Street – Illinois Street	-	-	Class II
Townsend Street	E-W	2-4	Eight Street – The Embarcadero	-	10, 83X	Class II

Notes:

1 The descriptions associated with each street (General Plan Designation, Transit Routes, etc.) are those that apply to some portion of that street, although not necessarily the entire length of that street.

2 Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists. Class II bikeways are bike lanes striped within the paved areas of roadways and established for the preferential use of bicycles. Class III bikeways are signed bike routes that allow bicycles to share the travel lane with vehicles. See Section 2.7 for additional discussion.

3 Except between China Basin Street and Cesar Chavez Street where there are no bicycle facilities.

4 Two lanes from 16th Street to Channel Street; four lanes north of Channel Street, except six lanes from King Street to Townsend Street.

5 Four lanes from Market Street to Howard Street; Five lanes (three northbound, two southbound) from Howard Street to Folsom Street during peak periods only (four lanes during other times); Six lanes during peak periods only from Folsom Street to Brannan Street (four lanes during other times)

6 Two lanes from 16th Street to King Street; three lanes from King Street to Brannan Street; four lanes north of Brannan Street.

7 Two lanes from The Embarcadero to Colin P Kelly Jr Street; four lanes southwest of Colin P Kelly Jr Street.

8 Five lanes from 7th Street to 2nd Street; three lanes from 2nd Street to Interstate 80 (I-80) ramp; two lanes from I-80 ramp to Beale Street; three lanes from Beale Street to The Embarcadero.

9 Four lanes from 3rd Street to 4th Street; two lanes elsewhere.

10 Four lanes from Terry A. Francois Boulevard to Pennsylvania Avenue; two lanes elsewhere.

11 Class II bicycle facility from 16th Street to Mariposa Street; no bicycle facilities elsewhere.

Source: Fehr & Peers, 2015, San Francisco General Plan

The project site comprises most of the area in TAZ 655, described as the area between Mission Creek/China Basin, the Bay, Mission Rock Street, and Third Street. The location of the project site is close to major transit services and facilities, bicycle and pedestrian networks and facilities, and a diversity of land uses. A project located in TAZ 655 would have a substantially reduced number of vehicle trips with shorter distances and, thus, reduced VMT compared to other areas in the region. This is demonstrated by comparing data regarding average VMT for residential, office, and retail uses in the region and the specific project site TAZ (TAZ 655). The VMT rates that follow are identified for each by category of use.

Regional VMT: For residential development, the regional average daily VMT per capita in the entire nine-county Bay Area is 17.2. For office and active/retail development, the regional average daily work-related VMT numbers per employee are 19.1 and 14.9, respectively. Regionally, the lowest VMT ratios (in terms of per capita and per employee) are within San Francisco. San Francisco neighborhoods typically exhibit the

lowest 20 percent of VMT per capita in the region. Conversely, neighborhoods within cities such as Novato and Orinda exhibit the highest 20 percent of VMT per capita in the region.

TAZ 655 VMT: The average VMT estimates for each use category in TAZ 655 are projected to be significantly lower than the regional standard. For residential development, the TAZ 655 average daily VMT per capita is 3.5. For office and active/retail/production development, the TAZ 655 average daily VMT numbers per employee are 12.1 and 10.4, respectively.

2.3 TRANSIT NETWORK

The project site is served by local transit provided by the San Francisco Municipal Railway (Muni), operated by the San Francisco Municipal Transportation Agency (SFMTA). Muni provides light-rail service adjacent to the project site on Third Street. Regional transit provides service to the East Bay via Bay Area Rapid Transit (BART) rail service, Alameda-Contra Costa Transit (AC Transit) buses, and Water Emergency Transportation Authority (WETA) ferries; service to the North Bay via Golden Gate Transit buses and ferries; and service to the Peninsula and South Bay via Caltrain and BART rail service and San Mateo County Transit (SamTrans) buses. Most regional transit services, with the exception of Caltrain, are generally not within a short walking distance of the project site, but can be reached by bicycle or from various Muni lines. The Fourth and King Caltrain station is approximately 0.3 miles northwest of the project site. The project site is approximately 1.2 to 1.7 miles south of Market Street BART stations and the Ferry Building, and approximately 1.3 miles south of the Temporary Transbay Terminal served by AC Transit. **Figure 6** presents the local and regional transit routes in the study area and in the Mission and SOMA neighborhoods.

2.3.1 San Francisco Muni

Muni provides transit service within the City and County of San Francisco, including bus (both diesel and electric trolley), light rail (Muni Metro), cable car and electric streetcar lines. Muni operates a number of bus and rail lines in the project vicinity. **Table 3** presents the 13 Muni routes that serve the project site and route characteristics as of March 2015, including service frequencies during the weekday morning and evening peak periods, hours of operations and neighborhoods served. The closest Muni stop to the project site is on the T Third line on Third Street at Mission Rock Street.

In January 2012, SFMTA temporarily rerouted southbound 30 Stockton and 45 Union-Stockton (as well as the 8/8AX/8BX Bayshore) from Fourth Street to Fifth Street to accommodate the Central Subway construction (northbound routes have not been revised). The 55 16th Street also began service in early 2015 in the study area.

Transit Routes

- F Market & Wharves
- KT Ingleside-Third Street
- N Judah
- J Church
- L Taraval
- M Ocean View
- 2 Clement
- 3 Jackson
- 5 Fulton
- 6 Parnassus
- 8X/8AX/8BX Bayshore Express*
- 9/9L San Bruno
- 10 Townsend
- 12 Folsom-Pacific
- 14/14L/14X Mission
- 16X Noriega Express
- 19 Polk
- 21 Hayes
- 22 Fillmore
- 27 Bryant
- 30 Stockton*
- 30X Marina Express
- 31 Balboa
- 38/38L Geary
- 45 Union-Stockton*
- 47 Van Ness
- 55 16th Street
- NX Judah Express
- 71 Haight-Noriega
- 81X Caltrain Express
- 82X Levi Plaza Express
- 83X Mid-Market Express
- 108 Treasure Island
- BART
- Cable Car
- Caltrain

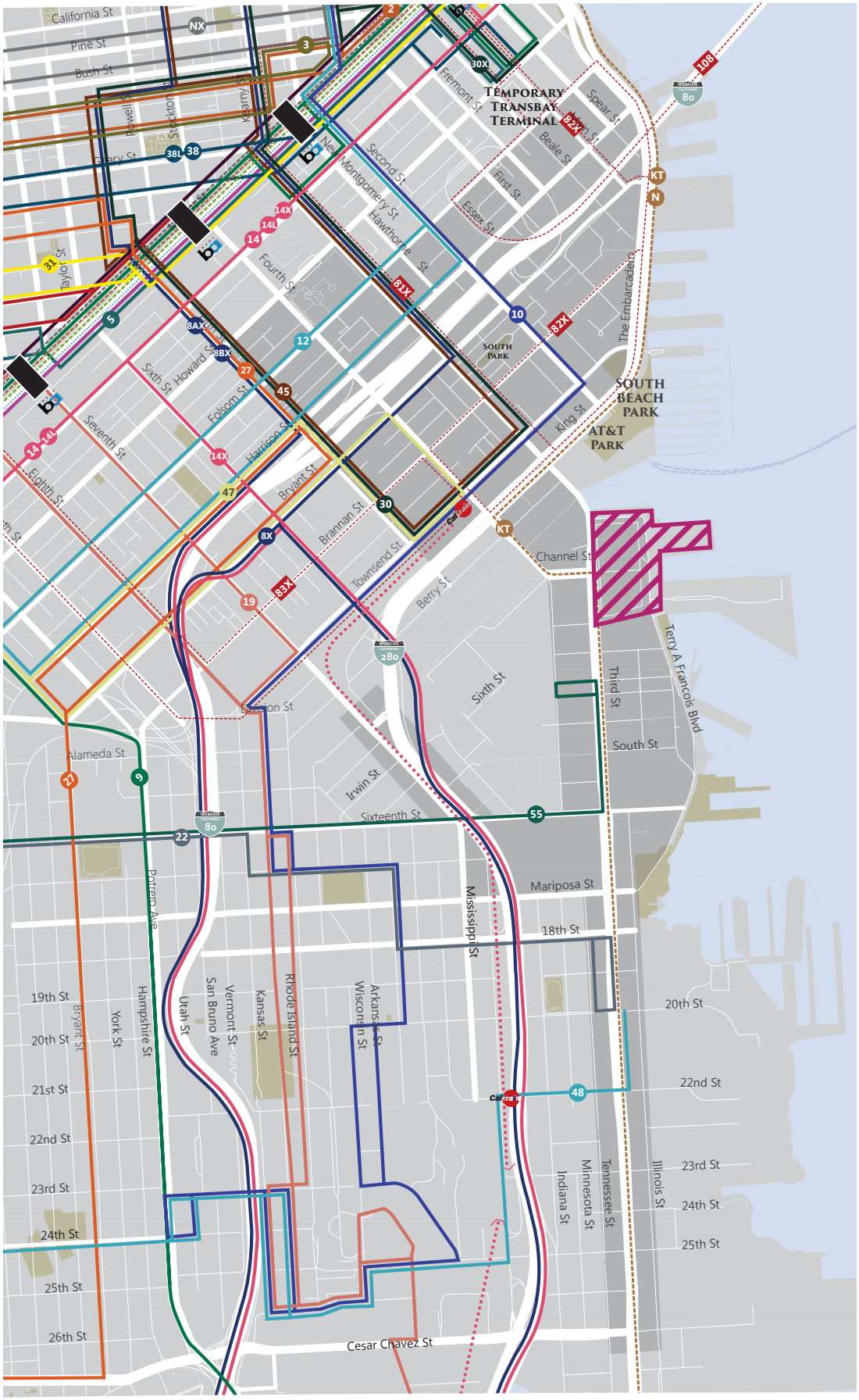
Project Study Area

Project Location

BART Station

Caltrain Station

* Rerouted to Fifth Street during Central Subway construction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Post St
Kearny St
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Powell St
Mason St
Taylor St
Jones St
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Hyde St
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Polk St
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Franklin St
Gough St
Octavia St
Laguna St
Buchanan St
Webster St
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Steiner St
Pierce St
Scott St
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Presidio Ave
Walnut St
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TABLE 3: LOCAL MUNI OPERATIONS

Route	AM Peak Weekday Headways (7AM-9AM)[1]	PM Peak Weekday Headways (4PM-6PM)[1]	Hours of Operation	Neighborhoods Served by Route
KT Ingleside-Third Street	9	9	4:00 a.m. -1:30 a.m.	Balboa Park, Market Street, Mission Bay, Visitacion Valley
N Judah	7	7	5:09 a.m. – 1:58 a.m. 4:38 a.m. – 1:33 a.m.	Ocean Beach, Market Street, SF Caltrain
10 Townsend	15	20	5:00 a.m. – 12:30 a.m.	Potrero Hill, China Basin, Financial District, Pacific Heights
12 Folsom-Pacific	20	20	5:24 a.m. – 12:06 a.m. 6:09 a.m. – 12:08 a.m.	Mission, SOMA, Nob Hill
22 Fillmore	9	8	24 hours per day	Marina, Fillmore, Potrero Hill
27 Bryant	15	15	5:16 a.m. – 1:10 a.m. 5:25 a.m. – 1:18 a.m.	Mission, SOMA, Nob Hill
30 Stockton	7	6	4:59 a.m. – 1:32 a.m. 5:35 a.m. – 1:29 a.m.	SOMA, Chinatown, Marina
45 Union-Stockton	8	12	5:39 a.m. – 12:45 a.m. 6:20 a.m. – 1:16 a.m.	Cow Hollow, Chinatown, SOMA
47 Van Ness	10	10	6:00 a.m. – 1:14 a.m. 5:43 a.m. – 1:14 a.m.	SOMA, Van Ness, Fisherman's Wharf
55 16th Street	15	15	6:00 a.m. – 12:20 a.m. 6:00 a.m. – 12:12 a.m.	Mission Bay, Potrero Hill, Mission
81X Caltrain Express	20	-	6:45 a.m. – 9:22 a.m. (Inbound)	Caltrain, Financial District, Transbay Terminal
82X Levi Plaza Express	20	15	6:04 a.m. – 9:25 a.m. 3:44 p.m. – 6:27 p.m.	Levi's Plaza, Financial District, SOMA
83X Mid Market Express	16[2]	19[2]	7:08 a.m. – 11:01 a.m. 4:05 p.m. – 8:00 p.m.	SOMA

Notes:
1. These are current headways. Headway is scheduled time between buses, presented in minutes.
2. Headways vary. Headway show is an average headway for the corresponding peak hour weekday schedule.

Source: SF Muni, 2015; Prepared by Fehr & Peers, 2015.

2.3.1.1 Existing Muni Ridership Data

Muni transit operations in the study area were evaluated using two methods: capacity utilization and screenlines. Capacity utilization relates the number of passengers per transit vehicle to the design capacity of the vehicle. A capacity utilization analysis was conducted for the routes providing direct access to the project site based on each route's peak capacity utilization at its maximum load point (MLP), obtained from

the SFMTA's automated passenger count database in September/October 2013.[3] The MLP is the location where the route has its highest number of passengers relative to its capacity. In general, the MLP for Muni routes is not located in the study area but is located in or beyond downtown San Francisco.

2.3.1.2 Capacity Utilization by Line

Capacity utilization during the a.m./p.m. peak periods was determined at the MLP for each route serving the study area. The capacity per vehicle includes both seated and standing capacity, where standing capacity is between 30 and 80 percent of seated capacity (depending on the specific transit vehicle configuration). The capacity of a light rail vehicle is 119 passengers; the capacity of a historic streetcar is 70 passengers; and the capacity of a standard bus is 63 passengers.

Table 4 presents the a.m. and p.m. peak ridership and capacities at MLPs for transit routes serving the study area for both inbound and outbound directions.[4] On routes running in a north-south alignment, northbound is inbound (no matter where on the route) and southbound is outbound. On routes running in an east-west alignment, inbound is towards downtown and outbound is away from downtown. Passenger loads range from 26 percent (N Outbound – a.m. peak hour) to 117 percent (N Inbound – a.m. peak hour) of capacity, and average 68 percent of capacity. Immediately adjacent to the study area, capacity utilization is generally lower than the utilization at the MLP. For example, the MLP for the N is at Duboce Avenue and Church Street; ridership on the N Judah through SOMA within the study area is substantially lower than the portion of the route along and west of Market Street.

Five Muni routes had passenger loads that exceeded 85 percent capacity utilization, which is SFMTA's standard maximum acceptable utilization, at their maximum load points during one or both peak hours, as summarized below.

- T Embarcadero/Brannan (Inbound or IB) – 98 percent utilization during p.m. peak hour
- T Embarcadero/Folsom (Outbound or OB) – 105 percent utilization during a.m. peak hour
- N Judah (IB) – 117 percent utilization during a.m. peak hour
- N Judah (OB) – 87 percent utilization during p.m. peak hour
- 10 Townsend (IB) – 90 percent utilization during a.m. peak hour and 88 percent utilization during p.m. peak hour

[3] *Transit Data for Transportation Impact Studies*, technical memorandum, San Francisco Planning Department, May 15, 2015. The use of 2013 count data as a foundation for the baseline and cumulative analysis is standard practice, as documented in the memo.

[4] The inbound and outbound directions are based on the Muni operations direction.

TABLE 4: MUNI PEAK HOUR LOAD AND CAPACITY UTILIZATION BY LINE

	AM			PM		
Route	**Passenger Load[1]**	**Peak Hour Capacity[2]**	**Capacity Utilization**	**Passenger Load[1]**	**Peak Hour Capacity[2]**	**Capacity Utilization**
T Embarcadero/Brannan (IB)	350	793	44%	782	793	**98%**
T Embarcadero/Folsom (OB)	833	793	**105%**	585	793	74%
N Judah (IB)	2,387	2,040	**117%**	843	2,197	38%
N Judah (OB)	530	2,040	26%	1,911	2,197	**87%**
10 Townsend (IB)	244	270	**90%**	168	189	**88%**
10 Townsend (OB)	208	252	82%	153	189	80%
12 Folsom Pacific (IB)	120	189	64%	138	189	73%
12 Folsom Pacific (OB)	132	189	69%	108	189	57%
22 Fillmore (IB)	293	420	70%	293	473	61%
22 Fillmore (OB)	267	420	63%	278	473	58%
27 Bryant (IB)	160	252	64%	152	252	60%
27 Bryant (OB)	164	252	65%	116	252	46%
30 Stockton (IB)	215	327	66%	615	1,224	50%
30 Stockton (OB)	470	690	68%	615	1,248	49%
45 Union-Stockton (IB)	353	473	75%	187	302	61%
45 Union-Stockton (OB)	368	473	77%	260	315	82%
47 Van Ness (IB)	270	378	71%	252	378	66%
47 Van Ness (OB)	282	378	74%	222	378	58%
55 16th Street (IB)[3]	--	--	--	--	--	--
55 16th Street (OB)[3]	--	--	--	--	--	--
81X Caltrain Express (IB)[4]	51	104	49%	--	--	--
82X Levi Plaza Express (IB)[5]	209	361	58%	--	--	--
82X Levi Plaza Express (OB)[6]	--	--	--	92	252	36%

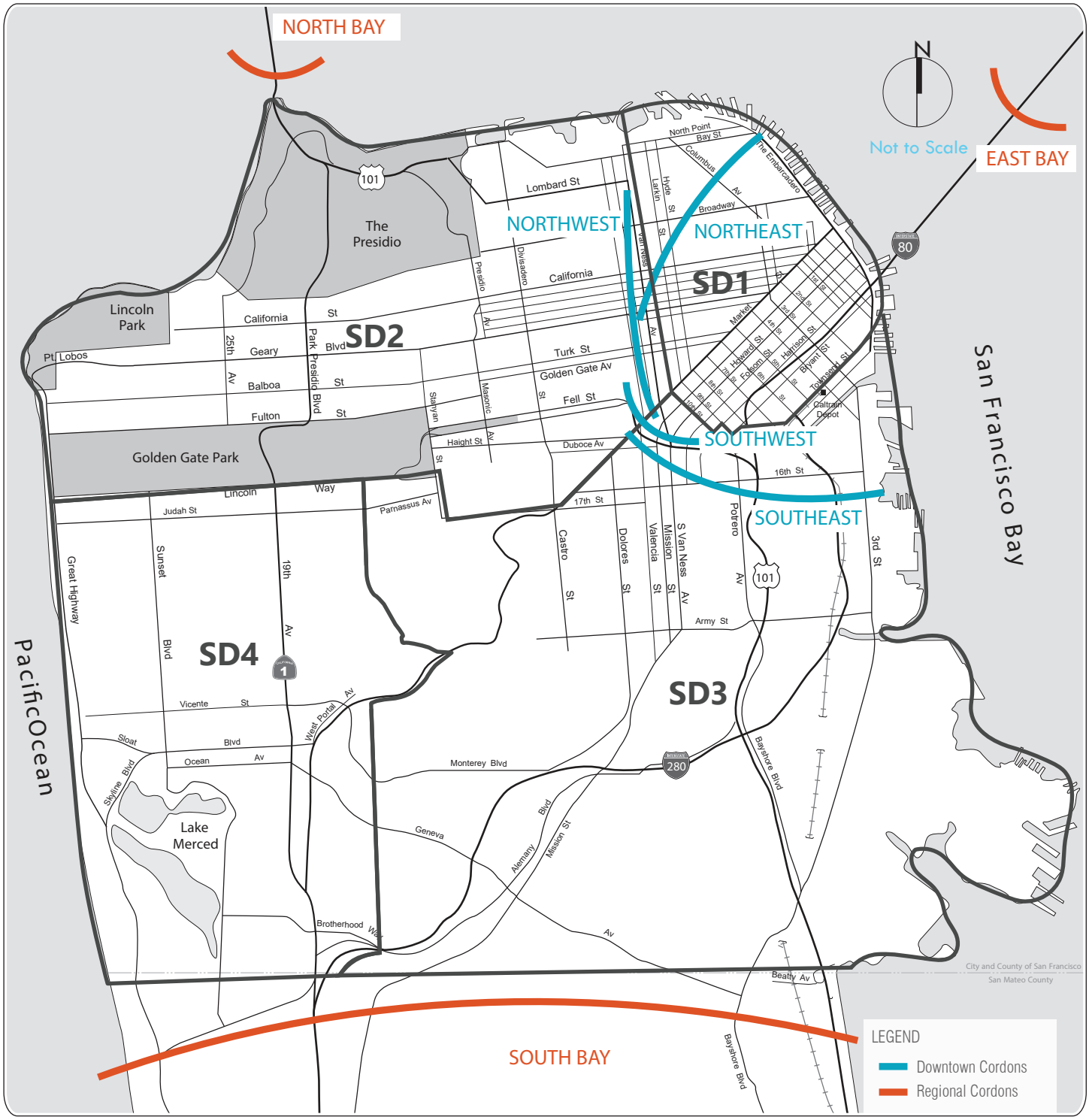
Notes:
Bold indicates capacity utilization of 85 percent or greater.
1. Peak hour ridership.
2. Total peak period capacity in passengers per hour.
3. Because the 55 16th Street is a new route, no data was available at the time of this writing.
4. The 81X inbound only runs during the AM peak and does not run during the PM peak. The 81X does not run outbound during either peak period.
5. The 82X inbound only runs during the AM peak and does not run during the PM peak.
6. The 82A outbound only runs during the PM peak and does not run during the AM peak.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015.

2.3.1.3 Downtown Screenlines

The assessment of existing transit conditions in San Francisco is also performed through the analysis of screenlines. These screenlines, as defined in the *SF Guidelines*, are hypothetical lines that would be crossed by persons traveling between downtown San Francisco and its vicinity (Super District 1) to or from other parts of San Francisco and the region (Super Districts 2, 3, and 4) (see **Figure 7**). The project site is located in Super District 3. Four screenlines—northeast, northwest, southwest, and southeast—have been established in downtown San Francisco to facilitate the analysis of potential impacts of projects on Muni service. Subcorridors have been established within each screenline. The bus routes and light rail lines used in this screenline analysis are considered the major commute routes from the downtown area. Other bus

routes, such as those with greater than 10-minute headways, are not included due to their generally lower ridership. Transit serving the project site crosses all four downtown screenlines. **Table 5** shows the groups of Muni routes in each of the downtown screenlines. Transit Line capacity calculation sheets are provided in **Appendix C**.



SOURCE: SF Transportation Impact Analysis Guidelines

Figure 7

Transit Screenlines and SF Super Districts

TABLE 5: MUNI DOWNTOWN SCREENLINE GROUPINGS	
Northeast	
Kearny/Stockton	8 Bayshore 30 Stockton 30X Marina Express 41 Union 45 Union-Stockton
Other lines	E Embarcadero[1] F Market & Wharves 10 Townsend 12 Folsom Pacific[2]
Northwest	
Geary	38 Geary 38R Geary Rapid 38AX Geary 'A' Express 38BX Geary 'B' Express
California	1 California 1AX California 'A' Express 1BX California 'B' Express
Sutter/Clement	2 Clement
Fulton/Hayes	5 Fulton 5R Fulton Rapid 21 Hayes
Balboa	31 Balboa 31AX Balboa 'A' Express 31BX Balboa 'B' Express
Southeast	
Third Street	T Third Street
Mission	14 Mission 14R Mission Rapid 14X Mission Express 49 Van Ness-Mission
San Bruno/Bayshore	8 Bayshore 8X Bayshore Express 8AX Bayshore 'A' Express 8BX Bayshore 'B' Express 9 San Bruno 9R San Bruno Rapid
Other lines	J Church 10 Townsend 12 Folsom-Pacific[2] 19 Polk[3] 27 Bryant
Southwest	

TABLE 5: MUNI DOWNTOWN SCREENLINE GROUPINGS	
Subway lines	K Ingleside L Taraval M Ocean View N Judah
Haight/Noriega	6 Haight/Parnassus 7 Haight-Noriega 7R Haight-Noriega Rapid 7X Noriega Express NX Judah Express
Other lines	F Market & Wharves

Notes:

1. The E Embarcadero route, which started weekday service in late April 2016, is included in the baseline and cumulative scenarios.
2. The 12 Folsom Pacific route will be realigned to better serve Rincon Hill. Alternative routes that current riders of the 12 Folsom Pacific route are assigned to for baseline and cumulative conditions are the 10 Townsend and a new 11 Downtown Circulator route.
3. The 19 Polk route will be modified in the future to eliminate the portion of the route between San Francisco General Hospital, at 23rd Street and Potrero Avenue, and its southern terminus in Bayview-Hunters Point.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015.

One project-specific transit cordon[5] was identified for this project. The purpose for evaluating this cordon is to supplement the standard downtown screenlines, to capture the level of transit usage and capacity just north of the project site providing direct service into downtown San Francisco from the project area. The project-specific cordon encompasses transit routes that cross Townsend Street, from Fifth Street to Embarcadero and/or from Fifth Street between Townsend Street and Berry Street. This cordon includes the following lines:

- 10 Townsend
- 30 Stockton
- 45 Union/Stockton
- 47 Van Ness
- 81X Caltrain Express
- 83X Mid-Market Express
- N Judah
- KT Third Ingleside

In addition to evaluating the sum of the above eight routes at the project cordon, an assessment was conducted for the following individual routes at the maximum load point between the project site and Market Street.

- 30 Stockton
- N Judah

[5] A transit cordon is a line drawn on a map across one or more transit routes. The project-specific transit cordon was established to measure the number of transit trips between the proposed project and the San Francisco Financial District through the SOMA neighborhood.

- 45 Union/Stockton
- KT Third Ingleside

An evaluation of all individual routes that comprise the "Other lines" subcorridors for both the Northeast and Southeast screenlines was conducted. The evaluation of these individual lines was conducted at the screenline maximum load point.

Northeast Screenline – Routes that Comprise "Other Lines" Subcorridor

- E Embarcadero
- F Market and Wharves
- 10 Townsend
- 11 Downtown Circulator (future)
- 12 Folsom-Pacific

Southeast Screenline – Routes that Comprise "Other Lines" Subcorridor

- J Church
- 10 Townsend
- 12 Folsom-Pacific
- 19 Polk
- 27 Bryant

Ridership levels for the individual Muni routes and the project-specific transit cordon are shown for the highest line volume on each of the eight routes through SOMA between the proposed project and the Market Street BART stations. These locations were selected both because the intent of the project-specific transit cordon is to assess the impact of added transit trips between the proposed project and downtown, and because a large share of transit riders traveling from the proposed project along these routes through SOMA would be destined for BART (to the East Bay) and other regional transit providers at the Transbay Terminal.

Table 6 presents the existing ridership and capacity utilization at the MLP for the routes crossing the downtown screenlines during the weekday a.m./p.m. peak periods. The capacity utilization calculation uses a.m. data for the inbound direction and p.m. data for the outbound direction to align with the peak directions of travel and patronage loads for the Muni system to or from the downtown area during those periods. For all routes, with the exception of the T Third line, this directionality is counter to the direction in which the downtown MLP screenlines are assessed,

All downtown screenlines operate below Muni's 85 percent capacity utilization standard at their maximum load points in the a.m./p.m. peak periods, except for the southwest screenline in the a.m. peak (as a result of 102 percent utilization on the subway lines), which operates at 94 percent capacity utilization.

Some subcorridors within the Muni downtown screenlines currently exceed 85 percent capacity utilization. The Fulton/Hayes subcorridor within the northwest screenline operates at 90 percent utilization in the p.m. peak hour. The Third Street subcorridor within the southeast screenline operates at 99 percent utilization in the p.m. peak hour. The subway lines subcorridor within the southwest screenline operates at 102 percent utilization in the a.m. peak hour.

The project-specific cordon and four individual Muni routes that are evaluated, and shown at the bottom of **Table 6** operate at acceptable utilization levels, as evaluated at their peak load points through SOMA.

Table 7 provides data regarding the screenline maximum load point for the individual Muni routes that comprise the "other lines" subcorridor of the northeast and southeast screenlines. The 10 Townsend route operates at 89 percent utilization during the p.m. peak hour at the northeast screenline maximum load point. At the maximum load point for the southeast screenline, the J Church route operates at 95 percent utilization, and the 10 Townsend route operates at 90 percent utilization during the a.m. peak hour.

TABLE 6: MUNI DOWNTOWN SCREENLINES AND PROJECT-SPECIFIC LINES – EXISTING CONDITIONS

Screenline	AM Peak Hour (Inbound)			PM Peak Hour (Outbound)		
	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Northeast						
Kearny/Stockton	2,211	3,050	73%	2,245	3,327	68%
Other lines	538	1,141	47%	683	1,078	63%
Screenline Total	*2,749*	*4,191*	*66%*	*2,928*	*4,405*	*67%*
Northwest						
Geary	1,821	2,490	73%	1,964	2,623	75%
California	1,610	2,010	80%	1,322	1,752	75%
Sutter/Clement	480	630	76%	425	630	68%
Fulton/Hayes	1,277	1,680	76%	1,184	1,323	**90%**
Balboa	758	1,019	74%	625	974	64%
Screenline Total	*5,946*	*7,828*	*76%*	*5,519*	*7,302*	*76%*
Southeast						
Third Street	350	793	44%	782	793	**99%**
Mission	1,643	2,509	66%	1,407	2,601	54%
San Bruno/Bayshore	1,689	2,134	79%	1,536	2,134	72%
Other lines	1,466	1,756	84%	1,084	1,675	65%
Screenline Total	*5,147*	*7,193*	*72%*	*4,810*	*7,203*	*67%*
Southwest						
Subway lines	6,330	6,205	**102%**	4,904	6,164	80%
Haight/Noriega	1,121	1,554	72%	977	1,554	63%
Other lines	465	700	67%	555	700	79%
Screenline Total	*7,916*	*8,459*	***94%***	*6,435*	*8,418*	*77%*
Muni Screenlines Total	*21,758*	*27,671*	*79%*	*19,693*	*27,328*	*72%*
Project Specific Cordon						
Project-Specific Cordon Total	*2,168*	*5,000*	*43%*	*1,765*	*5,255*	*34%*
Individual Muni Routes at Project-Specific Cordon						
Route/Direction	**A.M. Peak Hour**			**P.M. Peak Hour**		
	Ridership	**Capacity**	**Utilization**	**Ridership**	**Capacity**	**Utilization**
30 Stockton IB	154	327	47%	314	1,224	26%
30 Stockton OB	454	690	66%	366	1,248	29%
45 Union/Stockton IB	275	473	58%	120	302	40%
45 Union/Stockton OB	351	473	74%	179	315	57%
N Judah IB	424	2,040	21%	433	2,197	20%
N Judah OB	445	2,040	22%	405	2,197	18%
KT Third Ingleside IB	381	793	48%	314	793	40%
KT Third Ingleside OB	310	793	39%	550	793	69%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 7: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER LINES SUBCORRIDORS – EXISTING CONDITIONS

Screenline/Subcorridor Individual Muni Routes	AM Peak Hour (Inbound)			PM Peak Hour (Outbound)		
	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Northeast/Other Lines						
E Embarcadero[1]	—	—	—	—	—	—
F Market and Wharves	210	700	30%	377	700	54%
10 Townsend	208	252	83%	168	189	**89%**
12 Folsom Pacific	120	189	63%	138	189	73%
Southeast/Other Lines						
J Church	754	793	**95%**	539	793	68%
10 Townsend	244	270	**90%**	153	189	81%
12 Folsom Pacific	120	189	63%	108	189	57%
19 Polk	188	252	75%	168	252	67%
27 Bryant	160	252	63%	116	252	46%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

1. The E Embarcadero route, which started weekday service in late April 2016, is included in the baseline and cumulative scenarios.

The ridership and capacity data presented above are for the screenline maximum load point.

The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

2.3.2 Regional Transit Service

The area around the project site is served by regional transit systems, which are accessible by bicycle, walking, or local Muni routes. Service is provided by Caltrain, BART, AC Transit, WETA, SamTrans, and Golden Gate Transit. Each transit system is briefly described below, and information on capacity utilization at regional screenlines is provided. **Table 7** presents the regional transit routes serving the transit study area and route characteristics as of September 2013, including service frequencies during the weekday morning and evening peak periods, hours of operations and neighborhoods served.

Caltrain

Caltrain Caltrain provides passenger rail service on the Peninsula between San Francisco and downtown San Jose with several stops in San Mateo County and Santa Clara County. Some service is also available south of San Jose. Caltrain operates either local or express trains between 4:30 and 12:30 a.m. inbound (northbound) and 5:00 p.m. and 1:30 a.m. outbound (southbound). Caltrain service headways for Limited-Stop and Express ("Baby Bullet") trains during the a.m./p.m. peak periods are 10 minutes to 40 minutes, depending on the type of train. The peak direction of service is southbound during the a.m. peak period (7:00 to 9:00 a.m.) and northbound during the p.m. peak period (4:00 to 6:00 p.m.). Local service is not provided during a.m./p.m. peak periods. Caltrain service terminates at the San Francisco station at Fourth and King Streets, which is also within walking distance of the project site. Another Caltrain station is located on 22nd Street between Indiana Street and Pennsylvania Avenue. Both stations can be accessed directly by Muni transit and are served by local, limited, and express Baby Bullet trains.

Bay Area Rapid Transit (BART)

BART provides regional commuter rail service between San Francisco and the East Bay (Pittsburg/Bay Point, Richmond, Dublin/Pleasanton and Fremont) as well as between San Francisco and San Mateo County (SFO Airport and Millbrae). Weekday hours of operation are between 4 a.m. and midnight. During the weekday p.m. peak period, headways are 5 to 15 minutes along each line. In San Francisco, BART operates underground along Market Street to Civic Center Station where it turns south through the Mission District toward Daly City, running aboveground beginning at Balboa Park Station. The BART stations nearest to the study area are 16th Street Mission Station, 24th Street Mission Station, Civic Center/UN Plaza Station at Market Street/Seventh Street, Embarcadero Station at Market Street/Main Street, Montgomery Station at Market Street/Second Street, and Powell Station at Market Street/Fifth Street.

Alameda-Contra Costa County Transit District (AC Transit)

AC Transit operates bus service in western Alameda and Contra Costa counties and has routes to San Francisco and San Mateo County. AC Transit operates 33 "Transbay" bus routes between the East Bay and the Temporary Transbay Terminal, temporarily located at Howard and Beale Streets in SOMA. The Temporary Transbay Terminal lies just outside of the study area and is easily accessible via Muni and regional transit lines. The majority of Transbay service is provided only during commute periods in the peak direction of travel, with headways between buses of 15 to 20 minutes. The peak direction of service is into San Francisco during the a.m. peak period and out of San Francisco during the p.m. peak period. All-day service is provided on a few lines, with headways of approximately 30 minutes.

San Mateo County Transit District (SamTrans)

SamTrans operates bus service in San Mateo County. A few SamTrans routes also serve the Temporary Transbay Terminal in downtown San Francisco, including Routes 292, 397, and KX. Route 292 makes San Francisco stops along Potrero Avenue and Mission Street throughout the day. Headways during the a.m. peak period are between 15 and 30 minutes, and p.m. peak-hour headways are 15 minutes. Route 397 runs along Mission Street in San Francisco and serves the Temporary Transbay Terminal. It is a late-night service route with headways of 60 minutes. Route KX operates only during the peak travel periods with 60 minute headways, and travels between the Temporary Transbay Terminal and Redwood City.

Golden Gate Transit (GGT)

The Golden Gate Bridge, Highway, and Transportation District operates Golden Gate Transit, which provides bus and ferry service between the North Bay (Marin and Sonoma Counties) and San Francisco. Golden Gate Transit operates 22 commuter bus routes, 9 nine basic bus routes, and 16 ferry feeder bus routes for ferries to San Francisco. Bus routes operate at headways of 15 to 90 minutes depending on time and day of week and bus type. Near the study area, Golden Gate Transit operates commuter and basic routes on Mission, Howard, Folsom, Sixth, and Eighth Streets. Golden Gate Transit also operates ferry service between the North Bay and San Francisco, connecting Larkspur and Sausalito with the Ferry Building during the morning and evening commute periods.

Water Emergency Transportation Authority (WETA)

The Water Emergency Transportation Authority (WETA) is a regional public transit agency that operates ferry services on the San Francisco Bay and coordinates the water transit response to regional emergencies. WETA service operates from eight terminals in Alameda, Oakland, San Francisco, South San Francisco, and Vallejo. Ferry routes operate at 30 to 60 minute headways depending on time and day of the week.

2.3.2.1 Regional Transit Screenlines

As is the case for Muni, transit service into and out of San Francisco on regional service providers is examined using a screenline analysis. The existing regional transit screenlines, as described in the SF Guidelines, were used to analyze regional transit capacity in the study area. **Table 8** presents the ridership and capacity utilization at the MLP for the regional screenlines during the weekday a.m./p.m. peak periods. For regional operators, the MLP is typically at the San Francisco city limit (i.e., the East Bay MLP would occur at the Transbay Tube and on the Bay Bridge; the North Bay MLP would occur at the Golden Gate Bridge; and the South Bay MLP would occur at the southern city border). Inbound travel (into downtown San Francisco) is analyzed during the a.m. weekday peak period, and outbound travel (out of downtown San Francisco) is analyzed during the p.m. weekday peak period.

For regional transit providers (except for BART), the established capacity utilization threshold is equal to the number of seated passengers per vehicle. For BART, the established capacity utilization threshold is 107 passengers per car, which includes all seats and accounts for some standees. All of the regional transit operators have a 1-hour load factor standard of 100 percent. As a result, the Planning Department uses 100 percent capacity utilization as a threshold of significance for determining a.m./p.m. peak period transit demand impacts to regional transit. As shown in **Table 8** the East Bay regional screenline currently exceeds its established capacity utilization standard in the a.m. peak hour and p.m. peak hour, primarily due to overcrowding on BART with ridership exceeding the 100 percent utilization threshold during both a.m. peak-hour (inbound) and p.m. peak-hour (outbound) conditions. Specifically, BART's capacity utilization on the East Bay regional screenline is 109 percent in the a.m. peak hour and 107 percent in the p.m. peak hour. As a result, the regional screenline between San Francisco and the East Bay is over its capacity utilization threshold in the a.m. peak hour at 102 percent. All other regional screenlines operate within established utilization standards.

TABLE 8: REGIONAL TRANSIT SCREENLINES – EXISTING/BASELINE CONDITIONS

Regional Screenline	AM Peak Hour (Inbound)			PM Peak Hour (Outbound)		
	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
East Bay						
BART	25,399	23,256	**109%**	24,488	22,784	**107%**
AC Transit	1,568	2,829	55%	2,256	3,926	57%
Ferries	810	1,170	69%	805	1,615	50%
Screenline Total	27,777	27,255	**102%**	27,549	28,325	97%
North Bay						
Golden Gate Transit Bus	1,330	2,543	52%	1,384	2,817	49%
Ferries	1,082	1,959	55%	968	1,959	49%
Screenline Total	2,412	4,502	54%	2,352	4,776	49%
South Bay						
BART	14,150	19,367	73%	13,500	18,900	71%
Caltrain	2,171	3,100	70%	2,377	3,100	77%
SamTrans	255	520	49%	141	320	44%
Ferries	—	—	—	—	—	—
Screenline Total	16,576	22,987	72%	16,018	22,320	72%
Regional Screenlines Total	46,765	54,744	85%	45,919	55,421	83%

Notes:

Bold indicates capacity utilization of 100 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015; Fehr & Peers, 2015.

2.3.3 Other Transit Providers

Mission Bay Transportation Management Association (MBTMA): The Mission Bay Transportation Management Association (MBTMA) formed in conformance with mitigation measures identified in the Mission Bay redevelopment project's Supplemental Environmental Impact Report (SEIR). The MBTMA is financed with annual fees collected from commercial and residential owners. The MBTMA assists members in the residential areas of Mission Bay with identifying parking options within the immediate area, the use of a car-sharing program, and provision of a discounted transit pass program. The MBTMA also assists commercial tenants and employees with ride-share and carpool matching programs, shuttle service to public transit and transit access guides distributed within their workplace.

The MBTMA currently provides three shuttle route services between Powell BART Station, Caltrain, and Mission Bay. The services are offered every 30 minutes and are free of charge and open to all employees, residents, and visitors to Mission Bay. The MBTMA also performs outreach campaigns to residents to promote MUNI and Caltrain connections, with a target on solo drivers who work within 10 miles of Mission Bay, by use of a "trial" transit pass. In the future, the MBTMA will be looking into establishing casual carpools at specific locations within Mission Bay. The MBTMA regularly surveys Mission Bay employees to coordinate with RIDES for zip code maps and acts as a liaison with property managers and business managers to promote the ongoing services.

2.4 PEDESTRIAN FACILITIES

In the SOMA neighborhood north of Mission Creek, the blocks are fairly large (with frontage lengths up to 900 feet) and some streets are relatively wide (most major streets are 60-75 feet wide, with major transit streets up to 125 feet wide), though selected streets (such as Townsend Street) have been recently reconfigured to improve the pedestrian environment. In Mission Bay, the area is largely under construction or planned for future construction. As a result, pedestrian facilities can be discontinuous in some areas.

2.4.1 No-Event Pedestrian Conditions

A qualitative evaluation of existing pedestrian conditions was conducted during field visits to the study area in September 2013. The field visit identified a lack of pedestrian facilities at some of the 35 existing study intersections, including locations with missing sidewalks, crosswalks, Americans with Disabilities Act (ADA) curb ramps, and pedestrian countdown signals. Although some signalized intersections do not provide pedestrian countdown signals, at a minimum, basic pedestrian signal heads (with or without countdown indications) are currently provided at all study intersections. Since September 2013 due to the high construction activity, additional facilities have been completed as the area continues to buildout.

Pedestrian facilities generally are most complete in the area bounded by King Street, Howard Street, The Embarcadero, and Fifth Street. The majority of intersections in this area have adequate curb ramps, crosswalks, and only single turning lanes. However, south of Mission Creek, missing connections on the pedestrian network make walking difficult, due in some part because this portion of Mission Bay is currently building out.

General pedestrian impediments observed across the study area include:

- Narrow sidewalks.
- Intersections with no crosswalks.
- Construction zones that reduce sidewalk width or close crosswalks, at times for extended periods (e.g., months).
- Lack of ADA curb ramps or use of shared diagonal curb ramps at intersection corners.
- Freeway on- and off-ramps with short pedestrian crossing phases and/or high vehicle volumes turning into crosswalks across multiple traffic lanes.
- Long distances between intersections, particularly in the north-south direction, limiting crossing opportunities.

These pedestrian impediments are most prevalent along particular corridors, including Second Street, Fourth Street, Harrison Street, and Bryant Street north of Mission Creek, as well as Terry A. Francois Boulevard, 16th Street, and Mariposa Street south of Mission Creek. These corridors contain a majority of the intersections with multiple pedestrian impediments (i.e., missing or closed crosswalks, missing or diagonal curb ramps, and multiple turning lanes). Harrison Street and Bryant Street present particularly challenging pedestrian environments, with numerous freeway on- and off-ramps, very narrow sidewalks, and largely industrial or auto-centric land uses.

Particularly challenging conflict points between vehicles and pedestrians were observed along Second Street at Brannan Street and Bryant Street where northbound and eastbound traffic often block the intersection and crosswalks during the p.m. peak period. Drivers attempt to clear the Second Street/Bryant Street intersection when downstream traffic clears along Second Street or Bryant Street as they attempt to access the Bay Bridge, pushing through crosswalks while pedestrians are crossing during the walk phase. At times pedestrians are unable to cross during the walk phase due to vehicles blocking the crosswalk. Northbound through vehicle queues at Brannan also delay the eastbound left movement, resulting in drivers making aggressive turns into the north crosswalk during the shared signal phase.

Additionally, the intersection of Fourth Street and King Street is challenging for pedestrians due to a number of factors. The KT-Third Ingleside light-rail transit (LRT) station is in the middle of Fourth Street, south of King Street; the N Judah LRT Station is in the middle of King Street, west of Fourth Street; and the Fourth and King Caltrain Station (the system's northern terminus and busiest station) is on the northwest corner of the Fourth Street/King Street intersection. Additionally, there is a double-right turn lane from southbound Fourth Street to westbound King Street, which eventually turns into I-280. The high volume of pedestrians crossing at all legs of this intersection, transferring between transit routes at three different transit stations while traffic attempts to enter or exit I 280 at King Street creates a substantial number of conflicts between modes, particularly between pedestrians and vehicles.

Queues from the freeway on the Fifth Street on-ramp backed up onto the adjacent local street network, affecting pedestrians using the northeastern crosswalk. Also, no sidewalks exist on Terry A. Francois Boulevard between Pier 48 and China Basin Street or between South Street and Mariposa Street. Construction on the south side of 16th Street limited pedestrian movements at Third Street and at Owens Street.

Most pedestrian signal heads in the study area were countdown signal heads.

Currently, the project site has limited pedestrian facilities, with few sidewalks or crosswalks, particularly along Terry A. Francois Boulevard near Pier 48 and Pier 50. Pedestrian facilities improve along Third Street, which has consistent sidewalks. There is more activity along Third Street, particularly at light-rail stops. Reconstruction of a one-block segment of Mission Rock Street, between Third Street and Terry A. Francois Boulevard, is complete and pending acceptance. The reconstruction includes the provision of 12-foot sidewalks on both sides of the street. The project site is not on the pedestrian high-injury network, identified in the Vision Zero SF initiatives (see "Vision Zero" under Regulatory Framework, below).

2.4.2 Event Pedestrian Conditions

During events at AT&T Park, SFMTA deploys officers to manage pedestrian and traffic flows through the area through a series of road closures and direct control of intersection operations. As part of this effort, additional space along the east side of Third Street is allocated for pedestrians because it is the primary route between the surface parking lot at Seawall Lot 337 and AT&T Park. Typically, one to two lanes are closed between Mission Rock Street and Berry Street beginning at approximately 5:30 p.m. and continuing until 7:30 p.m. for a 7:00 p.m. game start time.

Pedestrian volumes for the Third and Fourth Street bridges are derived from counts at the adjacent intersections. During a Giants game, the two easternmost lanes on the Third Street bridge are blocked off to vehicle traffic and used for pedestrians. Observations indicate that this space is made available to pedestrians starting between 5:30 p.m. and 6:00 p.m. The above analysis of pedestrian conditions is for the

5:00 to 6:00 p.m. peak hour because that time period represents the highest activity levels when combining background commute trips with pre-event trips. Because the closure of the travel lanes for pedestrians does not occur for some weekday evening games until 6:00 p.m., the analysis of pedestrian conditions for a weekday p.m. peak hour with a Giants game does not assume that the additional space is available to pedestrians. Pedestrian conditions during the 5:00–6:00 weekday p.m. peak hour with a Giants game, which are based on pedestrian level-of-service (LOS) calculations, as summarized in Table 4.E-9, on the next page, are LOS C or B over the Lefty O'Doul Bridge. Weeknight games typically start at approximately 7:15 p.m.; thus, pedestrian volumes collected during the study peak hour (5:00 to 6:00 p.m.) are lower than the volume of pedestrians immediately before a game when the easternmost vehicle travel lanes on the Third Street bridge are coned off for pedestrian use.

2.4.3 Pedestrian Crosswalk LOS

In addition to an evaluation of the overall quality of the pedestrian facilities in the study area, pedestrian crowding conditions were quantitatively evaluated at the bridges over Mission Creek at Third Street (Lefty O'Doul) and Fourth Street and at the intersection of Fourth Street and King Street during the three peak periods (a.m., p.m. without Giants game, and p.m. with Giants game). The analysis of crosswalks at the Fourth Street and King Street intersection was performed using the pedestrian crosswalk level of service (LOS) methodology in the HCM 2000[6] and incorporates information on crosswalk dimensions, signal timing, and pedestrian volumes to determine the comfort level of each crossing. The analysis of sidewalks on the Third Street and Fourth Street bridges was performed using the sidewalk LOS methodology from HCM 2000. Pedestrian counts for this analysis were conducted in September 2013. Several locations were spot-checked in 2015; typical pedestrian volume increases were 5 to 10 percent higher than counts recorded in 2013, though some pedestrian volumes were lower. A sensitivity analysis was conducted using the spot-checked counts; the variation in volumes did not make a substantive difference in the analysis.

Using the HCM methodology, the City defined an upper limit for acceptable conditions, LOS D, which equals approximately 15 to 24 square feet per pedestrian for crosswalks and approximately 10 to 15 pedestrians per minute per foot for sidewalks. LOS E and F represent unacceptable conditions. At LOS E, normal walking gaits must be adjusted for congested conditions and independent movements are difficult; at LOS F, walking speeds are severely restricted.[7]

Table 9 presents pedestrian volumes and LOS at the crosswalks of the intersection of Fourth Street and King Street, as well as for the sidewalks on the two bridges over Mission Creek. **Appendix D** contains the level of service description for pedestrian flows and the pedestrian analysis calculation sheets. The intersection of Fourth Street and King Street was not evaluated for the p.m. peak hour with a Giants game because the intersection is typically operated manually by a police officer, which generally ensures that pedestrians, while crowded, can maneuver through the intersection during such special events.

[6] Transportation Research Board. 2000. Highway Capacity Manual. Fourth edition. Washington, DC: National Academies of Science.

[7] Analysis methodology and standards are included in the SF Guidelines.

TABLE 9: PEDESTRIAN CROSSWALK/SIDEWALK LEVEL OF SERVICE – EXISTING/BASELINE CONDITIONS

Analysis Locations	AM Peak Hour			PM Peak Hour without Giants Game			PM Peak Hour with Giants Game		
	Pedestrians per Hour	Level of Service		Pedestrians per Hour	Level of Service		Pedestrians per Hour	Level of Service	
		Measure of Effectiveness	LOS		Measure of Effectiveness	LOS		Measure of Effectiveness	LOS
Fourth Street / King Street[1]									
North	505	82	A	695	69	A	-	-	-
South	220	110	A	761	46	B	-	-	-
East	296	119	A	978	65	A	-	-	-
West	1,034	47	B	1,648	38	C	-	-	-
Third Street Bridge (Lefty O'Doul Bridge) [2]									
East	131	0.5	B	209	0.8	B	907	3.4	C
West	75	0.3	A	120	0.5	A	125	0.5	B
Fourth Street Bridge[2]									
East	50	0.2	A	19	0.1	A	28	0.1	A
West	145	0.5	B	213	0.8	B	205	0.8	B

Notes:

Bold indicates crosswalk operations at LOS E or LOS F.

1. Measure of Effectiveness is in terms of square feet per pedestrian.
2. Measure of Effectiveness is in terms of pedestrians per minute per foot. The LOS is presented for "platoon" conditions, which represent the conditions when pedestrians are walking together in a group.

Source: Fehr & Peers, 2014.

N

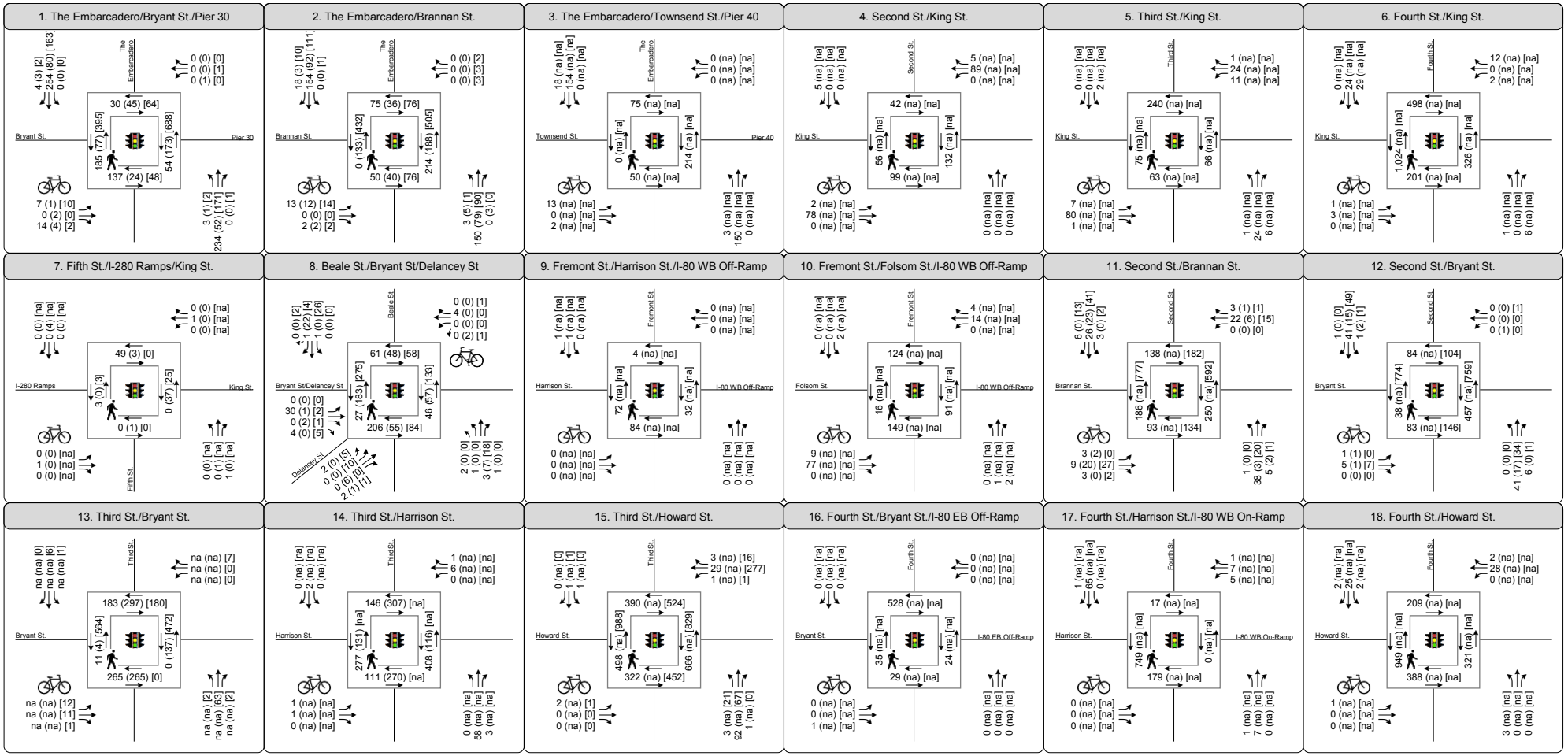
Not to Scale

EXISTING PEDESTRIAN NETWORK

FIGURE 8

FEHR PEERS

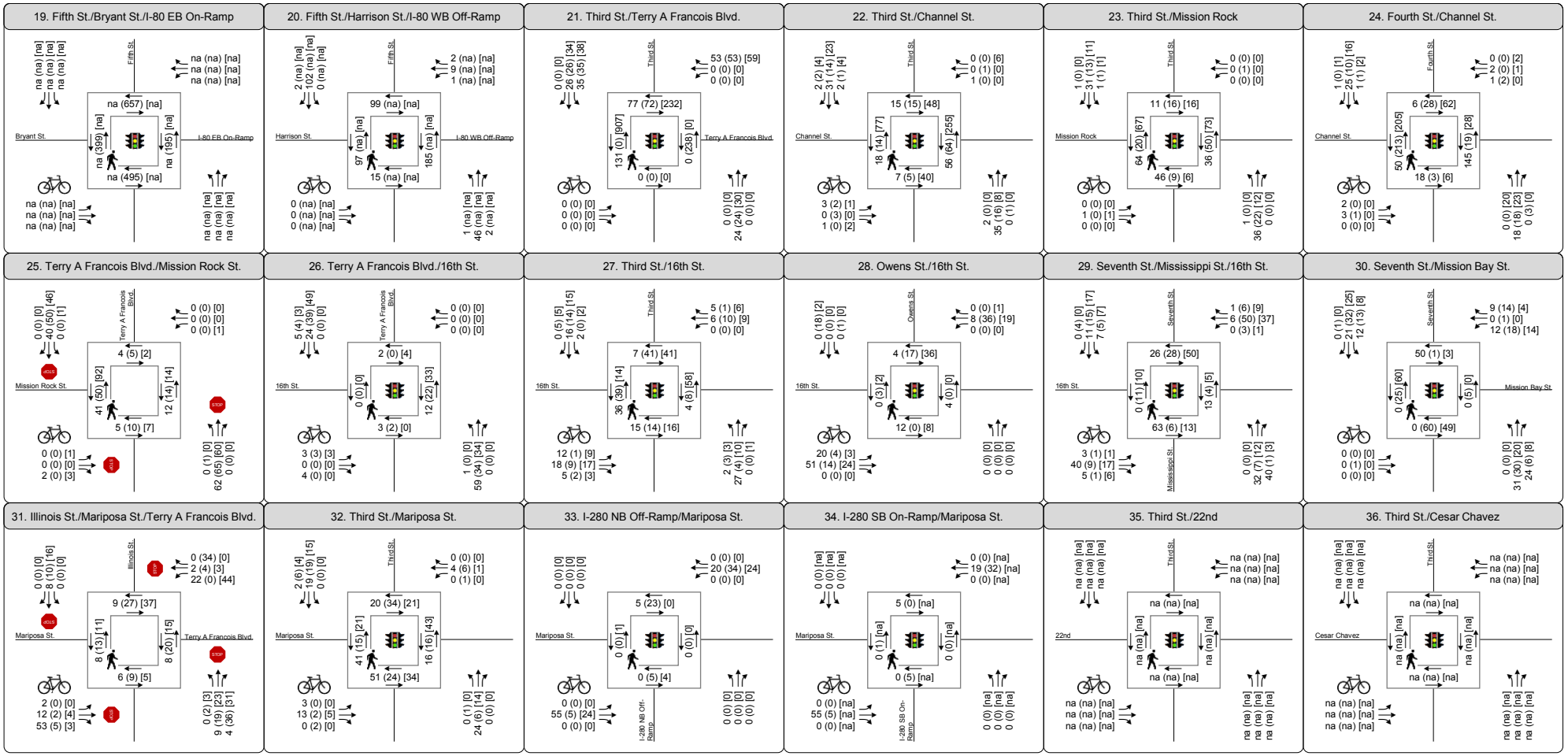
SF13-0697 Seawall Lot 337\Graphics



FEHR PEERS

EXISTING PEDESTRIAN AND BICYCLE VOLUMES

FIGURE 9-A



FEHR PEERS

EXISTING PEDESTRIAN AND BICYCLE VOLUMES

FIGURE 9-B

2.5 BICYCLE CIRCULATION

Bicycle facilities through the study area consist of bicycle paths, bicycle lanes, bicycle routes, and separated bikeways.

Bicycle Paths (Class I) provide a completely separated right-of-way for the shared use of cyclists and pedestrians. These facilities are off-street and minimize cross-flow traffic, but they can be adjacent to an existing roadway.

Bicycle Lanes (Class II) provide a striped, marked, and signed bicycle lane separated from vehicle traffic. These facilities are located on roadways and reserve a minimum of 4 to 5 feet of space for exclusive bicycle traffic.

Bicycle Routes (Class III) provide a shared travel lane marked and signed for shared use with motor vehicle traffic. These facilities may or may not be marked with "sharrows" to emphasize that the roadway space is shared.

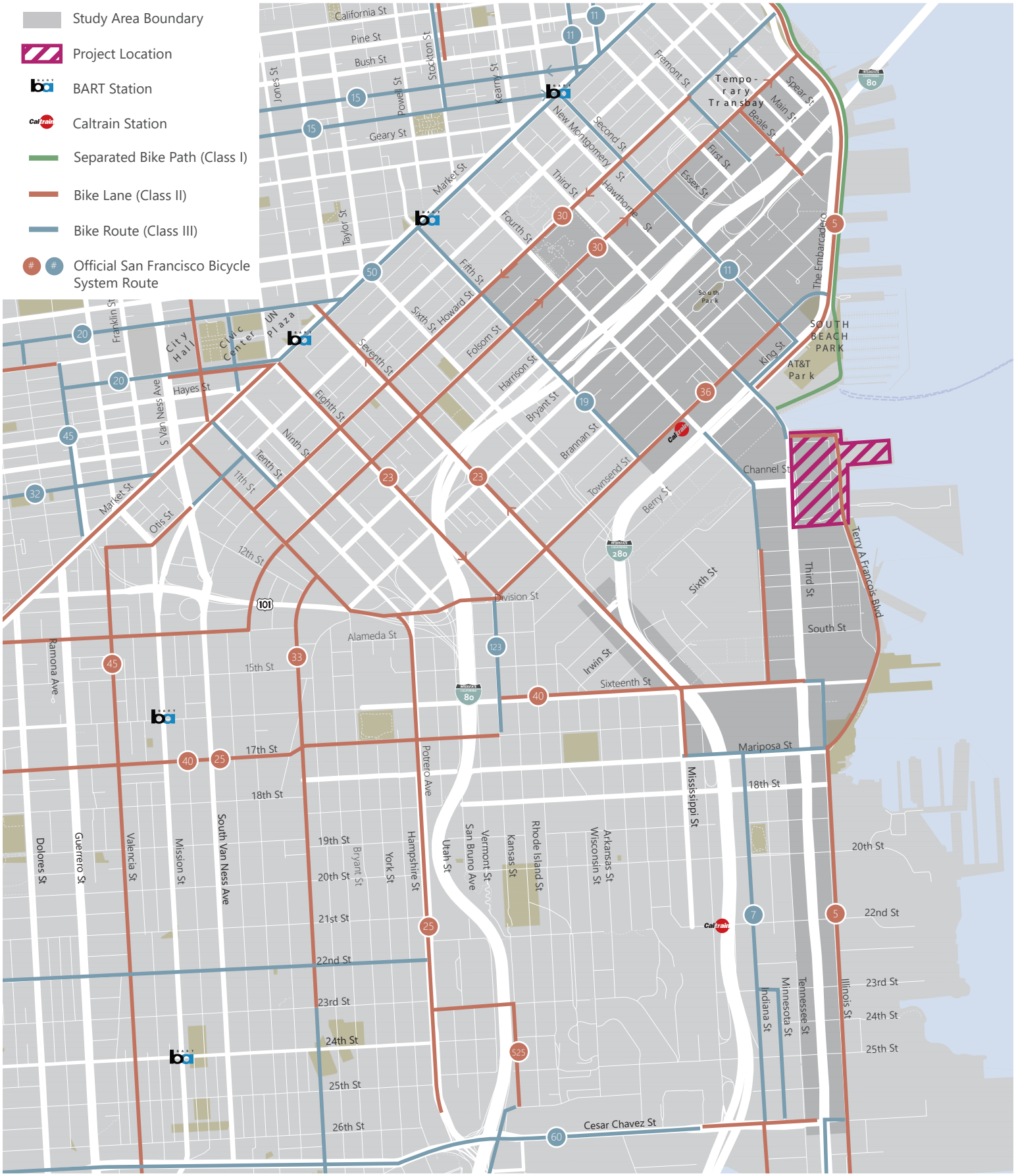
Separated Bikeways (Class IV) are bikeways for the exclusive use of bicycles and require a separation between the bikeway and through vehicle traffic. The separation may include grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

Current on-street bicycle facilities, as designated by the San Francisco Bikeway Network Map (2013) are shown on a map of the project area in **Figure 10**. Intersection turning movement count, including bicycle volumes, and a summary of data sources (including the date of data collection) are provided in **Appendix C**. The majority of the study area is flat, with limited changes in grades, facilitating bicycling within and through the area. No separate bicycle facilities are available at the Third Street or Fourth Street bridges for crossing Mission Creek to and from SOMA. Both bridges are identified as Class III bicycle facilities by the City.

Bicycle facilities are located on the following streets in the study area:

- Embarcadero/Terry A. Francois Boulevard/Illinois Street – Class II facility connects to the study area from the north at The Embarcadero/Folsom Street and continues south to King/Third Streets where it crosses Mission Creek and runs south down Terry A. Francois Boulevard and Illinois Street.
- Indiana Street – Class III facility runs along Indiana Street near the project area, connecting to Mariposa Street in the north and to Third Street via Cesar Chavez Street in the south.
- Second Street – Class III facility runs north and south along Second Street between King Street and Market Street. The route continues north of the study area up to Fisherman's Wharf.
- Fifth Street – Class III facility runs north and south along Fifth Street between Townsend Street and Market Street.
- Seventh Street/Eighth Street – Class II facility runs north along Seventh Street between Townsend Street and Market Street and south along Eighth Street between Market Street and Townsend Street. The facility continues south along Seventh Street to Mariposa Street via Mississippi Street and terminates at Illinois Street.

- Townsend Street – Class II facility runs east and west along Townsend Street between Eighth Street and Second Street. The facility continues to The Embarcadero east of Second Street as a Class III route and continues west of Eighth Street on Division Street as a Class II route.
- 16th Street – Class II facility runs east and west in the study area along 16th Street. It continues west through the Twin Peaks neighborhood until it terminates in the west at the Great Highway via Kirkham Street through the Sunset neighborhood. The facility terminates in the east at Third Street.



N

Not to Scale

EXISTING BICYCLE NETWORK

FIGURE 10

FEHR PEERS

SF13-0697 Seawall Lot 337\Graphics

2.6 LOADING FACILITIES

Currently, there are no formal on-street commercial and passenger loading zones within or adjacent to the project site. No loading for events at AT&T Park occurs on the project site. The project site is currently occupied by a surface parking lot at Seawall Lot 337; no regular loading occurs on that lot. When special events occur on the lot, such as Cirque du Soleil shows between November and January, loading occurs during event setup and take-down. Pier 48 is currently used for parking during events and ball games at AT&T Park, for special events, and for storage. Although trucks destined for Pier 48 queue along Terry A. Francois Boulevard in parking areas located outside the through travel lanes and bike lanes, virtually all off-street freight loading and unloading occurs within the three existing sheds. No on-street commercial and passenger loading currently occurs on Third Street or Mission Rock Street. To access Pier 48, trucks use Terry A. Francois Boulevard from Third Street, Mission Rock Street, or Mariposa Street. From there, the trucks enter the parking areas or sheds. No curbs exist on the east side of Terry A. Francois Boulevard, allowing easy maneuvering into and out of Pier 48.

Most on-street parking in the project area requires a parking permit and is not designated for commercial loading. The current practice of short-term truck queuing along Terry A. Francois Boulevard creates potential conflicts with bicyclists and pedestrians because there are no sidewalks, and Terry A. Francois Boulevard has a Class II bicycle lane adjacent to Pier 48.

2.7 EMERGENCY SERVICES & ACCESS

Emergency transport vehicles typically use major streets through the study area when heading to and from an emergency and/or emergency facility. Arterial roadways allow emergency vehicles to travel at higher speeds and provide enough clearance space to permit other traffic to maneuver out of the path of the emergency vehicle and yield the right-of-way.[8] The project site is just over ½ mile north of the UCSF Medical Center at Mission Bay. There are three San Francisco Fire Department fire stations near the study area: the Public Safety Building (Third Street between China Basin Street and Mission Rock Street, adjacent to the project site), Station 8 (Bluxome Street at Fourth Street, 0.5 mile from the project site) and Station 29 (16th Street at Vermont Street, 1.1 miles from the project site). The Public Safety Building located on Third Street at Mission Rock Street was completed in 2014 and became operational in early 2015. This new facility accommodates the headquarters of the San Francisco Police Department, the new Southern District police station, and a new fire station (i.e., Station 4). The fire station has access on Mission Rock Street between Third Street and Terry A. Francois Boulevard, immediately adjacent to the study area. Fire truck ingress and egress occurs on the south side of Mission Rock Street, approximately 125 feet east of Third Street. The fire station driveway is approximately 56 feet wide. The police have two driveways to access the Public Safety Building, a primary driveway located on China Basin Street and a secondary driveway located on Mission Rock Street.

[8] Per the California Vehicle Code, Section 21806, all vehicles must yield right of way to emergency vehicles and remain stopped until the emergency vehicle has passed.

Emergency vehicle access to the project site is primarily from Third Street, which has two travel lanes in each direction, and Mission Rock Street. Emergency vehicles are allowed to use transit only lanes, such as the median LRT lanes on Third Street, when mixed flow lanes are congested.

2.8 PARKING CONDITIONS

This section provides an inventory of existing on-street and off-street parking facilities in the study area. Information on off-street and metered on-street parking is available through SFpark, a SFMTA program that employs adjustable meter and garage pricing to achieve a balance between available parking spaces and demand. The remaining parking data were collected through surveys of the parking study area conducted in September 2013[9] for this analysis. **Figure 11** and **Figure 12** show the parking study area, approximately within a three-block distance from the proposed project site, which is bounded Terry A. Francois Boulevard, 16th Street, Fourth Street, Townsend Street, and Second Street. Parking supply and occupancy sheets are provided in **Appendix F**.

2.8.1 On-Street Parking

Figure 11 shows existing on-street parking occupancy within the parking study area. There are 718 on-street parking spaces in the parking study area bounded by Fourth Street on the west, 16th Street on the south, Terry A. Francois Boulevard/Third Street/King Street/Second Street on the east, and Townsend Street on the north. Of the total parking inventory, 191 parking spaces are unmetered 2-hour parking spaces, while the rest are metered. More than 85 percent of the 527 metered spaces are general metered parking (GMP). Motorcycle parking and commercial loading each make up approximately 5 percent of the metered parking spaces in the parking study area. There are no residential permit parking (RPP) spaces in the parking study area.

Nearly all 527 metered parking spaces in the parking study area are on major streets, and metered spaces make up the vast majority of major street parking. Major streets in the parking study area include Townsend Street, Second Street, Third Street north of Mission Creek, Fourth Street, Terry A. Francois Boulevard, and east/west roadways between Fourth Street and Terry A. Francois Boulevard south of Mission Creek. Select block faces in the parking study area prohibit all parking, including all of Third Street south of Mission Creek.

A total of 95 on-street parking spaces are provided within the project site along Terry A. Francois Boulevard. During a Giants game, Terry A. Francois Boulevard is blocked off at Third Street. No parking is allowed on Terry A. Francois Boulevard during this time, which accounts for the reduction of approximately 33 parking spaces in the overall on-street parking supply during event conditions.

Table 10 summarizes the number of on-street parking spaces in the parking study area by location and type, as well as the number occupied during three different analysis periods (midday, evening without a Giants game, and evening with a Giants game).

[9] Existing parking data are provided for the fall of 2013, the date for release of the proposed project's NOP, as is standard practice.

TABLE 10: ON-STREET PARKING SPACES BY TYPE

Parking Type	Number of Spaces	Occupied Midday (1:30 - 3:00 PM)	Occupied Evening (6:30 - 8:00 PM)	Occupied Evening (6:30 - 8:00 PM) with Giants Game[1]
Metered	527	365	187	366
General	450	335	161	324 (of 418)
Motorcycle	24	16	8	19
Commercial Loading	28	5	8	9
Short-Term (30 min or less)	11	7	8	6
Disabled	14	2	2	8 (of 13)
Unmetered 2-Hour	191	169	60	112
Total	*718*	*534*	*247*	*478*

Notes:

1. Parking spaces on Terry A. Francois Boulevard were unavailable during the Giants game.

Source: SFpark, 2013; Prepared by Fehr & Peers, 2014.

The most frequently noted instances of illegal on-street parking on major streets in the parking study area were vehicles parked in active driveways and vehicles parked in red zones (a red curb indicates no parking at any time). Additionally, some vehicles illegally parked at white curbs in passenger loading zones, some vehicles parked at meters during designated commercial vehicle-only hours, and some vehicles parked at expired meters or during restricted hours.

Overall, nearly 75 percent of the on-street public parking was occupied during the midday period (1:30 p.m. to 3:00 p.m.) and 34 percent was occupied during the evening period without a Giants game (6:30 p.m. to 8:00 p.m.). On Giants game days, nearly 70 percent of the on-street parking spaces were occupied during the evening period (6:30 p.m. to 8:00 p.m.). Much of the area is an "event metering area," in which the meters are active and prices are higher than during nonevent times. Depending on the proximity to AT&T Park, the rates for these spaces are $3, $5, or $7 per hour with a time limit of 4 hours.

North of Mission Creek, 83 percent of on-street parking was occupied during the midday period and 70 percent was occupied during the evening without a Giants game. During a Giants game, 88 percent of on street parking was occupied. South of Mission Creek, 71 percent of on-street parking was occupied during the midday period and 21 percent was occupied during the evening without a Giants game. During a Giants game, 63 percent of on-street parking was occupied.

2.8.2 Off-Street Parking

There are 17 off-street parking facilities within the parking study area, 15 of which were open during the September 2013 data collection. Although Lots B, C, and D were open for event parking at AT&T Park during the data collection period for this assessment, they have since been closed to event parking. These lots are to be eliminated with buildout of Mission Bay. At the time of the surveys, two lots were fenced off between China Basin Street/Mission Bay Boulevard (North)/Third Street/Fourth Street and Terry A. Francois Boulevard/Third Street/16th Street/South Street.

Combined, the 12 remaining off-street parking facilities provide just fewer than 6,760 general parking spaces (including spaces for the disabled) and more than 30 motorcycle spaces. With the exception of Pier

48 parking, all of the general parking spaces are for paid public parking; spaces reserved for permit holders, customers, and commercial/government uses were not included in this study. No off-street facilities within the parking study area provide free publicly available parking.

Lot A on Seawall Lot 337 and Pier 48 are used as parking lots for Giants games and other large events at AT&T Park, with Lot A providing 2,170 parking spaces and Pier 48 providing up to 700 parking spaces. Lot A is also used for commuter parking.

All but two of the 12 paid public parking facilities are privately owned. The Pier 48 parking facilities are owned by the Port, and the 1650 Third Street lot is owned by UCSF. Hours of operation vary across the off-street paid public parking facilities, though most are available only between 7:00 a.m. and 7:00 p.m. Typically, the lot is open between 6:00 a.m. and 12:00 a.m. It is by far the largest off-street parking facility in the area, providing approximately 2,170 parking spaces.

Figure 12 shows the location of the 15 paid public off-street parking facilities in the parking study area, and **Table 11** lists each lot's owner, type (garage/lot), hours of operation, and parking capacity, as well as the demand during the data collection periods.

Based on field observations, 56 percent of the off-street public parking was occupied during the midday (1:30 p.m. to 3:00 p.m.) period and 13 percent was occupied during the weekday evening period (6:30 p.m. to 8:00 p.m.) without a Giants game. During the weekday evening period with a Giants game, slightly less than 55 percent of the off-street parking spaces were occupied. Pier 48 and Giants Lot A have a combined occupancy rate of 64 percent. If all vehicles that previously parked in Giants Lots B, C, and D (which are no longer available for AT&T Park event parking) during the weekday evening period with a Giants game shifted to either Lot A or Pier 48, the combined occupancy rate of these lots would increase to 76 percent.

North of Mission Creek, all but one parking garage is closed during the evening period when there is no Giants game. All parking garages north of Mission Creek are open during the evening period with a Giants game. Sixty-four percent of off-street parking was occupied during the midday period, 39 percent was occupied during the evening period without a Giants game, and 63 percent was occupied during the evening period with a Giants weekday game.

South of Mission Creek, 52 percent of off-street parking was occupied during the midday period and 12 percent was occupied during the evening period without a Giants game. During a Giants game, 52 percent of off-street parking was occupied.

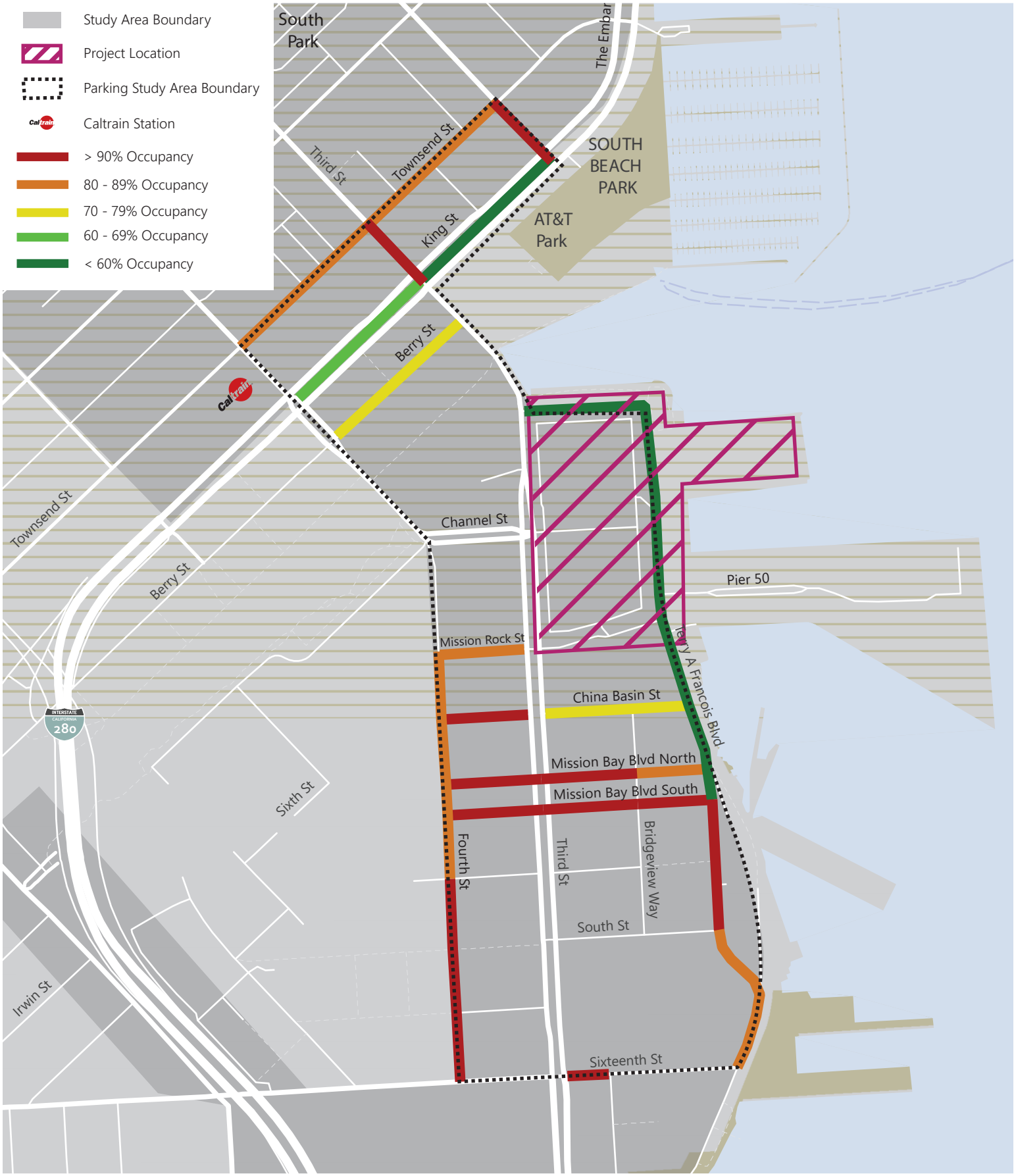
TABLE 11: OFF-STREET PARKING FACILITIES

Address	Owner	Garage or Lot	Hours of Operation	Parking Capacity		Parking Demand		
				General Parking [2]	Motorcycle Parking[2]	Midday (1:30 PM - 3:00 PM)	Evening (6:30 PM - 8:00 PM)	Evening with Giants Game[1] (6:30 PM - 8:00 PM)
136 Townsend Street	Private	Garage	7AM – 7PM	110	-	85	-	97
148 Townsend Street	Private	Garage	7AM – 7PM	75	-	52	-	66
153 Townsend Street	Private	Garage	7AM – 7PM	365	-	245	-	301
178 Townsend Street	Private	Garage	7AM – 7PM	80	-	61	-	76
215 Townsend Street	Private	Garage	7AM – 7PM	750	-	441	-	267
224 Townsend Street	Private	Garage	7AM – 7PM	80	-	47	-	69
185 Berry Street	Private	Garage	N/A	268	-	175	104	209
Pier 48[1]	Port	Garage	N/A	700	-	-	-	437
Giants Lot A–Seawall 337[3]	Private	Lot	6AM-12AM	2,194	-	529	99	1,392
1650 Third Street	UCSF	Both	24 hour	720	-	671	321	557
450 South Street	Private	Garage	7AM – 7PM	1,368	32	1,083	84	255
Terry A. Francois Blvd.	Private	Lot	7AM – 7PM	50	-	2	2	1
Total (Midday)	-	-	-	*6,060*	*32*	-	-	-
Total (Evening w/o Giants)	-	-	-	*4,600*	*32*	-	-	-
Total (Evening w/ Giants)	-	-	-	*6,760*	*32*	-	-	-
Total (All)	-	-	-	*6,760*	*32*	*3,391 (55.7%)*	*610 (13.2%)*	*3,727 (54.9%)*

Notes:

1. Pier 48 was only open for parking (via lease from the Port Authority) during the Giants game data collection period.
2. The number of general parking spaces includes parking spaces for the disabled. The number of disabled and motorcycle parking spaces was not available at every location.
3. The capacity of 2,194 spaces in Lot A includes 2,170 general parking spaces and 24 disabled parking spaces. Although Lots B, C, and D were open for parking during the data collection period, they have since been closed to game day parking and, thus, are not included in the above table. These parking lots were planned to be eliminated with development of Mission Bay.

Source: SF*park*, 2013; Fehr & Peers, 2015.



N

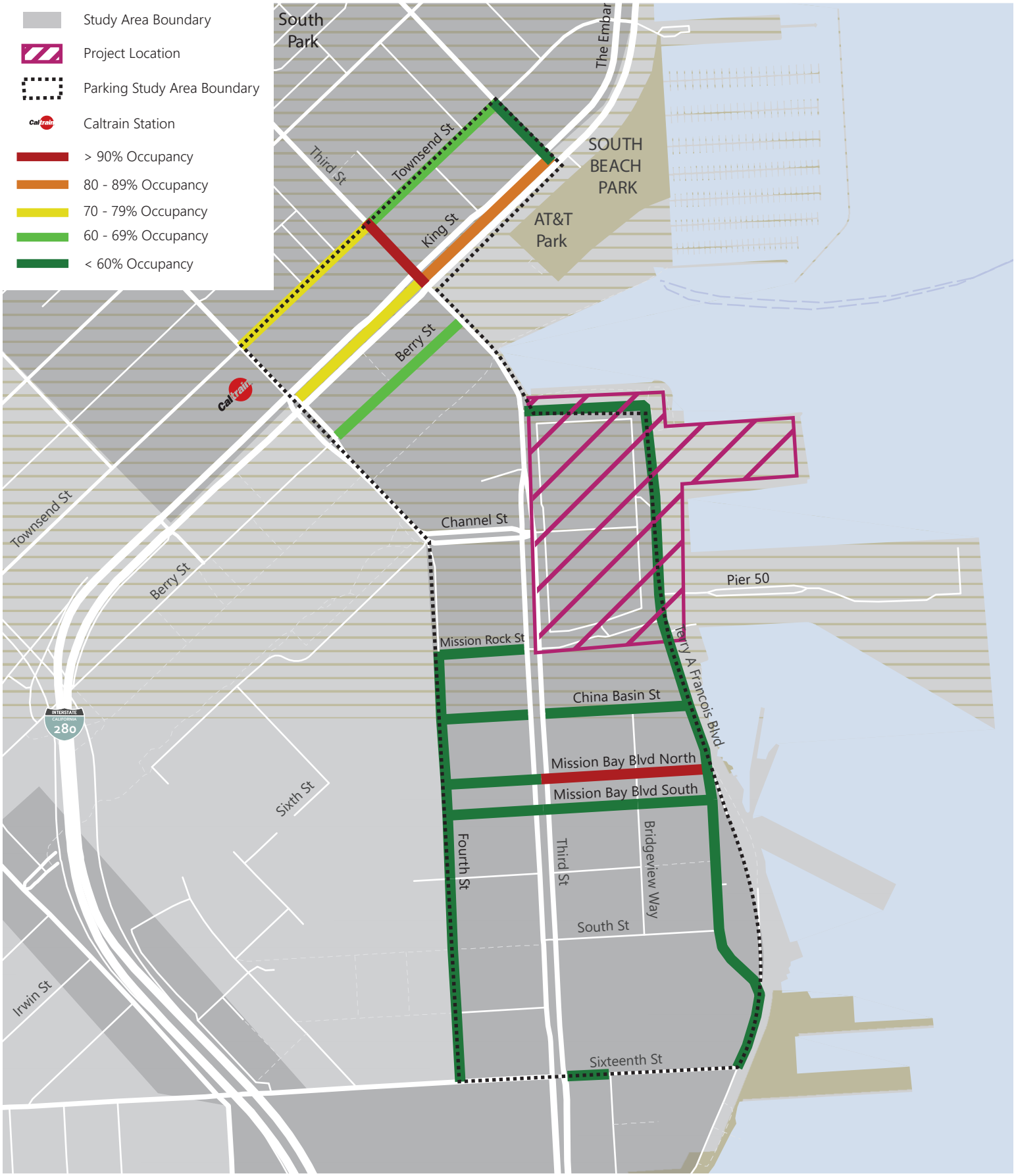
Not to Scale

ON-STREET PARKING OCCUPANCY
1:30 - 3:00 PM

FEHR PEERS

SF13-0697 Seawall Lot 337\Graphics

FIGURE 11-A



N

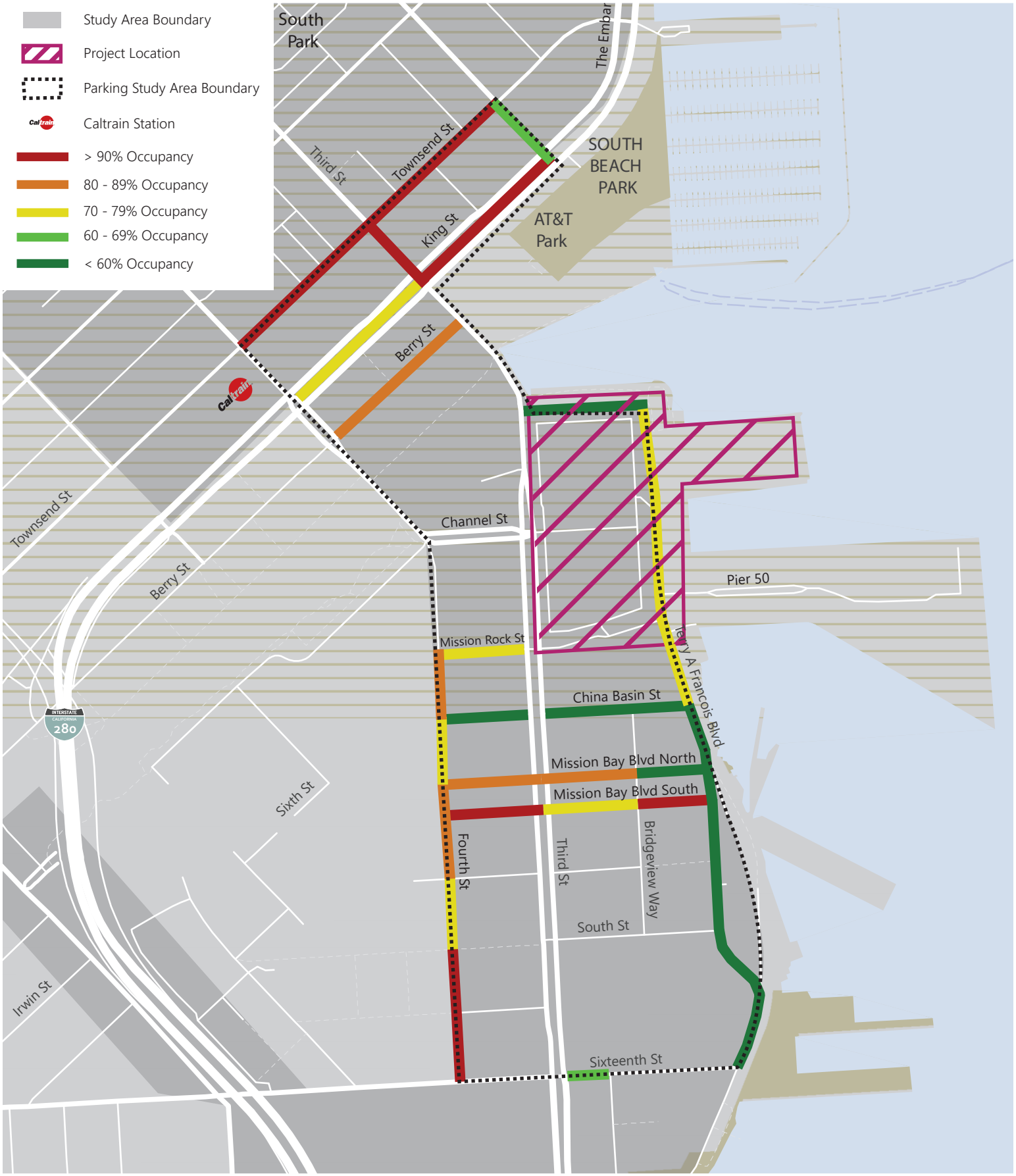
Not to Scale

ON-STREET PARKING OCCUPANCY
6:30 - 8:00 PM

FEHR & PEERS

SF13-0697 Seawall Lot 337\Graphics

FIGURE 11-B



N

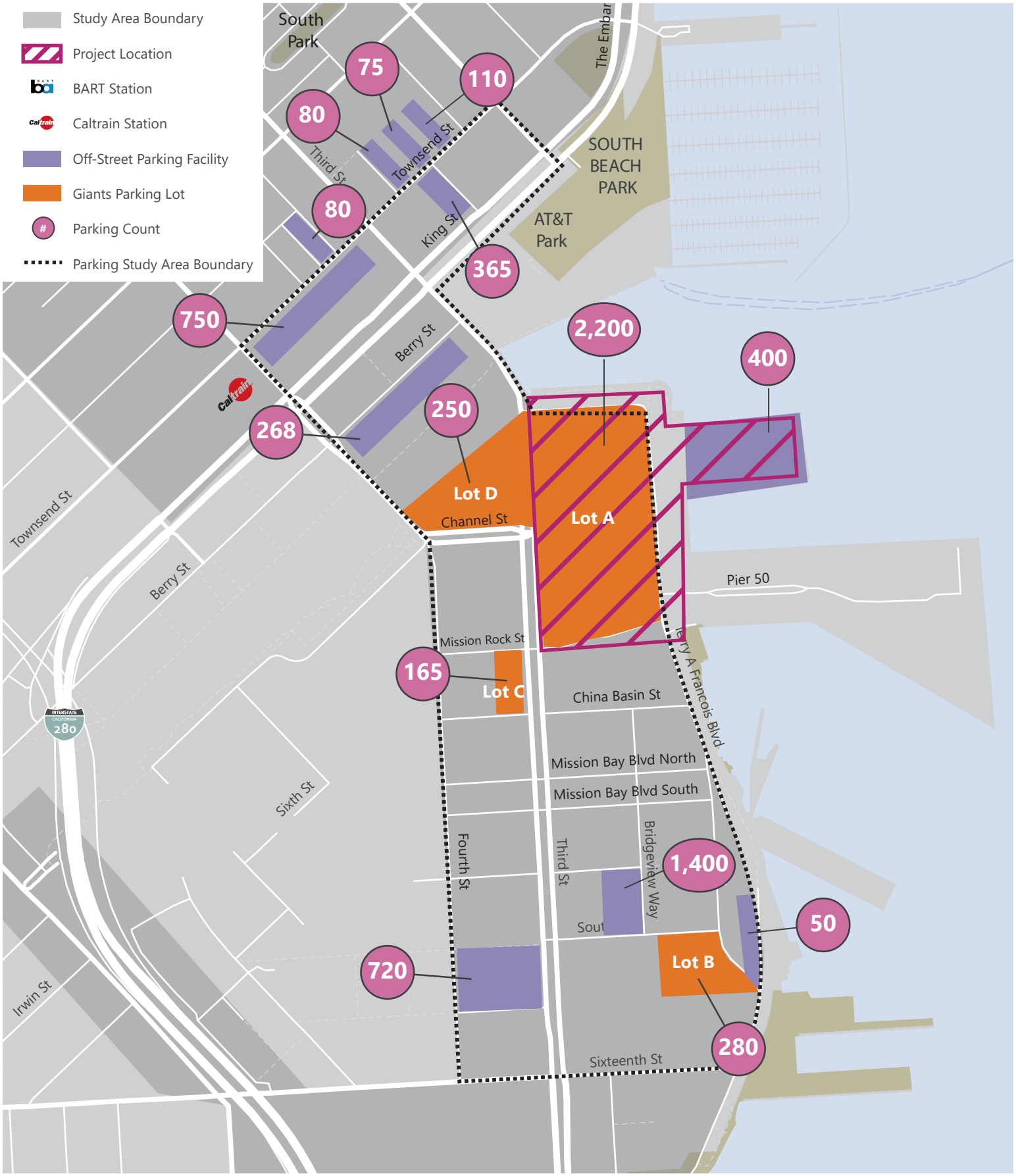
Not to Scale

ON-STREET PARKING OCCUPANCY
6:30 - 8:00 PM with Giants Game

FEHR PEERS

SF13-0697 Seawall Lot 337\Graphics

FIGURE 11-C



OFF-STREET PARKING SUPPLY

FIGURE 12

FEHR PEERS

SF13-0697 Seawall Lot 337\Graphics

3 BASELINE CONDITIONS

The analyses in CEQA documents typically present the existing environmental setting conditions as the baseline conditions against which conditions with the project are compared to determine whether an impact is significant. However, in the study area, multiple land development projects and transportation infrastructure improvements are either recently occupied, under construction, or approved and funded and will be under construction or completed by the time the proposed project is under construction. Because the area is changing rapidly, and there are known development and infrastructure projects under way, for purposes of the transportation analysis, a baseline that takes into account these conditions in addition to existing conditions is appropriate.

Basing the baseline conditions on existing conditions plus conditions that will exist with projects and infrastructure that were either under construction or approved and funded for construction at the end of July 2015,[10] and would be completed prior to or during construction of the proposed project, allows the EIR to fully and accurately identify the transportation system conditions that will be in place when the proposed project commences occupancy. Projects that were approved after July 2015 are analyzed as part of the cumulative scenario. The local transit capacity improvements, such as the Central Subway, were added to existing conditions to provide a reasonable baseline for the analysis of transit impacts.[11]

Baseline Projects for Operational Impacts

The projects that are taken into account in the baseline condition, in addition to existing projects and infrastructure, are as follows:

- UCSF Medical Center/Mission Bay Hospital/Mission Hall (Global Health and Clinical Sciences Building at the UCSF Mission Bay campus)
- Public Safety Building located at 1245 Third Street
- La Scuola Italian International School, an Italian immersion school with a preschool campus on 20th Street in Mission Bay
- 20th Street Historic Buildings development, an approved rehabilitation of historic buildings on 20th Street between Illinois and Louisiana Streets
- Central Subway

[10] The NOP for the proposed project was released in 2013. Following the release of the NOP, the proposed building heights for the proposed project were reduced in response to neighborhood concerns. These adjusted reduced heights were approved by the voters with the passage of Proposition D in 2015. At that time, it was determined that a July 2015 baseline scenario would be added to account for new development and infrastructure projects that had been approved since the NOP was released.

[11] The Muni transit analysis is based on a SF-CHAMP model run that includes ridership projections for 2020 and planned capacity assuming that the Central Subway project and other approved and funded transit improvements would be in operation by the time the proposed project is approved and under construction.

- 16th Street Transit Lanes
- T Third Short Line Loop
- Muni Bus Line 55 16th Street bus route
- Near-term Muni Forward capacity improvements[12] to 10 Townsend, 12 Folsom, 22 Fillmore, and 30 Stockton as well as new 11 Downtown Circulator route
- Street improvements along Owens and Mariposa Streets at the I-280 on- and off-ramps. This includes the extension of Owens Street between 16th Street and Mariposa Street
- Second Street Improvement Project
- Plus ten private residential and mixed-use development projects located throughout Mission Bay[13]

No changes from existing conditions to baseline conditions have been identified for the pedestrian network, loading facilities, or emergency services access, except for those immediately adjacent to and a part of the improvements referenced above.

The cumulative effects of the Proposed Project and other pending development projects are evaluated in Chapter 6 – Cumulative Conditions. More discussion about the assumptions of both these projects is included in that chapter as well.

3.1 TRANSIT OPERATIONS

As mentioned, transit conditions are expected to change significantly in the area over the next several years. The Central Subway (T Third) will provide a connection from the Caltrain station at Fourth Street / King Street to Chinatown. The new connection will be a subway that will serve major employment and population centers in San Francisco. Ground was broken on the project in 2010 and the subway extension is expected to be open to the public by 2019. Because the T Third is a major transit connection to the Project, and the Central Subway is under construction, it is included in the Baseline Conditions transit analysis.

Table 12A presents peak-hour ridership and capacity utilization at the Muni downtown screenlines, the project-specific cordon, and the four individual Muni routes at the project-specific cordon serving the project site for both the a.m./p.m. peak periods under baseline conditions. The ridership data provided are from a 2020 SF-CHAMP model run provided by the San Francisco County Transportation Authority (SFCTA).

As shown in **Table 12A**, under baseline conditions all screenlines would operate below Muni's 85 percent capacity utilization standard, except for the southwest screenline in the a.m. peak period. The southwest screenline would operate at 92 percent capacity utilization overall during the a.m. peak hour, in part as a result of the 97 percent utilization on the subway lines, but would be reduced from 102 percent on the

[12] Near-term Muni Forward capacity improvements are those that will be completed by 2020. Some of the listed routes above, such as the 10 Townsend, have both near-term capacity improvements that are included in the baseline scenario as well as long-term capacity improvements that are included in the cumulative scenario.

[13] The list of ten private residential and mixed-use development projects included in the baseline scenario is provided in the Mission Rock Transportation Impact Study, April, 2017.

subway lines and 94 percent for the southwest screenline as a whole compared to existing conditions because of changes in capacities and ridership as a result of Muni Forward improvements and Central Subway/T-Third short line improvements. The "other lines" subcorridor within the southeast screenline shows 92 percent capacity utilization in the a.m. peak hour; because the southeast screenline shows 64 percent capacity utilization overall in the a.m. peak hour, conditions on that screenline are considered acceptable.

The project-specific cordon and four individual Muni routes that are evaluated at their peak load points through SOMA, and shown at the bottom of **Table 12A**, would operate at acceptable utilization levels, with one exception. The 30 Stockton route OB would operate at 90 percent utilization during the p.m. peak hour under baseline conditions.

Table 12B shows data regarding the screenline maximum load point for the individual Muni routes that comprise the "other lines" subcorridor for the northeast and southeast screenlines. The 10 Townsend route would operate at 97 percent utilization during the a.m. peak hour and 123 percent utilization during the p.m. peak hour at the northeast screenline maximum load point under baseline conditions. At the maximum load point for the southeast screenline, the J Church route would operate at 99 percent utilization, and the 10 Townsend route would operate at 120 percent utilization during the a.m. peak hour and 95 percent during the p.m. peak hour under baseline conditions.

Table 13 presents the regional transit screenline ridership and capacity utilization with baseline conditions. The East Bay screenline would continue to exceed its capacity utilization standard in the a.m. and p.m. peak hours. The East Bay screenline shows 109 percent capacity utilization in the a.m. peak hour for BART and 102 percent overall capacity utilization in the a.m. peak hour. The East Bay screenline shows 105 percent capacity utilization in the p.m. peak hour for BART and 96 percent overall capacity utilization in the p.m. peak hour. As under existing conditions, this would be primarily due to overcrowding on BART lines to and from the East Bay.

Due to planned service increases to the South Bay between now and baseline conditions, the South Bay screenline would improve to operate within its utilization threshold in both peak hours. All other regional transit service systems would continue to operate within their capacity utilization standards.

TABLE 12A: MUNI DOWNTOWN SCREENLINES AND PROJECT-SPECIFIC ROUTES – BASELINE CONDITIONS

Screenline	AM Peak Hour (Inbound)			PM Peak Hour (Outbound)		
	Ridership	**Capacity**	**Utilization**	**Ridership**	**Capacity**	**Utilization**
Northeast						
Kearny/Stockton	2,273	3,157	72%	2,444	3,327	73%
Other lines	867	1,470	59%	1,134	1,750	65%
Screenline Total	*3,140*	*4,627*	*68%*	*3,578*	*5,077*	*70%*
Northwest						
Geary	2,302	3,763	61%	2,913	3,621	80%
California	1,436	2,010	71%	1,349	1,752	77%
Sutter/Clement	514	630	82%	523	630	83%
Fulton/Hayes	1,505	2,237	67%	1,544	1,838	84%
Balboa	553	1,008	55%	537	974	55%
Screenline Total	*6,310*	*9,648*	*65%*	*6,866*	*8,815*	*78%*
Southeast						
Third Street	1,025	3,808	27%	1,836	3,808	48%
Mission	2,155	2,632	82%	1,927	2,632	73%
San Bruno/Bayshore	1,867	2,197	**85%**	1,035	2,134	49%
Other lines	1,577	1,712	**92%**	1,213	1,612	75%
Screenline Total	*6,624*	*10,349*	*64%*	*6,011*	*10,186*	*59%*
Southwest						
Subway lines	6,783	7,020	**97%**	5,433	6,804	80%
Haight/Noriega	1,178	1,596	74%	1,065	1,596	67%
Other lines	474	560	**85%**	655	840	78%
Screenline Total	*8,435*	*9,176*	***92%***	*7,153*	*9,240*	*77%*
Muni Screenlines Total	*24,509*	*33,800*	*73%*	*23,608*	*33,318*	*71%*
Project Specific Cordon						
Project-Specific Cordon Total	*4,022*	*9,090*	*44%*	*3,426*	*8,292*	*41%*
Individual Muni Routes at Project-Specific Cordon	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
30 Stockton IB	134	705	19%	338	470	72%
30 Stockton OB	485	705	69%	424	470	**90%**
45 Union/Stockton IB	223	473	47%	108	315	34%
45 Union/Stockton OB	347	473	73%	222	315	70%
N Judah IB	408	2,596	16%	413	2,380	17%
N Judah OB	415	2,596	16%	298	2,380	13%
T Third IB	1,097	3,808	29%	1,940	3,808	51%
T Third OB	1,931	3,808	51%	1,742	3,808	46%

Notes:

Bold indicates capacity utilization of 85 percent or greater.

Source: Fehr & Peers, 2015. See Appendix C for Transit Line Capacity Calculations.

TABLE 12B: MUNI DOWNTOWN SCREENLINES AND PROJECT-SPECIFIC ROUTES – BASELINE CONDITIONS

Screenline/Subcorridor Individual Muni Route	AM Peak Hour (Inbound)			PM Peak Hour (Outbound)		
	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Northeast/Other Lines						
E Embarcadero	63	280	23%	89	280	32%
F Market and Wharves	406	560	73%	517	840	62%
10 Townsend	304	315	**97%**	386	315	**123%**
11 Downtown Circulator	94	315	30%	142	315	45%
12 Folsom Pacific	—	—	—	—	—	—
Southeast/Other Lines						
J Church	883	893	**99%**	642	793	81%
10 Townsend	378	315	**120%**	299	315	**95%**
12 Folsom Pacific	-	-	-	-	-	-
19 Polk	188	252	75%	168	252	67%
27 Bryant	128	252	51%	104	252	41%

Notes:

Bold indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.

The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, *Transit Data for Transportation Impact Studies*, May 2015. SFMTA, individual route ridership data. See Appendix C for transit line capacity calculations.

TABLE 13: REGIONAL TRANSIT SCREENLINES – BASELINE CONDITIONS

Regional Screenline	AM Peak Hour (Inbound)			PM Peak Hour (Outbound)		
	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
East Bay						
BART	28,000	25,680	**109%**	27,000	25,680	**105%**
AC Transit	1,596	2,829	56%	2,297	3,926	59%
Ferries	818	1,170	70%	813	1,615	50%
Screenline Total	*30,414*	*29,679*	***102%***	*30,110*	*31,221*	*96%*
North Bay						
Golden Gate Transit Bus	1,344	2,543	53%	1,399	2,817	50%
Ferries	1,088	1,959	56%	973	1,959	50%
Screenline Total	*2,432*	4,502	54%	*2,372*	*4,776*	*50%*
South Bay						
BART	16,000	21,400	75%	15,000	21,400	70%
Caltrain	2,258	3,100	73%	2,472	3,100	80%
SamTrans	266	520	51%	147	320	46%
Ferries	-	-	-	-	-	-
Screenline Total	*18,524*	*25,020*	*74%*	*17,619*	*24,820*	*71%*
Regional Screenlines Total	*51,370*	*59,201*	*87%*	*50,101*	*60,817*	*82%*

Notes:
Bold indicates capacity utilization of 100 percent or greater.
Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015 and October 2016; Fehr & Peers, 2017.

3.2 PEDESTRIAN NETWORK

Under baseline conditions, it is assumed that pedestrian-related improvements will be in place on Second Street between King Street and Market Street. These accessibility improvements are part of the Second Street Improvement Project, which will begin construction in 2017 and be completed in 2018.

Pedestrian improvements that are currently in the final stages of construction on Mission Rock Street, between Third Street and Terry A. Francois Boulevard, are also assumed to be in place.

3.3 BICYCLE NETWORK

Under baseline conditions, it is assumed that new bicycle lanes will be in place on Second Street between King Street and Market Street. These bicycle lanes are part of the Second Street Improvement Project, which will begin construction in 2017 and be completed in 2018.

Other near-term improvements in the San Francisco Bike Plan within the study area on Fifth Street, Fremont Street, and 16th Street, are not funded and, therefore, are included in cumulative conditions.

4 TRAVEL DEMAND ANALYSIS

Travel demand refers to the new vehicle, transit, bicycle, and pedestrian traffic that would be generated by the proposed project. The travel demand data relate to localized impacts, not regional metrics such as VMT. Evaluating the travel data is necessary to address potential local effects on transit, bicycle, pedestrian, and loading facilities.

Forecasts of travel demand from the land use assumptions are presented in detail in a Travel Demand Memorandum completed by Adavant Consulting titled *The Mission Rock (Seawall Lot 337/Pier 48) Estimation of Project Travel Demand*, dated June 30, 2015, which is included in **Appendix G** and summarized below. The forecasts are based on methodology in the SF Guidelines and supplemented with information that accounts for the large-scale and mixed-use qualities of the proposed project. Trip generation and mode choice for the open space included in the proposed project were not included in the Travel Demand Memorandum. Therefore, travel demand for the open space is presented in detail here.

4.1 TRIP GENERATION

The first step in calculating travel demand is to determine the person-trip generation rate. Internal capture rates and mode splits are then applied to the person-trip generation rate.

The person-trip generation estimates for the two land use assumptions include residents, employees, and visitors to the proposed development. The weekday daily and p.m. peak-hour person-trip generation for the proposed project uses are based on the appropriate rates in Table C-1 of the SF Guidelines, except for the open space use, which was calculated based on trip rates contained in Traffic Generators, published by the San Diego Association of Governments (SANDAG). Trip generation was also estimated for the weekday a.m. peak hour, based on rates developed for this study and adapted information from the Institute of Transportation Engineers, in combination with the SF Guidelines. The proposed project includes open space elements that would accommodate special events, ranging from a few hundred people a few times per month to up to 5,000 people approximately four times per year. Because these events are relatively infrequent and unlikely to occur during the typical weekday a.m./p.m. peak periods, they are not included in the travel demand calculations. However, the standard TDM measures, which are part of the proposed project's TDM Program, would remain in place during events and serve to reduce the amount of vehicular travel. Additionally, events may require applicable permits from the Port and, in some cases, the City. As part of the permitting process, the event sponsor must include a plan for managing travel to minimize the effect on surrounding neighborhoods. These management strategies may include special event shuttles, promotion of transit services, and parking management, such as valet parking.

Table 14, presents the weekday daily, a.m. peak-hour, and p.m. peak-hour person-trip generation forecasts (internal and external) for the land use assumptions. The table presents trips that would occur within the project site (internal trips) and person-trips that would begin or end outside of the project site (external trips).

The High Residential Assumption would generate 95,276 total daily person-trips on a typical weekday, 7,819 person-trips in the a.m. peak hour, and 11,696 person-trips during the weekday p.m. peak hour (including both trips internal to the project site and external trips to or from locations outside of the project site).

The High Commercial Assumption would generate 97,886 total daily person-trips on a typical weekday, 7,751 person-trips in the a.m. peak hour, and 11,482 person-trips during the weekday p.m. peak hour (including both trips internal to the project site and external trips to or from locations outside of the project site).

The SF Guidelines do not provide a specific methodology for assessing the number of trips that could remain within a large, mixed-use project site and, therefore, would be "double counted" with a literal application of the SF Guidelines trip generation methodology. Using sources such as the National Cooperative Highway Research Program and ITE Journal (ITE) as initial points of analysis, the analysis identified expected internal trip capture rates.

Similarly, the SF Guidelines do not provide for a methodology for estimating the number of "linked" trips - those trips that are made as intermediate stops on the way from an origin to a primary destination. Therefore, refinements to the standard travel demand analysis approach were made to account for the size and land use mix of the two land use assumptions, with their large proposed mixes of residential, active/retail, and office uses.

Table 14 presents the weekday daily, a.m. peak-hour, and p.m. peak-hour person-trip generation forecasts (external) for the project. Internalization is dependent on the quantity and mix of uses as well as the varying levels of activity they generate at various times of the day; as a result, the internalization percentage is different for each land use assumption and the a.m./p.m. peak periods. The High Residential Assumption is estimated to generate a larger proportion and larger numbers of internal trips than would the High Commercial Assumption on a daily basis and in the a.m./p.m. peak periods. The internalization ratios selected were within the range of published observed internalization for various land uses published by the National Cooperative Highway Research Program and ITE, and are described more fully in the Travel Demand Memorandum referenced previously.

TABLE 14: PERSON-TRIP GENERATION (INTERNAL AND EXTERNAL TRIPS)

Land Use	High Residential Assumption				High Commercial Assumption			
	Size	Daily[1]	AM Peak Hour	PM Peak Hour	Size	Daily	AM Peak Hour	PM Peak Hour
Residential	1,579 units	15,790	2,247	2,732	1,048 units	10,480	1,491	1,813
Retail	120,519 sf	18,078	421	1,627	122,388 sf	18,358	428	1,652
Office	972,175 sf	17,596	1,566	1,496	1,361,181 sf	24,637	2,193	2,094
Sit-down Restaurant	84,363 sf	16,873	246	2,278	85,672 sf	17,134	250	2,313
Quick Service Restaurant	36,156 sf	21,694	3,214	2,929	36,717 sf	22,030	3,264	2,974
China Basin Park	5.12 acres	102	13	9	5.12 acres	102	13	9
Brewery	190,500 sf	301	32	32	190,500 sf	301	32	32
Brewery Retail	11,000 sf	1,000	—	150	11,000 sf	1,000	-	150
Brewery Restaurant	11,000 sf	2,200	32	297	11,000 sf	2,200	32	297
Mezzanine Retail	10,000 sf	1,500	35	135	10,000 sf	1,500	35	135
Mezzanine Office	7,875 sf	143	13	12	7,875 sf	143	13	12
Total	—	**95,276**	**7,819**	**11,696**	—	**97,886**	**7,751**	**11,482**

Notes:

1. Lower-floor active/retail/production uses have been divided for purposes of analysis into the retail, sit-down restaurant, and quick serve restaurant use rows above.

Trip generation rates for each land use is available in **Appendix G**, Table 5.

Source: *SF Guidelines*, 2002; Adavant Consulting, 2015

TABLE 15: PERSON-TRIP GENERATION (EXTERNAL TRIPS ONLY)

Land Use	High Residential Assumption				High Commercial Assumption			
	Size	Daily[1]	AM Peak Hour	PM Peak Hour	Size	Daily	AM Peak Hour	PM Peak Hour
Residential	1,579 units	10,264	1,798	1,776	1,048 units	6,498	1,193	997
Retail	120,519 sf	15,366	328	1,220	122,388 sf	16,522	385	1,322
Office	972,175 sf	15,837	1,331	1,122	1,361,181 sf	23,406	1,995	1,675
Sit-down Restaurant	84,363 sf	14,342	209	1,891	85,672 sf	15,421	233	2,036
Quick Service Restaurant	36,156 sf	18,006	2,571	2,196	36,717 sf	18,726	2,938	2,528
China Basin Park	5.12 acres	92	12	8	5.12 acres	92	12	8
Brewery	190,500 sf	286	30	30	190,500 sf	286	30	30
Brewery Retail	11,000 sf	1,000	—	150	11,000 sf	1,000	—	150
Brewery Restaurant	11,000 sf	1,980	32	267	11,000 sf	1,980	32	267
Mezzanine Retail	10,000 sf	1,350	35	122	10,000 sf	1,350	35	122
Mezzanine Office	7,875 sf	128	12	10	7,875 sf	135	12	10
Total	—	**78,650**	**6,358**	**8,791**	—	**85,416**	**6,864**	**9,145**

Notes:

1. Lower-floor active/retail/production uses have been divided for purposes of analysis into the retail, sit-down restaurant, and quick serve restaurant use rows above.

Trip generation rates for each land use is available in Appendix G, Table 5.

Source: *SF Guidelines*, 2002; Adavant Consulting, 2015

4.2 TRIP DISTRIBUTION

The geographic distribution of project-generated trips was obtained from the SF Guidelines for retail and office uses and San Francisco Planning Department survey data for the South Beach, South Park, and Rincon Hill areas for residential trips. Distributions are based on the origin/destination of the trip and separated into the four quadrants of San Francisco (Super Districts 1 through 4) as well as the East Bay, North Bay, South Bay, and areas outside the region. The project site is in Super District 3, though it is less than 0.25 mile from the edge of Super District 1. Given the changing setting in the vicinity of the proposed project, Super District 3 data would not convey an accurate portrayal of the proposed project's travel characteristics, including its mode split and trip distribution.

Based on current and expected growth and infrastructure development, improved transit availability and increased density of development in the project vicinity is anticipated by the time the project is built out. It is reasonable to assume that travel behavior in the project vicinity would resemble the conditions that the SOMA, South Beach, or Rincon Hill neighborhoods, which are located in Super District 1, had at the time of preparation of the SF Guidelines. The trip distribution for office, residential, retail, and industrial uses was based on travel characteristics for Super District 1, given the proximity of the site to Super District 1 as well as planned transit, bicycle, and pedestrian infrastructure improvements in areas surrounding the project site in SOMA and Mission Bay.

The geographic distribution of project-generated residential trips was obtained from the 2009-2013 American Community Survey 5-Year Estimate for Census Tract 226, which corresponds to the project site, supplemented with information from the 1990 and 2000 U.S. Census. The trip distribution for office, industrial, restaurant, and retail uses was obtained from the SF Guidelines for land uses within Super District 3, which is where the project site is located. Distributions are based on the origin/destination of the trip and separated into the four quadrants of San Francisco (Super Districts 1 through 4, as shown in **Figure 7**) as well as the East Bay, North Bay, South Bay, and areas outside the region.

As shown in **Table 16,** the majority of the project-generated trips would be within San Francisco, with the greatest proportion of residential trips related to Super District 1, the northeast quadrant, and the greatest proportion of worker trips related to Super District 3, the southeast quadrant. Worker trips to and from locations outside of San Francisco are nearly evenly divided between the East Bay and the Peninsula/South Bay. Visitor trips to and from the commercial uses would also be primarily within San Francisco, with the largest proportion traveling within Super District 3. A substantial number of visitor trips from outside San Francisco would be to and from outside the region (approximately 12 percent of office/industrial/restaurant trips and 22 percent of retail trips). These patterns were used as the basis for assigning project-generated transit trips to individual transit lines for both land use assumptions.

TABLE 16: TRIP DISTRIBUTION

Place of Trip End	Residential Trips	Retail/Restaurant/Brewery Trips		Office Trips	
		Workers	Visitors	Workers	Visitors
San Francisco	69.5%	55.4%	56.0%	55.4%	37.0%
Superdistrict 1 (Northeast Quadrant)	*34.7%*	*12.8%*	*22.0%*	*12.8%*	*19.0%*
Superdistrict 2 (Northwest Quadrant)	*3.5%*	*14.4%*	*14.0%*	*14.4%*	*7.0%*
Superdistrict 3 (Southeast Quadrant)	*27.8%*	*17.0%*	*13.0%*	*17.0%*	*8.0%*
Superdistrict 4 (Southwest Quadrant)	*3.5%*	*11.2%*	*7.0%*	*11.2%*	*3.0%*
East Bay	8.8%	22.4%	11.0%	22.4%	11.0%
North Bay	<1%	6.1%	5.0%	6.1%	5.0%
South Bay	21.0%	14.3%	7.0%	14.3%	8.0%
Out of Region	<1%	1.8%	21.0%	1.8%	39.0%
Total	100%	100%	100%	100%	100%

Source: 2008 SF Planning Department Survey; *SF Guidelines* Appendix E Tables E-3, E-10, and E-11; Adavant, 2015

4.3 TRAVEL MODES

The project-generated person-trips were assigned to travel modes to determine the number of auto, transit, and other trips. The Auto category includes those arriving at the site by private automobile and carpool, while the Transit category includes those arriving to the site by means of public transportation. The Other category includes walking and use of bicycles, motorcycles, taxis (including transportation network companies such as Uber and Lyft), and other modes. Typically, the Other category represents a relatively small portion of trips because most trips are made by auto or transit. However, because of the mixed-use nature of this project, the Other category also includes all internal trips, which, because of their short nature, are also presumed to be made by walking or bicycling. Thus, the Other category represents a relatively larger portion of all the trips generated by this project than would normally be forecast for smaller, single-use projects.

Mode-split information for the residential portion of the project was based on San Francisco Planning Department survey data for residents of the South Beach, South Park, and Rincon Hill areas. Mode-split data for retail, restaurant, industrial (specifically analyzed as a proposed brewery use), and office uses were obtained from the SF Guidelines. Additional detail and breakdown of trips by all modes is presented in the Travel Demand Memorandum (Appendix G).

Mode split information for the residential portion of each land use assumption was based on data obtained from the U.S. Census, using data from Census Tract 607, in which the project site is located. Mode of travel assumptions for the office, retail, industrial, and restaurant uses were obtained from the SF Guidelines for employee and visitor trips using an average of Super District 1 and Super District 3. Adjustments were made to account for internal trips.

Table 17 and **Table 18**, provide a breakdown of the a.m. peak-hour and p.m. peak-hour external person-trips by mode of travel for the High Residential Assumption and the High Commercial Assumption. Each

table also shows a breakdown of external vehicle trips for each land use assumption. The number of trips shown in the "Auto" columns under "Person-Trips" reflects the total number of persons traveling by automobile, not the total number of vehicle trips, because some vehicles would transport more than one person; each person is considered a person-trip.

The number of external daily vehicle trips on a typical weekday would be 14,483 for the High Residential Assumption and 15,230 for the High Commercial Assumption. The number of peak-hour vehicle trips generated by each scenario is shown in the columns on the right side of **Tables 17 and 18**. The High Residential Assumption would generate 1,396 vehicle trips during the a.m. peak hour on a typical weekday and 1,758 vehicle trips during the p.m. peak hour on a typical weekday. The High Commercial Assumption would generate 1,449 vehicle trips during the a.m. peak hour on a typical weekday and 1,755 vehicle trips during the p.m. peak hour on a typical weekday. The High Commercial Assumption, which has more office uses than the High Residential Assumption, has more inbound vehicle trips during the a.m. peak hour and more outbound vehicle trips during the p.m. peak hour. Conversely, the High Residential Assumption, which has more housing than the High Commercial Assumption, has more outbound vehicle trips during the a.m. peak hour and more inbound trips during the p.m. peak hour than the High Commercial Assumption.

TABLE 17: PROPOSED PROJECT EXTERNAL TRIP GENERATION BY MODE – AM PEAK HOUR

Land Use	External Person Trips				External Vehicle Trips		
	Auto	Transit	Other[1]	Total	Total	In	Out
High Residential Assumption							
Residential	516	769	512	1,798	466	155	311
Office	537	641	153	1,331	322	304	18
Retail	137	175	16	328	86	86	—
Sit-down Restaurant	85	110	14	209	54	54	—
Quick Service Restaurant	1,008	699	864	2,571	435	232	203
China Basin Park	4	3	4	12	2	1	1
Brewery	14	14	2	30	11	7	3
Brewery Retail	—	—	—	—	—	—	—
Brewery Restaurant	12	17	3	32	8	8	—
Mezzanine Retail	14	18	3	35	9	9	—
Mezzanine Office	4	5	1	11	3	3	—
Total	***2,331 (36.7%)***	***2,451 (38.6%)***	***1,572 (24.7%)***	***6,358***	***1,396***	***859***	***536***
High Commercial Assumption							
Residential	343	511	340	1,193	309	103	206
Office	788	953	254	1,995	476	450	26
Retail	154	201	30	385	98	98	—
Sit-down Restaurant	92	121	19	233	59	59	—
Quick Service Restaurant	1,098	792	1,048	2,938	474	253	222
China Basin Park	4	3	4	12	2	1	1
Brewery	14	14	2	30	11	7	3
Brewery Retail	—	—	—	—	—	—	—
Brewery Restaurant	12	17	3	32	8	8	—
Mezzanine Retail	14	18	3	35	9	9	—
Mezzanine Office	5	6	1	12	3	3	—
Total	***2,524 (36.8%)***	***2,635 (38.4%)***	***1,705 (24.8%)***	***6,864***	***1,449***	***991***	***458***

Notes:

1. "Other" includes walk, bicycle, motorcycle, taxi, and additional modes.

Source: Appendix E and I, *SF Guidelines*, 2002; Census ACS 2012; SF Planning Department Survey 2008; Adavant 2015

TABLE 18: PROPOSED PROJECT EXTERNAL TRIP GENERATION BY MODE – PM PEAK HOUR

Land Use	External Person Trips				External Vehicle Trips		
	Auto	Transit	Other[1]	Total	Total	In	Out
High Residential Assumption							
Residential	544	777	454	1,776	492	328	164
Office	472	549	101	1,122	278	15	263
Retail	493	205	523	1,220	194	90	103
Sit-down Restaurant	730	512	648	1,891	315	147	168
Quick Service Restaurant	886	600	711	2,196	382	178	203
China Basin Park	3	2	3	8	1	1	1
Brewery	14	14	2	30	11	3	7
Brewery Retail	54	39	58	150	23	11	11
Brewery Restaurant	100	45	122	267	41	19	22
Mezzanine Retail	45	21	55	122	19	9	10
Mezzanine Office	4	4	1	9	2	—	2
Total	***3,345 (38.1%)***	***2,768 (31.5%)***	***2,678 (30.5%)***	***8,791***	***1,758***	***801***	***954***
High Commercial Assumption							
Residential	325	446	227	997	293	195	98
Office	689	813	173	1,675	409	22	387
Retail	519	223	580	1,322	207	97	111
Sit-down Restaurant	768	549	718	2,036	331	155	176
Quick Service Restaurant	967	684	877	2,528	417	195	222
China Basin Park	3	2	3	8	1	1	1
Brewery	14	14	2	30	11	3	7
Brewery Retail	54	39	58	150	23	11	11
Brewery Restaurant	100	45	122	267	41	19	22
Mezzanine Retail	45	21	55	122	19	9	10
Mezzanine Office	4	5	1	10	2	—	2
Total	***3,488 (38.1%)***	***2,841 (31.1%)***	***2,816 (30.8%)***	***9,145***	***1,755***	***708***	***1,047***

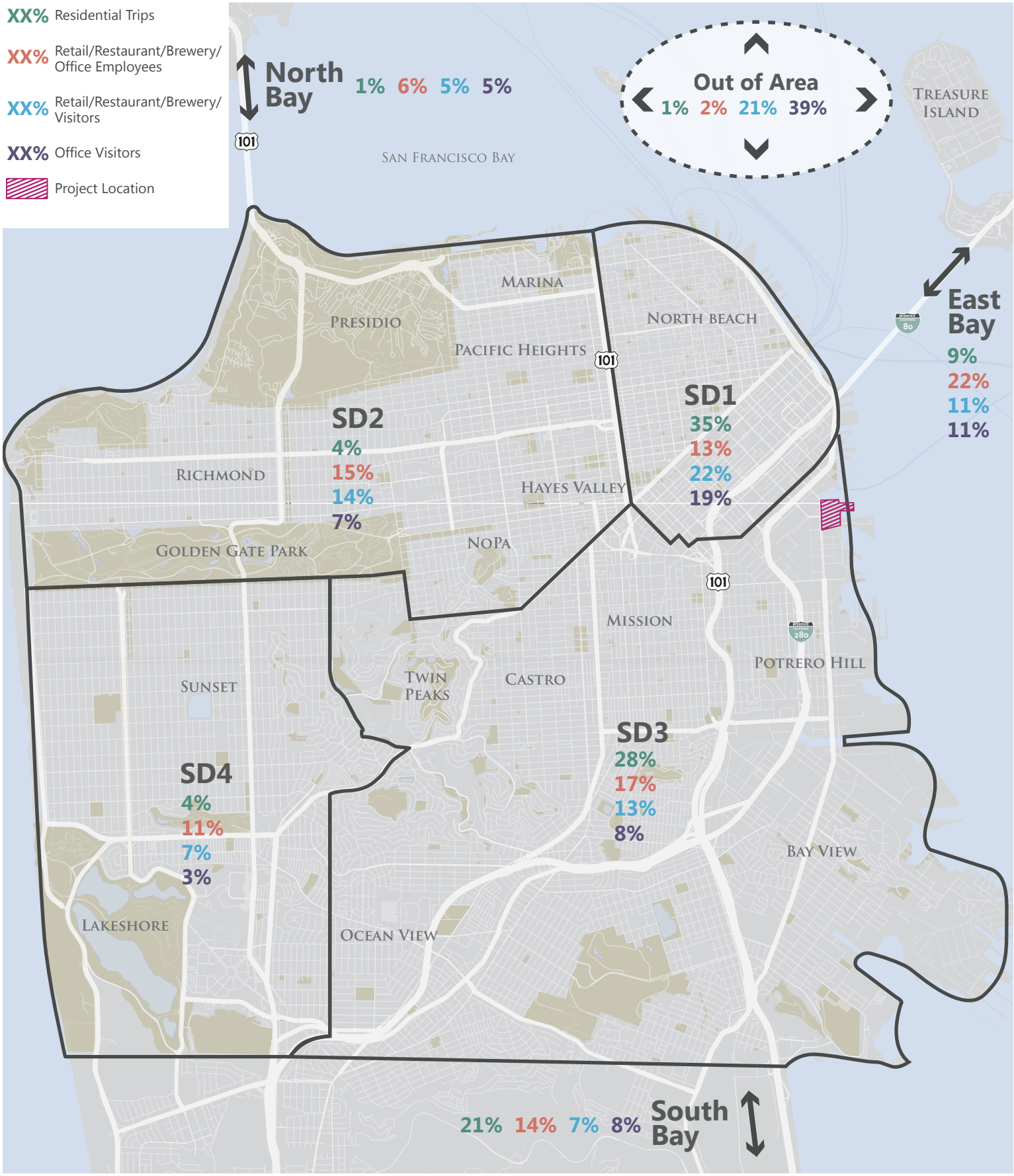
Notes:

1. Other" includes bicycle, motorcycle, taxi and additional modes.

Source: Appendix E and I, *SF Guidelines*, 2002; Census ACS 2012; SF Planning Department Survey 2008; Adavant 2015

4.4 TRIP ASSIGNMENT

The trips presented in **Table 17** and **Table 18** were assigned to the transportation network based on the percentages shown in **Table 16** and on **Figure 13**. Project-generated vehicle trips were assigned to specific turning movements, based on their most likely desired path to get to or from the project site. The trip assignment presents a conservative assessment. It generally reflects demand for the streets, without modification of the streets for potential capacity to accommodate project-generated demand. Vehicles were generally assumed to use Third Street and Fourth Street to access the Project from I-80, the SoMa neighborhood, and areas to the north. Many of these trips also came from/went to the Embarcadero. From the south, vehicles were assumed to use Third Street and Terry A. Francois Boulevard to access the project site, generally via 16th Street, Mariposa Street, and I-280. The trip assignments are presented in **Figure 14-A and 14-B** (for the High Commercial Assumption) and **Figure 15-A** and **15-B** (for the High Residential Assumption). Using the trip distribution percentages in **Table 16**, transit trips were assigned to specific routes based on the most direct transit route to and from the trip end.



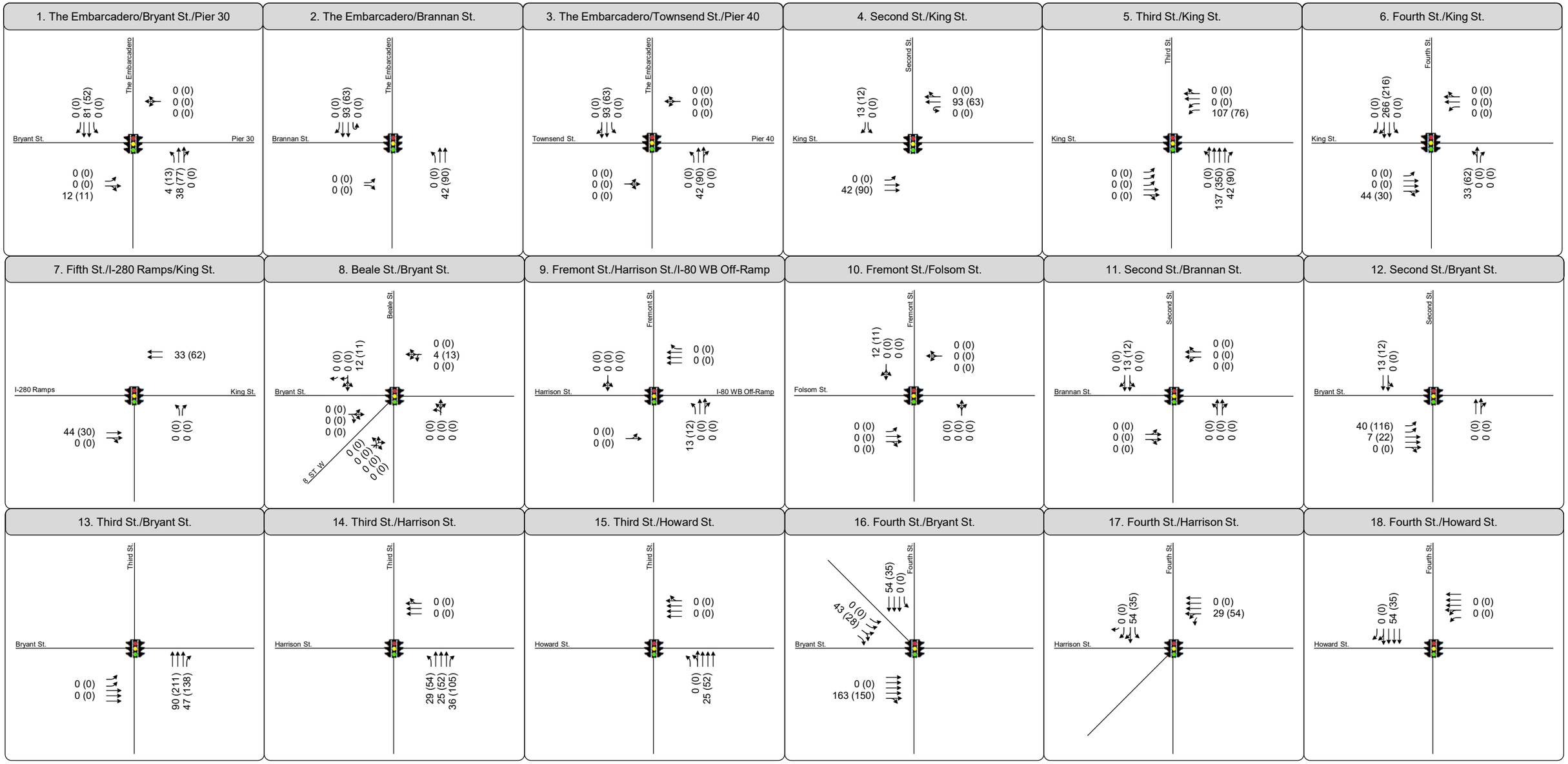
Not to Scale

FEHR PEERS

SF13-0697 Seawall_Lot_337\Graphics

TRIP DISTRIBUTION

FIGURE 13



Turn Lane

Traffic Signal

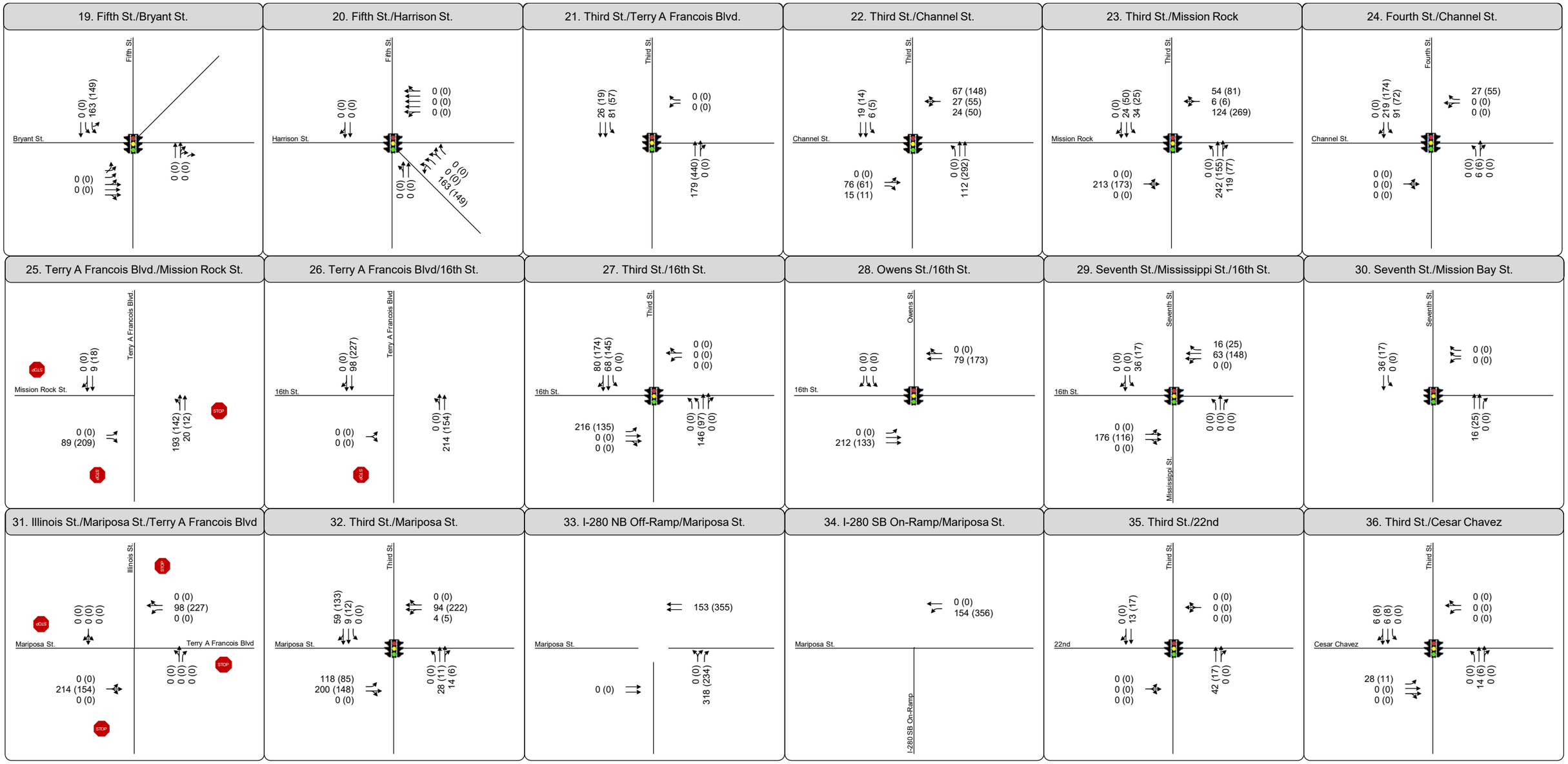
AM (PM) Peak Hour Traffic Volume

Stop Sign

FEHR PEERS

TRIP ASSIGNMENT - MAXIMUM COMMERCIAL SCENARIO

FIGURE 14-A



Turn Lane

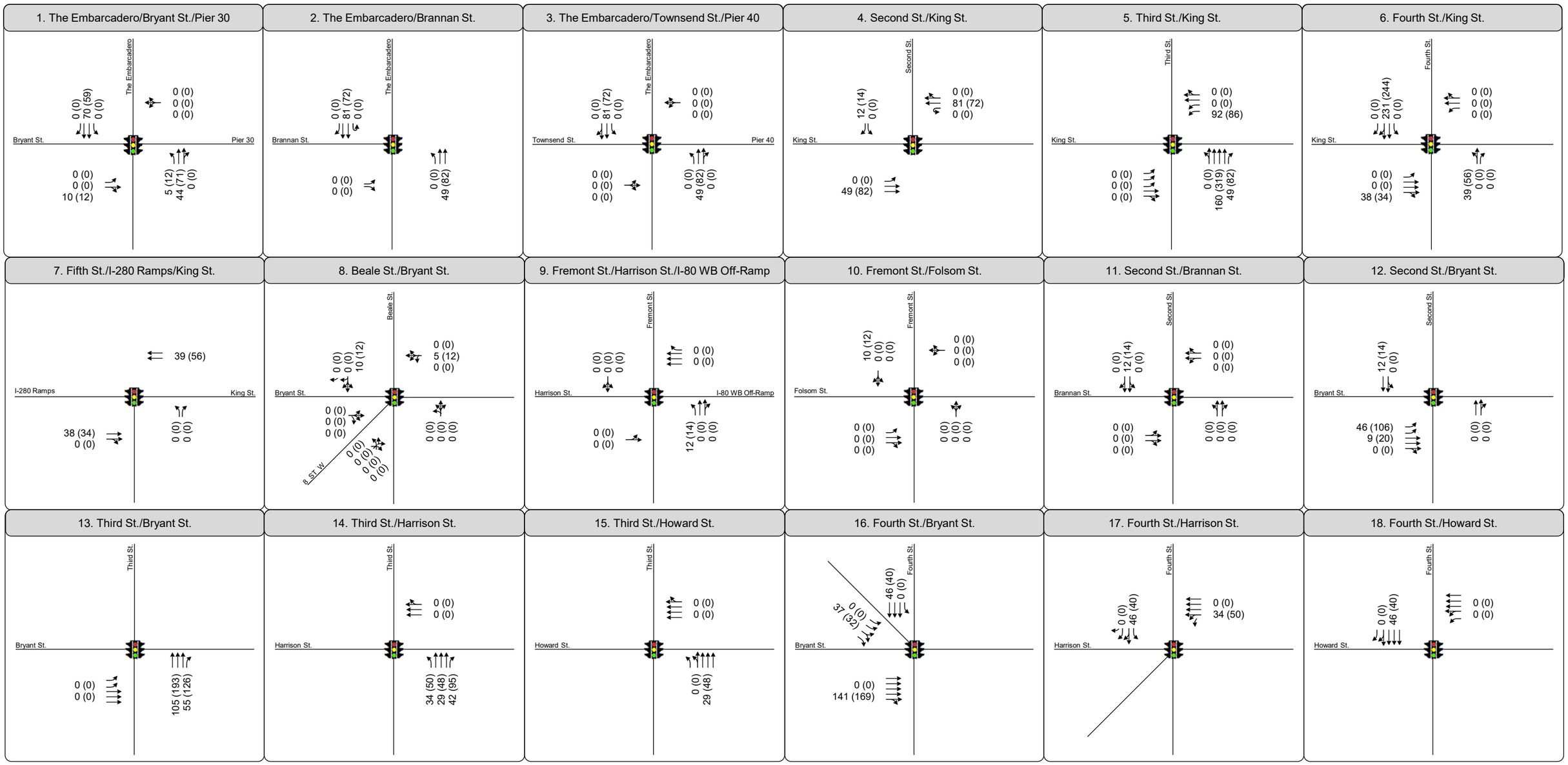
Traffic Signal

AM (PM)
[PM w/ Ballgame]
Peak Hour Traffic Volume

Stop Sign

TRIP ASSIGNMENT - MAXIMUM COMMERCIAL SCENARIO

FIGURE 14-B



Turn Lane

Traffic Signal

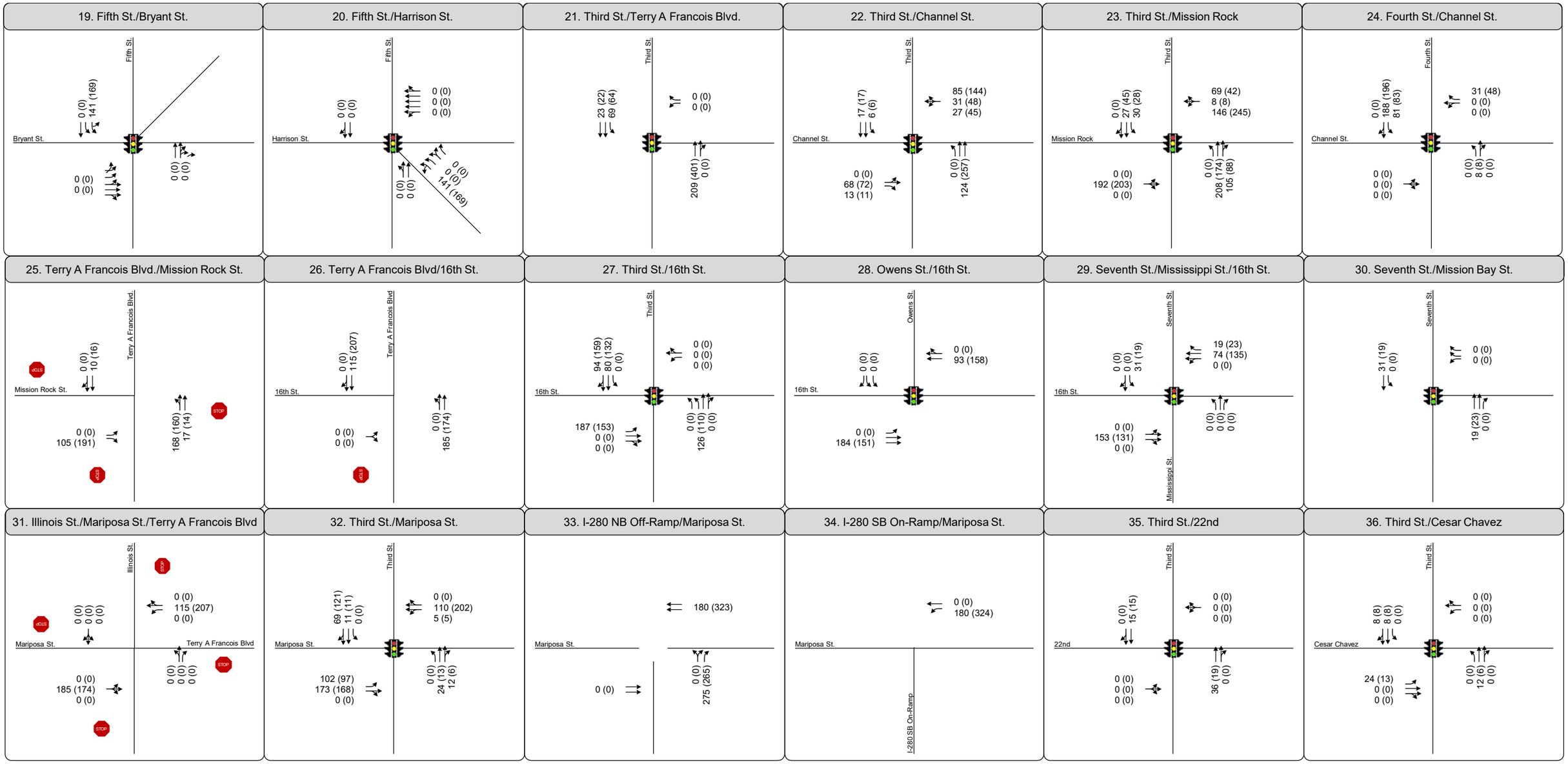
AM (PM) Peak Hour Traffic Volume

Stop Sign

FEHR PEERS

TRIP ASSIGNMENT - MAXIMUM RESIDENTIAL SCENARIO

FIGURE 15-A



TRIP ASSIGNMENT - MAXIMUM RESIDENTIAL SCENARIO

FIGURE 15-B

FEHR PEERS

4.5 FREIGHT DELIVERY AND SERVICE VEHICLE DEMAND

The delivery/service vehicle demand forecasts for the land use assumptions use the methodology and truck-trip generation rates presented in the SF Guidelines, with the exception of the brewery uses on Pier 48. Truck count data were collected at the existing Anchor Brewery facility in San Francisco and adjusted to reflect the proposed brewery facility on Pier 48 because the SF Guidelines do not provide truck trip generation rates for brewery uses. Delivery/service vehicle demand is based on the types of land uses and the amount. Delivery/service vehicles include delivery vans; cars; pickups; small delivery trucks, such as mail trucks or step vans; large delivery trucks, including garbage trucks; and tractor-trailers.

As shown in **Table 19**, the High Residential Assumption would generate approximately 800 daily delivery/service vehicle trips, consisting primarily of trips made by small trucks and vans. This number would correspond to a demand for 37 loading spaces during an average hour of loading activities and 45 loading spaces during the peak hour of loading activities.

The High Commercial Assumption would create a greater number of daily truck trips and a greater demand for loading spaces. This land use assumption would generate approximately 877 daily truck/service-vehicle trips, corresponding to a demand for 41 loading spaces during an average hour and 49 loading spaces during the peak hour of loading demand. This includes demand for approximately five loading spaces during the peak hour for Pier 48 uses.

TABLE 19: PROPOSED PROJECT DELIVERY/SERVICE VEHICLE TRIPS AND LOADING DEMAND

Land Use	Size	Daily Truck Generation Rate	Daily Truck Generation	Average Hour Loading Space Demand	Peak Hour Loading Space Demand
High Residential Assumption					
Residential	1,579 units	0.03	47	2.2	2.6
Retail	120,519 sf	0.21	25	1.2	1.4
Office	972,175 sf	0.22	214	9.9	11.9
Sit-down Restaurant	84,363 sf	3.60	304	14.1	16.9
Quick Service Restaurant	36,156 sf	3.60	130	6.0	7.2
China Basin Park	5.12 acres	—	—	—	—
Brewery	190,500 sf	Based on information from project sponsor[1]	76	3.4	4.4
Brewery Retail	11,000 sf				
Brewery Restaurant	11,000 sf				
Mezzanine Retail	10,000 sf	0.21	2	0.1	0.1
Mezzanine Office	7,875 sf	0.22	2	0.1	0.1
TOTAL	—	—	**800**	**36.9**	**44.6**
High Commercial Assumption					
Residential	1,048 units	0.03	31	1.5	1.7
Retail	122,388 sf	0.21	26	1.2	1.4
Office	1,361,181 sf	0.22	300	13.9	16.6
Sit-down Restaurant	85,672 sf	3.60	308	14.3	17.1
Quick Service Restaurant	36,717 sf	3.60	132	6.1	7.3
China Basin Park	5.12 acres	—	—	—	—
Brewery	190,500 sf	Based on information from project sponsor[1]	76	3.4	4.4
Brewery Retail	11,000 sf				
Brewery Restaurant	11,000 sf				
Mezzanine Retail	10,000 sf	0.21	2	0.1	0.1
Mezzanine Office	7,875 sf	0.22	2	0.1	0.1
TOTAL	—	—	**877**	**40.5**	**48.9**

Notes:

Numbers may not sum because of rounding.

1. Truck count data were collected at the existing Anchor Brewery in San Francisco and adjusted to reflect the proposed brewery on Pier 48. SF Guidelines do not provide loading data for brewery uses.

Source: *SF Guidelines*, 2002; Adavant Consulting, 2015; Fehr & Peers, 2017.

4.6 PARKING DEMAND

The daily parking demand generated by the proposed project was forecast using the methodology described in the SF Guidelines and is detailed in Table 14 of The Mission Rock (Seawall Lot 337/Pier 48) Project Estimation of Project Travel Demand memo. The estimated demand for parking that a project may generate is not necessarily the same as what is required by the Planning Code. In addition, the estimates below are most likely overly conservative because of the factors that affect travel behavior, as described in the parking impacts assessment described later in this document under Impact TR-11.

Table 20 shows that the project would create a peak demand for 3,846 parking spaces during the midday and 3,344 parking spaces in the evening under the High Residential Assumption and 3,655 parking spaces during the midday and 2,614 parking spaces in the evening under the High Commercial Assumption. The parking demand estimates in **Table 20** are based on proposed project uses only and do not take into account existing demand for parking at AT&T Park events, which would be separately managed, as described below.

The project would remove surface parking at Lot A and Pier 48 that serves the existing AT&T Park use. Ballpark parking demand would continue to exist after project construction, although the demand may change in future conditions. The project includes 2,000 parking spaces for AT&T Park events.

Because the number of studio, one-bedroom, and two-bedroom residential units proposed at the project site have not yet been determined, the calculated residential parking demand is based on a demand rate of 1.5 spaces for each dwelling unit as given in the SF Guidelines, which is the rate for 2+ bedroom dwelling units. Therefore, these parking demand forecasts represent a conservative analysis because it is unlikely that all of the units would be 2-bedroom units. Long-term parking demand for the office, retail, restaurant, and industrial (specifically analyzed as a proposed brewery) uses were estimated by applying the average mode split and the vehicle occupancy from the trip generation estimation to the number of employees for each of the proposed land uses. Short-term parking demand for the office, retail, restaurant, open space, and industrial (specifically analyzed as a proposed brewery) uses was estimated based on the total daily visitor trips and an average daily parking turnover rate (5.5 vehicles per space per day) obtained from the SF Guidelines.

Table 20 presents the project-generated parking demand during the midday and evening peaks. The forecast peak evening demand of 3,344 spaces for all proposed uses in the High Residential Assumption is 244 spaces more than the 3,100 spaces that the project would provide. However, during a weeknight ball game, parking management measures would be implemented to allocate 2,000 spaces to ballpark patrons. Pricing controls would be used to encourage users to vacate spaces before they are needed for AT&T Park patrons, similar to how the pricing controls operate today at Lot A. The remaining 1,100 parking spaces would be available for project uses during Giants games on weekday evenings (a floor or portion of the Block D2 parking garage would be reserved for project residents and employees). This parking would be prioritized for project residents and employees who hold parking permits. The forecast peak project-generated demand during the midday for as many as 3,846 parking spaces in the High Residential Assumption would be 746 spaces more than the project would provide.

The forecast peak evening demand of 2,614 spaces for all proposed uses in the High Commercial Assumption would be accommodated by the 3,100 spaces that the project would provide. During a weekend ball game, parking management measures would be implemented to allocate 2,000 spaces to that ballpark event. Pricing controls would be used to encourage users to vacate spaces before they are needed

for AT&T Park patrons, similar to how the pricing controls operate today at Lot A. The remaining 1,100 parking spaces would be available for project uses during Giants games on weekends (a floor or portion of the Block D2 parking garage would be reserved for project residents and employees). This parking would be prioritized for project residents and employees who hold parking permits. The forecast peak project-generated demand during the midday for as many as 3,655 parking spaces in the High Commercial Assumption would be 555 spaces more than the project would provide.

TABLE 20: PROPOSED PROJECT PEAK PARKING DEMAND

Land Use	High Residential Assumption			High Commercial Assumption		
	Long Term Parking Demand	Short Term Parking Demand	Total Parking Demand	Long Term Parking Demand	Short Term Parking Demand	Total Parking Demand
Midday						
Residential	1,895	—	1,895	1,258	—	1,258
Office	898	145	1,043	1,250	210	1,460
Retail	89	203	292	89	216	305
Sit-down Restaurant	56	151	207	56	159	215
Quick Service Restaurant	39	255	294	39	263	302
Brewery	41	40	81	41	40	81
Mezzanine Retail	7	18	25	7	18	25
Mezzanine Office	7	7	8	7	1	8
China Basin Park	-	1	1	-	1	1
TOTAL	**3,032**	**814**	**3,846**	**2,747**	**908**	**3,655**
Evening						
Residential	2,369	—	2,369	1,572	—	1,572
Office	90	7	97	125	10	135
Retail	89	182	271	89	194	283
Sit-down Restaurant	62	201	263	62	212	274
Quick Service Restaurant	35	204	239	35	210	245
Brewery	42	38	80	42	38	80
Mezzanine Retail	7	16	23	7	16	23
Mezzanine Office	1	-	1	1	-	1
China Basin Park	-	1	1	-	1	1
TOTAL	**2,695**	**649**	**3,344**	**1,933**	**681**	**2,614**

Notes:

The estimates in the table are most likely overly conservative because of the factors that affect travel behavior, as described in the Impact TR-2 discussion.

Source: *SF Guidelines* Appendix G; Adavant Consulting, 2015

5 IMPACT ANALYSIS

This chapter describes the impact analysis related to transportation and circulation for the proposed project. The impacts are grouped into seven potential impact areas: (1) traffic, (2) transit, (3) bicycles, (4) pedestrian, (5) loading, (6) emergency access and (7) construction impacts. This chapter includes a discussion of parking conditions for informational purposes. This chapter also describes the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the discussion of each identified significant impact. Impact areas were analyzed for the Baseline Plus Project Conditions.

SIGNIFICANCE CRITERIA

The significance criteria listed below are organized by mode to facilitate the transportation impact analysis; however, the transportation significance thresholds are essentially the same as those in the environmental checklist (Appendix G of the CEQA Guidelines), as proposed to amended by OPR. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the proposed project would result in a significant impact on transportation and circulation:

Construction

Construction of the project would have a significant effect on the environment if, in consideration of the project site location and other relevant project characteristics, the temporary construction activities' duration and magnitude would result in substantial interference with pedestrian, bicycle, or vehicle circulation and accessibility to adjoining areas, thereby resulting in potential hazardous conditions.

Vehicle Miles Traveled (VMT)

The project would have a significant effect on the environment if it would cause substantial additional VMT.

In addition, the project would have a significant effect on the environment if it would substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network.

Traffic

A project would have a significant adverse impact if it would cause major traffic hazards.

Transit

The project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result. With the Muni and regional transit screenlines analyses, the project would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the a.m./p.m. peak periods. For screenlines that already operate above the utilization standard during the peak hour, a project would have

a significant effect on the transit provider if project-related transit trips were more than 5 percent of total transit trips during the peak hour.

Pedestrians

A project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

Bicycles

A project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.

Loading

A project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed onsite loading facilities or within convenient on-street loading zones, and if it would create potentially hazardous traffic conditions or significant delays affecting transit, bicycles or pedestrians.

Emergency Access

The project would have a significant effect on the environment if it would result in inadequate emergency access.

Parking

The project would have a significant effect on the environment if it would result in a substantial parking deficit that would create hazardous conditions or significant delays affecting transit, bicycles, or pedestrians and where particular characteristics of the project or its site demonstrably render use of other modes infeasible.

5.1 CONSTRUCTION IMPACTS

The discussion of construction impacts is based on currently available information from the project sponsor, summarized in Chapter 2, Project Description, and professional knowledge of typical construction practices in San Francisco. Buildout of the proposed project would occur in four phases over an approximately 6-year period, through approximately 2023. Construction impacts would be similar for both the High Residential Assumption and the High Commercial Assumption.

Construction-related activities generally would occur Monday through Saturday, between 7:00 a.m. and 8:00 p.m., and the typical work shift for most construction workers would be from 7:00 a.m. to approximately 3:30 p.m. Construction is not anticipated to occur on Sundays or major legal holidays, but may occur on these days on an as-needed basis. The hours of construction would be stipulated by the relevant City

agencies, including the Department of Building Inspection and the Port. Construction staging would occur within the project site.

The project sponsor and construction contractor(s) would be required to prepare traffic control plans for the various construction phases, which would be intended to reduce potential conflicts between construction activities and pedestrians and vehicles at the project site and with other construction projects in the project vicinity that are expected to occur during the 6-year construction period.

The number of construction-related truck trips would range from four to 68 per day, depending on the construction phase. The truck trips would involve material delivery, material removal, and soil hauling. It is anticipated that the soil off-haul location would be in Brisbane, approximately 6 miles south of the project site. The haul route from the project site would have trucks travel south on Third Street to Mariposa Street, south on I-280 to US 101, and along Beatty Avenue in Brisbane to west of US 101. A potential debris disposal location would be in South San Francisco, with the haul route starting on Third Street, continuing to Mariposa Street, then south to US 101, exiting at Oyster Point Boulevard East. Third Street and Mariposa Street between Third Street and I-280 have two travel lanes in each direction and are designed to handle truck traffic. The impact of construction traffic on these streets could result in a slight lessening of their capacities because of slower-moving vehicles but would not substantially affect a.m./p.m. peak-period conditions because construction work schedules do not typically coincide with the peak commute periods. Mariposa Street between I-280 and US 101 has one travel lane in each direction and a weight restriction for trucks. Trucks weighing more than 3 tons would be required to take alternate routes (e.g., access I-280 at the Mariposa Street interchange and travel to Brisbane via I-280 and US 101). Truck access routes would be reviewed with the SFMTA as part of the traffic control plans.

If temporary traffic lane, parking lane, or sidewalk closures during construction would be needed along Third Street or Mission Rock Street, the closures would be coordinated with City staff to minimize effects on local traffic and circulation. In general, lane and sidewalk closures are subject to review and approval by the City's Transportation Advisory Staff Committee (TASC). TASC consists of representatives of City departments, including SFMTA, San Francisco Public Works, the Fire Department, Police Department, Health Department, the Port, and the Taxi Commission. Access to the Muni light rail stop at Mission Rock Street would be maintained. There are no Muni bus stops adjacent to or on the project site; therefore, none would need to be relocated.

The number of construction workers per day at the project site would be between 30 and 400. The maximum number of construction workers would be present onsite during the foundation and building phase of construction (the third building phase). The addition of the worker-related vehicle or transit trips would not substantially affect transportation conditions because the majority of employee construction trips occur prior to the morning and evening peak hours when traffic is heaviest. Additionally, impacts on local intersections or the transit network would be substantially less than those associated with the proposed project and temporary in nature. Construction workers who drive to the site would be accommodated in Lot A until parking is available in the parking garage on Block D2 (Area 2). Any construction-related parking shortfalls would be temporary.

Overall, the proposed project's construction activities would be temporary and limited in duration; would not result in substantial interference with pedestrian, bicycle, or vehicle circulation; would not result in hazardous conditions for pedestrians, bicycles, or vehicles; and are required to be conducted in accordance with City requirements. Therefore, the proposed project's construction-related work would have a ***less-than-significant*** impact on transportation and no mitigation measures would be required. However,

Improvement Measure (I-TR-1.1) is identified to further reduce less-than-significant potential conflicts between construction activities and pedestrians, bicyclists, and transit and other vehicles and between construction activities and nearby businesses and residents: [14]

I-TR-1.1: Construction Management Plan

Traffic Control Plan for Construction – To reduce potential conflicts between construction activities and pedestrians, bicyclists, transit and autos during construction activities, the project sponsor should require construction contractor(s) to prepare a traffic control plan for major phases of construction (e.g. demolition and grading, construction, or renovation of individual buildings). The project sponsor and their construction contractor(s) should meet with relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction. This includes coordinating project construction activities with nearby City construction projects, such as the Third Street Rehabilitation Project. For any work within the public right-of-way, the contractor would be required to comply with the San Francisco's Regulations for Working in San Francisco Streets, which establishes rules and permit requirements so that construction activities can be conducted safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. Additionally, restrict truck movements and deliveries to the maximum feasible extent during peak hours (generally 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m., or other times, as determined by SFMTA and the TASC).

In the event that the construction timeframes of the major phases and other development projects adjacent to the project site overlap, the project sponsor should coordinate with City agencies through the TASC and the adjacent developers to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. The project sponsor, in conjunction with the adjacent developer(s), should propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as coordinated material drop-offs, collective worker parking and transit to job site and other measures.

Reduce Single-Occupant Vehicle Mode Share for Construction Workers – To minimize parking demand and vehicle trips associated with construction workers, the project sponsor should require the construction contractor to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the project construction sites by construction workers in the coordinated plan.

Project Construction Updates for Adjacent Residents and Businesses – To minimize construction impacts on access for nearby residences, institutions, and businesses, the project sponsor should provide nearby residences and adjacent businesses with regularly updated information regarding

[14] Improvement measures are recommended further actions agreed to by the project sponsor to reduce or avoid impacts that are determined to be less than significant. The identification of improvement measures is not required under CEQA, but the measures are often presented in San Francisco environmental documents to inform decision-makers of additional actions that could improve the proposed project.

construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

5.2 VMT IMPACTS

Transportation is a major contributor to greenhouse gas emissions and a direct result of population and employment growth, which generates vehicle trips associated with the movement of goods, provision of public services, and travel of people for work, school, shopping, and other activities. Growth in travel (especially vehicle travel) is due in large part to urban development patterns (i.e., the built environment).

A performance measure used to quantify the amount of travel is vehicle-miles traveled (VMT). VMT is also an important input to GHG analysis since the amount of travel and conditions under which the travel occurs directly relate to how much fuel vehicles burn. One combusted gallon of gas from a vehicle is equal to approximately 24 pounds of carbon dioxide. Given today's average vehicle fuel mileage (i.e., approximately 22 miles per gallon), one mile of travel equates to about one pound of carbon dioxide. As a result, increases in VMT directly cause increases in greenhouse gas emissions and air pollution.

Many factors affect travel behavior. These factors include density, diversity of land uses, design of the transportation network, access to regional destinations, distance to high-quality transit, development scale, demographics, and transportation demand management. Typically, low-density development at great distance from other land uses, located in areas with poor access to non-private vehicular modes of travel, generate more automobile travel compared to development located in urban areas, where a higher density, mix of land uses, and travel options other than private vehicles are available.

Given these travel behavior factors, San Francisco has a lower VMT ratio than the nine-county San Francisco Bay Area region. In addition, some areas of the City have lower VMT ratios than other areas of the City. These areas of the City can be expressed geographically through transportation analysis zones (TAZ). Transportation analysis zones are used for transportation analysis and modeling exercises. The zones vary in size from single city blocks in the downtown core, multiple blocks in outer neighborhoods, to even larger zones in historically industrial areas like the Hunters Point Shipyard.

VMT measurement has one primary limitation: it is not directly observed and therefore cannot be directly measured. It is calculated based on the estimated/projected number of cars multiplied by the distance traveled by each car. The amount of VMT can be calculated through extensive surveys of residents, visitors, and employees, or using a validated travel demand model that estimates vehicle demand. VMT estimates derived from travel demand forecasting (TDF) models are dependent on the scale or level of detail in the network and other variables related to vehicle movement through the network. The volume of traffic and distance travelled depends on land use types, density/intensity, and patterns, as well as the supporting transportation system.

The San Francisco County Transportation Authority (Transportation Authority) uses the San Francisco Chained Activity Model Process (SF-CHAMP) to estimate VMT by private automobiles and taxis for different land use types. Travel behavior in SF-CHAMP is calibrated based on observed behavior from the California Household Travel Survey 2010-2012, Census data regarding automobile ownership rates and county-to-county worker flows, and observed vehicle counts and transit boardings. SF-CHAMP uses a synthetic population, which is a set of individual actors that represents the Bay Area's actual population, who make simulated travel decisions for a complete day. The Transportation Authority uses tour-based analysis for office and residential uses, which examines the entire chain of trips over the course of a day, not just trips

to and from the project. For retail uses, the Transportation Authority uses trip-based analysis. Trip-based analyses use individual person trips from one origin to one destination as the unit of analysis, such as a trip from home to work. A trip-based approach, as opposed to a tour-based approach, is necessary for retail projects because a tour is likely to consist of trips stopping in multiple locations, and the summarizing of tour VMT to each location would over-estimate VMT.

For residential development, the regional average daily household VMT per capita is 17.2. For office and retail development, regional average daily work-related VMT per employee is 19.1 and 14.9, respectively. **Table 21** shows these values, as well as the values for the region minus 15 percent and the transportation analysis zone in which the project site is located, TAZ 655.

TABLE 21: DAILY VEHICLE-MILES TRAVELED

	Regional VMT Average Per Capita	Regional Average Minus 15%	TAZ 655 (Project)
Households (Residential)	17.2	14.6	3.5
Employment (Office)	19.1	16.2	12.1
Visitors (Retail)	14.9	12.6	10.4

Source: San Francisco Planning Department 2016.

As mentioned above, existing average daily VMT per capita is more than 15 percent below the existing regional average daily VMT per capita for residential, office, and retail uses in TAZ 655 where the proposed project is located. The existing VMT per capita for residential uses in TAZ 655 is estimated to be 3.5, which is approximately 80 percent less than the existing regional average of 17.2. The existing VMT per capita for office uses in TAZ 655 is estimated to be 12.1, which is approximately 37 percent less than the regional average of 19.1. The existing VMT per capita for retail uses is estimated to be 10.4, which is approximately 30 percent less than the regional average of 14.9.

Because the project site is located in an area where existing VMT is more than 15 percent below the existing regional average, the proposed project's residential, office, and retail (and, thus, industrial, open space, and restaurant) uses would not result in substantial additional VMT, and impacts would be ***less-than-significant***.

This analysis indicates that residents of the Proposed Project would make much shorter vehicle trips than visitors, on average. Residents would tend to make more trips within the City of San Francisco, while a greater share of visitors (including employees, shoppers and other visitors to the development) would be traveling to the site from origins outside the City including the South Bay and East Bay. Therefore, the per vehicle trip VMT impact of the Proposed Project residents is much lower than the per trip VMT impact of visitors. This is not surprising given the close proximity of the site to I-280 on- and off-ramps, facilitating vehicle travel to the site from other parts of the region. As a result, the Maximum Commercial Scenario would generate more VMT than the Maximum Residential Scenario.

5.2.1 Influence of Parking Supply on VMT

For the reasons set forth below, the amount of parking included in the project would not result in VMT that would be beyond the significance threshold. As stated above, many factors affect travel behavior. These factors include density, the diversity of land uses, design of the transportation network, access to regional

destinations, distance to high-quality transit, development scale, demographics, and TDM. The Transportation Authority's SF-CHAMP accounts for a variety of factors to estimate VMT throughout San Francisco, but SF-CHAMP is not sensitive to site-level characteristics such as project-specific TDM measures or the amount of parking provided on a site, which itself is considered a TDM measure.

As part of the Shift component of the Transportation Sustainability Program, the City is pursuing the San Francisco TDM Program. The purpose of the TDM Program is to reduce VMT that is otherwise predicted to occur from new development (in SF-CHAMP or other transportation modeling software), based on the new development's TAZ location. To achieve this VMT reduction, property owners must select from TDM measures (i.e., measures that reduce VMT by residents, tenants, employees, and visitors) that are under the control of the property owner. A reduction in VMT may result from shifting vehicle trips to sustainable travel modes or reducing the number of vehicle trips, increasing vehicle occupancy, or reducing the average vehicle trip length.

The TDM Technical Justification document[15] provides the technical basis for applicability, targets, and assignment of points to individual measures on the TDM menu used for the San Francisco TDM Program.[16] Each of the TDM measures on the menu is assigned a number of points, reflecting its relative effectiveness in reducing VMT. This relative effectiveness determination is grounded in literature review, local data collection, best practices research, and professional transportation-expert opinion. One of the individual measures in the TDM menu that was researched was parking supply, as described below.

In 2010, CAPCOA published a report that quantifies project-level land use, transportation, energy use, and other measures of effects on GHG emissions, based on a literature review of research conducted to date.[17] The CAPCOA report identifies a maximum 12.5 percent reduction in VMT related to parking supply (PDT-1). Recent research, described further below, indicates that an area with more parking influences higher demand for more automobile use.

A New York City study of three boroughs showed a clear relationship between guaranteed vehicular parking at home and a greater tendency to use the automobile for trips made to and from work, even when both work and home are well served by transit. The study also infers that driving to other non-work activities is also likely to be higher for households with guaranteed vehicular parking. [18] Related literature that focused on the relationship between the availability of free on-street parking and the number of cars per household supports the findings that the availability of parking increases private car ownership by approximately 9 percent.[19] A study of households within a 2-mile radius of 10 rail stations in New Jersey concluded that if development near transit stations is developed with a high parking supply (on- and off-street parking), then those developments will not reduce automobile use compared to developments located farther away from

15 San Francisco Planning Department. 2016. Transportation Demand Management Technical Justification. June.

16 San Francisco Planning Department. 2016. *Transportation Demand Management Technical Justification*. June.

17 California Air Pollution Control Officers Association. 2010. *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*. August.

18 Weinberger, Rachel. 2012. Death by a Thousand Curb-cuts: Evidence on the Effect of Minimum Parking Requirements on the Choice to Drive. *Transport Policy 20*. March.

19 Zhan, Guo. 2013. Residential Street Parking and Car Ownership. *Journal of the American Planning Association* 79:1, 32–48. May 9.

transit stations, and that parking supply can undermine the incentive to use transit.[20] A study of nine cities across the United States looked at the question of whether citywide changes in vehicular parking cause automobile use to increase or whether minimum parking requirements is an appropriate response the already rising automobile use. The study concluded that "parking provision in cities is a likely cause of increased driving among residents and employees in those places."[21]

Research conducted in San Francisco focused on whether or not a relationship exists between the provision of off-street parking and the choice to drive among individuals traveling to or from the site (similar to the focus of one of the questions in the nine-city United States study). Following data collection and an empirical review of the data, this research found that reductions in off-street vehicular parking for office, residential, and retail developments reduce the overall automobile mode share associated with those developments, relative to projects with the same land uses in similar contexts that provide more off-street vehicular parking.[22] In other words, more off-street vehicular parking is linked to more driving, indicating that people without dedicated parking spaces are less likely to drive.

Based on the recent research, a reduced parking supply is one the most effective TDM measures available in the menu for the TDM Program. Eleven options (with points associated with them) are provided for this TDM measure in the TDM Program, depending on the development project's parking supply[23] compared to the neighborhood parking rate. The neighborhood parking rate is the number of existing parking spaces provided per dwelling unit or per 1,000 square feet of nonresidential uses for each TAZ within San Francisco.[24]

Using the neighborhood parking rate as a basis for assigning points accounts for the variability in geography throughout San Francisco and the effect this can have on travel behavior. Although parking supply is not an input into SF-CHAMP, based on the recent research, the existing parking supply within a TAZ has a relationship with VMT for that TAZ. Therefore, a new development would most likely not reduce VMT as it relates to parking supply if the new development is not at least at or below the neighborhood parking rate.

The existing neighborhood parking rate for the project site (TAZ 655) is 0.65 per residential unit and 0.98 per 1,000 square feet of nonresidential space. The parking rate takes into account the amount of parking as well as residential and nonresidential square footage in the TAZ itself and other nearby TAZs (within 0.75 mile, based on walking distance), with more-distant parking and residential and nonresidential square footage given decreasing weight. Therefore, although the project site functions as surface parking lot for patrons of AT&T Park and approximately 500 daytime commuters (primarily those working in nearby commercial buildings), the neighborhood parking rate accounts for nearby residential and nonresidential square footage.

Even though parking is not specifically an input in SF-CHAMP, the existing parking is captured in the estimates of VMT outputs from SF-CHAMP because it is an existing condition on the ground. As mentioned

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20 Chatman, Daniel. 2015. Does Transit-Oriented Development Need the Transit? *Access*.

21 McCahill, Chris, et al. 2015. *Effects of Parking Provision on Automobile Use in Cities: Inferring Causality*. Transportation Research Board. November 13.

22 Fehr and Peers. *Parking Analysis and Methodology Memo – Final*. April 27, 2015.

23 This refers to accessory (or off-street) parking supply, which is defined in the TDM Program Standards.

24 City and County of San Francisco. 2016. *Transportation Demand Management Technical Justification*. Appendix B. June.

above, existing average daily VMT per capita, per employee, and per retail employee in TAZ 655 is approximately 80, 37, and 30 percent below the existing regional average daily VMT per capita, per employee, and per retail employee, respectively. Therefore, in order to exceed the threshold of 15 percent below regional averages, the project would have to substantially increase VMT per capita, per employee, and per retail employee.

In order to account for an increase or decrease in VMT per capita, the project's parking rate is compared to the neighborhood parking rate. The proposed project would include up to 3,100 parking spaces. Two thousand (2,000) parking spaces would be made available for AT&T Park patrons to replace a portion of the parking spaces on the existing surface parking lot. The precise allocation of parking spaces would be determined over time, but the parking spaces would generally be allocated to residential and nonresidential uses at approximately the following ratios: 0.5 space per unit and 0.4 space per 1,000 square feet of office. These rates are lower than the neighborhood average, meaning that the proposed project may be expected to generate lower VMT rates than the forecasts from SF-CHAMP (which are designed to project the "average" project) would otherwise suggest. There are additional features of the proposed project that influence the way parking conditions affect travel. The proposed project's parking supply is intended to be shared amongst all uses and not dedicated to any specific land use type or user. This means that each space most likely gets used more often than if it were dedicated to a specific use, which indicates a higher amount of VMT per parking space. If one were to assume additional parking spaces would be available to non-residential uses, the parking rate would be within the range 1.6 or 1.9 space per 1,000 square feet of non-residential uses. This would indicate that the proposed project's non-residential uses may be expected to generate higher VMT rates than SF-CHAMP would otherwise suggest. However, because of the shared use, individual users have no guarantee—especially on San Francisco Giants game days—that a parking space would be available for them. As discussed above, a lack of certainty for an individual regarding availability of off-street parking may reduce overall vehicle travel than for a dedicated space.

Additionally, the above discussion does not fully account for the reduction in VMT likely to occur due to the proposed project's TDM Plan, which includes robust measures to reduce VMT. The TDM Technical Justification document includes documentation regarding the estimated VMT reduction from many of the measures included in the proposed project's TDM Plan.

The density and mix of uses proposed for the project, including the mix of office, residential, retail, industrial, and park land uses would result in an internalization of trips ranging from 13 to 17 percent. The density and mix of uses of the proposed project, in combination with the site's proximity to major planned transit and bicycle investments, would result in a substantial number of external trips by transit and bicycle modes, and would reduce VMT for the project.

Given that shared parking results in some uncertainty for an individual regarding the availability of parking, the project's TDM Plan would be expected to reduce VMT, and the VMT estimates for the site are substantially below the significance threshold, the VMT impacts of the proposed project would be ***less-than-significant***.

5.2.2 Induced Travel

The proposed project is not a transportation project. However, the proposed project would include features that would alter the transportation network. These features include sidewalks, bicycle facilities, on-street loading zones, new curb cuts, new internal roadways, on-street safety strategies, and intersection signalization, as described in Chapter 1, Project Description. These features fit within the general types of

projects that would not substantially induce automobile travel; therefore, impact would be ***less-than-significant***.

5.3 TRAFFIC IMPACTS

Most vehicle trips to and from the project site would use Third Street, Fourth Street, Mission Rock Street, Channel Street, or the portion of Terry A. Francois Boulevard south of Mission Rock Street. A small share of vehicle traffic destined for the Block D2 parking garage is expected to enter the site from the south via Third Street and Long Bridge Street or from the north via Third Street, Exposition Street, and Bridgeview Street. Vehicle travel on Terry A. Francois Boulevard and the Shared Public Way within the project site is expected to be relatively low. Although the proposed project would add vehicle trips to surrounding roadways, a general increase in traffic would not be considered a traffic hazard. The proposed project's internal street system has been designed with narrow street widths, separated bicycle facilities, and wide sidewalks, which would encourage bicycling and walking.

When events are planned at the Mission Rock site, the event sponsor may be required to obtain applicable permits from the Port or the City; these permits may include strategies to enhance transportation conditions in Mission Bay and nearby neighborhoods. For all events held at the Seawall Lot 337 and Pier 48 site, the event sponsor must obtain applicable permits from the Port and the City. As part of the permitting process, the event sponsor must include a plan for managing travel, with minimal effect on the surrounding neighborhoods.

An evaluation of queues at the proposed project's parking garages was conducted to assess potential impacts associated with on-street queues. The queue evaluation reports the potential for queues on Long Bridge Street at both proposed driveway locations to the Block D2 aboveground garage. A queue would occur as eastbound vehicles destined for the westernmost driveway on Long Bridge Street (i.e., closest to Third Street) to the Block D2 aboveground garage queue back into the northbound lanes of Third Street during peak pre-event hours for major AT&T Park events, such as Giants games. The Mission Rock Transportation Plan proposes that a PCO, who would manage traffic as well as access to the Long Bridge Street driveways, would be located at the westernmost driveway on Long Bridge Street prior to major events at AT&T Park. Thus, no significant traffic hazards would occur at this location.

In addition, a queue would occur during both nonevent and event conditions near the easternmost driveway on Long Bridge Street to the Block D2 aboveground garage, which is approximately 25 feet west of Bridgeview Street. Eastbound vehicles would create a queue at the all-way stop at the Long Bridge Street/Bridgeview Street intersection. This queue would in turn prevent westbound vehicles on Long Bridge Street from turning left into the Block D2 aboveground garage easternmost driveway along Long Bridge Street. These westbound vehicles would then queue into the Long Bridge Street/Bridgeview Street intersection and impede the flow of vehicles, bicyclists, and pedestrians and create potential hazards. This would be a ***significant impact***.

The proposed project would result in a significant impact because vehicle queues waiting to enter the easternmost driveway of the Block D2 parking garage on Long Bridge Street would extend into the adjacent intersection of Long Bridge Street/Bridgeview Street. The queues would occur for westbound vehicles on Long Bridge Street waiting to turn left into the driveway. As the driveway is located approximately 25 feet west of the intersection of Long Bridge Street/Bridgeview Street, which would be stop controlled on the east-west Long Bridge Street approaches, westbound vehicles waiting to turn left into the garage would have to wait for gaps in eastbound vehicles on Long Bridge Street that are queued at the adjacent stop sign

at Bridgeview Street. If more than one westbound vehicle on Long Bridge Street is in the queue waiting to enter the garage driveway, the queue would extend into the adjacent Long Bridge Street/Bridgeview Street intersection and block traffic.

M-TR-3.1: Parking Garage and Intersection Queue Impacts

The easternmost driveway on Long Bridge Street (i.e., closest to Bridgeview Street) shall be restricted to right-in, right-out access during all times. Restricted access could be accomplished by placing signage as well as delineators of a sufficient length in the middle of Long Bridge Street to block left-turn access to the driveway.

Mitigation measure M-TR-3.1 would result in a prohibition of left turn movements at the easternmost parking garage driveway on Long Bridge Street at all times. Westbound vehicles on Long Bridge Street wishing to enter the parking garage would turn left at the westernmost driveway on Long Bridge Street, which is located west of the Shared Public Way. With the left turn movement prohibition, vehicles destined to the parking garage on westbound Long Bridge Street would not impact operations at the Long Bridge Street/Bridgeview Street intersection. With implementation of Mitigation Measure M-TR-3.1, the traffic hazard impact would be reduced to ***less-than-significant*** levels.

5.4 MUNI TRANSIT CAPACITY IMPACTS

The assessment of transit conditions considers whether the project would cause a substantial increase in transit demand that would not be considered to be fully accommodated by available transit capacity. As described in the following section, the proposed project would result in adverse impacts to the 10 Townsend and 30 Stockton by increasing ridership by more than five 5 percent on those routes that exceed 85 percent capacity utilization under baseline conditions.

Transit conditions will change in the study area over the next several years. The Central Subway, the second phase of the Third Street Light Rail Transit Project, will extend the T Third line from the Caltrain station at Fourth Street/King Street to Chinatown. The new subway connection will provide a direct rapid-transit link from the Bayshore and Mission Bay areas to SOMA, Union Square, and downtown. As part of the Central Subway initial phase, service frequencies on the Third will be increased, substantially increasing capacity. Transit Priority Lanes will be installed on 16th Street as part of the 22 Fillmore Transit Priority Project. Near-term Muni Forward facilities, equipment and/or service frequency improvements to the 10 Townsend, 12 Folsom, and 30 Stockton will also be implemented.

The proposed project would generate a significant number of transit riders during the a.m. peak hour and p.m. peak hour. A large share of the proposed project's transit trips would use the T Third line between the project and Market Street, where riders could access BART and other regional transit providers as well as walk to destinations in Downtown San Francisco. Transit riders from the proposed project would also use a number of other routes to travel to and from other San Francisco destinations including the N Judah, 10 Townsend, and 30 Stockton.

The proposed project would generate 2,451 person-trips on transit during the weekday a.m. peak hour (see **Table 17**) and 2,768 person-trips on transit during the weekday p.m. peak hour (see **Table 18**) under the High Residential Assumption. Under the High Commercial Assumption, the project would generate similar totals for transit ridership: 2,635 person-trips on transit in the a.m. peak hour (see **Table 17**) and 2,841 person-trips on transit in the p.m. peak hour (see **Table 18**). Transit trips to and from the project site would use nearby Muni routes (T Third, N Judah, 55 16th Street, 30 Stockton, 45 Union-Stockton, 10 Townsend, or 47 Van Ness) to connect to and from local destinations and regional transit providers.

The additional project-generated transit trips would follow the geographic trip distribution patterns described earlier throughout San Francisco and the region. Transit trips were assigned to the individual transit routes based on the likely origins and destinations of the trips and the available capacity on each route.

5.4.1 Muni Downtown Screenlines, Subcorridors, and Individual Routes

Table 22A and **Table 23A** present ridership and capacity utilization data for Muni screenlines and subcorridors with project-generated transit trips added to the baseline ridership for the High Residential Assumption in the a.m./p.m. peak hours. **Table 22B** and **Table 23B** present ridership and capacity utilization data for individual Muni routes that comprise the "other lines" subcorridor of the northeast and southeast screenlines under the High Residential Assumption in the a.m./p.m. peak hours.

Table 24A and Table 25A present ridership and capacity utilization data for Muni screenlines and subcorridors with project-generated transit trips added to the baseline ridership for the High Commercial Assumption in the a.m./p.m. peak hours. **Table 24B** and **Table 25B** present ridership and capacity utilization data for individual Muni routes that comprise the "other lines" subcorridor of the northeast and southeast screenlines under the High Commercial Assumption in the a.m./p.m. peak hours. As shown in the tables, with the addition of project-generated transit trips, some Muni transit subcorridors and individual routes would exceed Muni's capacity utilization standard of 85 percent.

As shown in the tables, with the addition of project-generated transit trips, some Muni transit subcorridors and individual routes would exceed Muni's capacity utilization standard of 85 percent. Capacity utilization at the four downtown Muni screenlines would range from a low of 59 percent at the southeast screenline in the p.m. peak hour to a high of 92 percent at the southwest screenline in the a.m. peak hour under baseline conditions. Both the High Residential Assumption and High Commercial Assumption would add riders to northeast, southeast, and southwest screenlines. The addition of riders from the proposed project would increase capacity utilization but would not cause any screenlines that do not operate above 85 percent capacity utilization under baseline conditions to exceed that level. However, the southwest screenline, which operates at 92 percent capacity during the a.m. peak hour under baseline conditions, would operate at 94 percent capacity during the a.m. peak hour with the addition of the proposed project. For both the High Residential Assumption and High Commercial Assumption, the addition of riders from the proposed project would increase capacity utilization on the southwest screenline from 92 to 94 percent during the a.m. peak hour. However, the addition of project trips would not increase ridership greater than 5 percent on the southwest screenline during the a.m. peak hour.

Some subcorridors within the Muni downtown screenlines would exceed 85 percent capacity utilization. Specifically, the "other lines" subcorridor within the southeast screenline would operate at 98 percent under the High Residential Assumption and 99 percent under the High Commercial Assumption in the a.m. peak hour. The addition of project trips to this subcorridor would contribute 6.4 percent for the High Residential

Assumption and 6.8 percent for the High Commercial Assumption scenario in the a.m. peak hour. This would be a significant impact. As noted below, additional analysis of the southeast "other lines" subcorridor indicates that the impact is due to conditions on the 10 Townsend line.

TABLE 22A: MUNI DOWNTOWN SCREENLINES – AM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Muni Screenline	Baseline			Baseline Plus Project		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
Northeast						
Kearny/Stockton	2,273	3,157	72%	66	2,339	74%
Other lines	867	1,470	59%	101	968	66%
Screenline Total	3,140	4,627	68%	*167*	3,307	71%
Northwest						
Geary	2,302	3,763	61%	0	2,302	61%
California	1,436	2,010	71%	0	1,436	71%
Sutter/Clement	514	630	82%	0	514	82%
Fulton/Hayes	1,505	2,237	67%	0	1,505	67%
Balboa	553	1,008	55%	0	553	55%
Screenline Total	*6,310*	*9,648*	*65%*	*0*	*6,310*	*65%*
Southeast						
Third Street	1,025	3,808	27%	199	1,224	32%
Mission[1]	2,155	2,632	82%	0	2,155	82%
San Bruno/Bayshore	1,867	2,197	**85%**	0	1,867	**85%**
Other lines	1,577	1,712	**92%**	108	1,685	**98%**
Screenline Total	*6,624*	*10,349*	*64%*	*307*	*6,931*	*67%*
Southwest						
Subway lines	6,783	7,020	**97%**	168	6,951	**99%**
Haight/Noriega	1,178	1,596	74%	0	1,178	74%
Other lines	474	560	**85%**	0	474	**85%**
Screenline Total	*8,435*	*9,176*	***92%***	*168*	*8,603*	***94%***
Muni Screenlines Total	*24,509*	*33,800*	*73%*	*642*	*25,151*	*74%*
Project Specific Cordon						
Project-Specific Cordon Total	*4,022*	*9,090*	*44%*	*398*	*4,420*	*49%*
Individual Muni Routes	**Ridership**	**Capacity**	**Utilization**	**Project Trips**	**Ridership**	**Utilization**
30 Stockton IB	134	705	19%	50	184	26%
30 Stockton OB	485	705	69%	29	514	73%
45 Union/Stockton IB	223	473	47%	16	239	51%
45 Union/Stockton OB	347	473	73%	9	356	75%
N Judah IB	408	2,596	16%	92	500	19%
N Judah OB	415	2,596	16%	54	469	18%
T Third IB	1,097	3,808	29%	336	1,433	38%
T Third OB	1,931	3,808	51%	199	2,130	56%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 22B: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER LINES SUBCORRIDORS – AM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Screenline/Subcorridor Individual Muni Route	Baseline			Baseline Plus Project		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
Northeast/Other Lines						
E Embarcadero	63	280	23%	11	74	26%
F Market and Wharves	406	560	73%	0	406	73%
10 Townsend	304	315	**97%**	68	372	**118%**
11 Downtown Connector	94	315	30%	22	116	37%
12 Folsom Pacific	—	—	—	—	—	—
Southeast/Other Lines						
J Church	883	893	**99%**	0	883	**99%**
10 Townsend	378	315	**120%**	51	429	**136%**
12 Folsom Pacific	—	—	—	—	—	—
19 Polk	188	252	75%	0	188	75%
27 Bryant	128	252	51%	57	185	73%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.

The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 23A: MUNI DOWNTOWN SCREENLINES – PM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Muni Screenline	Baseline			Baseline Plus Project		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
Northeast						
Kearny/Stockton	2,444	3,327	73%	65	2,509	75%
Other lines	1,134	1,750	65%	101	1,235	71%
Screenline Total	*3,578*	*5,077*	*70%*	*166*	*3,744*	*74%*
Northwest						
Geary	2,913	3,621	80%	0	2,913	80%
California	1,349	1,752	77%	0	1,349	77%
Sutter/Clement	523	630	83%	0	523	83%
Fulton/Hayes	1,544	1,838	84%	0	1,544	84%
Balboa	537	974	55%	0	537	55%
Screenline Total	*6,866*	*8,815*	*78%*	*0*	*6,866*	*78%*
Southeast						
Third Street	1,836	3,808	48%	266	2,102	55%
Mission[1]	1,927	2,632	73%	0	1,927	73%
San Bruno/Bayshore	1,035	2,134	49%	0	1,035	49%
Other lines	1,213	1,612	75%	120	1,333	83%
Screenline Total	6,011	10,186	59%	386	6,397	63%
Southwest						
Subway lines	5,433	6,804	80%	165	5,598	82%
Haight/Noriega	1,065	1,596	67%	0	1,065	67%
Other lines	655	840	78%	0	655	78%
Screenline Total	*7,153*	*9,240*	*77%*	*165*	*7,318*	*79%*
Muni Screenlines Total	*23,608*	*33,318*	*71%*	*717*	*24,325*	*73%*
Project Specific Cordon						
Project-Specific Cordon Total	*3,426*	*8,292*	*41%*	*530*	*3,956*	*48%*
Individual Muni Routes	**Ridership**	**Capacity**	**Utilization**	**Project Trips**	**Ridership**	**Utilization**
30 Stockton IB	338	470	72%	40	378	80%
30 Stockton OB	424	470	**90%**	21	445	**95%**
45 Union/Stockton IB	108	315	34%	13	121	38%
45 Union/Stockton OB	222	315	70%	44	266	84%
N Judah IB	413	2,380	17%	73	486	20%
N Judah OB	298	2,380	13%	89	387	16%
T Third IB	1,940	3,808	51%	266	2,206	58%
T Third OB	1,742	3,808	46%	321	2,063	54%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 23B: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER LINES SUBCORRIDORS – PM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Screenline/Subcorridor Individual Muni Route	Baseline			Baseline Plus Project		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
Northeast/Other Lines						
E Embarcadero	89	280	32%	10	99	35%
F Market and Wharves	517	840	62%	0	517	62%
10 Townsend	386	315	**123%**	72	458	**145%**
11 Downtown Connector	142	315	45%	19	161	51%
12 Folsom Pacific	—	—	—	—	—	—
Southeast/Other Lines						
J Church	642	793	81%	0	642	81%
10 Townsend	299	315	**95%**	64	363	**115%**
12 Folsom Pacific	—	—	—	—	—	—
19 Polk	168	252	67%	0	168	67%
27 Bryant	104	252	41%	56	160	63%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.

The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 24A: MUNI DOWNTOWN SCREENLINES – AM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Muni Screenline	Baseline			Baseline Plus Project		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
Northeast						
Kearny/Stockton	2,273	3,157	72%	80	2,353	75%
Other lines	867	1,470	59%	119	986	67%
Screenline Total	*3,140*	*4,627*	*68%*	*199*	*3,339*	*72%*
Northwest						
Geary	2,302	3,763	61%	0	2,302	61%
California	1,436	2,010	71%	0	1,436	71%
Sutter/Clement	514	630	82%	0	514	82%
Fulton/Hayes	1,505	2,237	67%	0	1,505	67%
Balboa	553	1,008	55%	0	553	55%
Screenline Total	*6,310*	*9,648*	*65%*	*0*	*6,310*	*65%*
Southeast						
Third Street	1,025	3,808	27%	178	1,203	32%
Mission	2,155	2,632	82%	0	2,155	82%
San Bruno/Bayshore	1,867	2,197	**85%**	0	1,867	**85%**
Other lines	1,577	1,712	**92%**	115	1,692	**99%**
Screenline Total	*6,624*	*10,349*	*64%*	*293*	*6,917*	*67%*
Southwest						
Subway lines	6,783	7,020	**97%**	204	6,987	**100%**
Haight/Noriega	1,178	1,596	74%	0	1,178	74%
Other lines	474	560	**85%**	0	474	**85%**
Screenline Total	*8,435*	*9,176*	***92%***	*204*	*8,639*	***94%***
Muni Screenlines Total	*24,509*	*33,800*	*73%*	*696*	*25,205*	*75%*
Project Specific Cordon						
Project-Specific Cordon Total	*4,022*	*9,090*	*44%*	*362*	*4,384*	*48%*
Individual Muni Routes	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
30 Stockton IB	134	705	19%	60	194	28%
30 Stockton OB	485	705	69%	27	512	73%
45 Union/Stockton IB	223	473	47%	20	243	51%
45 Union/Stockton OB	347	473	73%	9	356	75%
N Judah IB	408	2,596	16%	111	519	20%
N Judah OB	415	2,596	16%	49	464	18%
T Third IB	1,097	3,808	29%	402	1,499	39%
T Third OB	1,931	3,808	51%	178	2,109	55%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 24B: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER LINES SUBCORRIDORS – AM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Screenline/Subcorridor Individual Muni Route	Baseline			Baseline Plus Project		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
Northeast/Other Lines						
E Embarcadero	63	280	23%	12	75	27%
F Market and Wharves	406	560	73%	0	406	73%
10 Townsend	304	315	**97%**	82	386	**123%**
11 Downtown Connector	94	315	30%	25	119	38%
12 Folsom Pacific	—	—	—	—	—	—
Southeast/Other Lines						
J Church	883	893	**99%**	0	883	**99%**
10 Townsend	378	315	**120%**	55	433	**137%**
12 Folsom Pacific	—	—	—	—	—	—
19 Polk	188	252	75%	0	188	75%
27 Bryant	128	252	51%	60	188	75%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.

The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 25A: MUNI DOWNTOWN SCREENLINES – PM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Muni Screenline	Baseline			Baseline Plus Project		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
Northeast						
Kearny/Stockton	2,444	3,327	73%	72	2,516	76%
Other lines	1,134	1,750	65%	111	1,245	71**%**
Screenline Total	*3,578*	*5,077*	*70%*	*183*	*3,761*	*74%*
Northwest						
Geary	2,913	3,621	80%	0	2,913	80%
California	1,349	1,752	77%	0	1,349	77%
Sutter/Clement	523	630	83%	0	523	83%
Fulton/Hayes	1,544	1,838	84%	0	1,544	84%
Balboa	537	974	55%	0	537	55%
Screenline Total	*6,866*	*8,815*	*78%*	*0*	*6,866*	*78%*
Southeast						
Third Street	1,836	3,808	48%	243	2,079	55%
Mission[1]	1,927	2,632	73%	0	1,927	73%
San Bruno/Bayshore	1,035	2,134	49%	0	1,035	49%
Other lines	1,213	1,612	75%	115	1,328	82%
Screenline Total	*6,011*	*10,186*	*59%*	*358*	*6,369*	*63%*
Southwest						
Subway lines	5,433	6,804	80%	194	5,627	83%
Haight/Noriega	1,065	1,596	67%	0	1,065	67%
Other lines	655	840	78%	0	655	78%
Screenline Total	*7,153*	*9,240*	*77%*	*194*	*7,347*	*80%*
Muni Screenlines Total	*23,608*	*33,318*	*71%*	*735*	*24,343*	*73%*
Project Specific Cordon						
Project-Specific Cordon Total	*3,426*	*8,292*	*41%*	*485*	*3,911*	*47%*
Individual Muni Routes	**Ridership**	**Capacity**	**Utilization**	**Project Trips**	**Ridership**	**Utilization**
30 Stockton IB	338	470	72%	36	374	80%
30 Stockton OB	424	470	**90%**	54	478	**102%**
45 Union/Stockton IB	108	315	34%	12	120	38%
45 Union/Stockton OB	222	315	70%	45	267	85%
N Judah IB	413	2,380	17%	67	480	20%
N Judah OB	298	2,380	13%	103	401	17%
T Third IB	1,940	3,808	51%	243	2,183	57%
T Third OB	1,742	3,808	46%	373	2,115	56%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 25B: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER LINES SUBCORRIDORS – PM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Screenline/Subcorridor Individual Muni Route	Baseline			Baseline Plus Project		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
Northeast/Other Lines						
E Embarcadero	89	280	32%	9	98	35%
F Market and Wharves	517	840	62%	0	517	62%
10 Townsend	386	315	**123%**	84	470	**149%**
11 Downtown Connector	142	315	45%	18	160	51%
12 Folsom Pacific	—	—	—	—	—	—
Southeast/Other Lines						
J Church	642	793	81%	0	642	81%
10 Townsend	299	315	**95%**	64	363	**115%**
12 Folsom Pacific	—	—	—	—	—	—
19 Polk	168	252	67%	0	168	67%
27 Bryant	104	252	41%	51	155	62%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.

The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

Table 22B, **Table 23B**, **Table 24B**, and **Table 25B** present ridership and capacity utilization data for individual Muni routes that comprise the "other lines" subcorridor of the northeast and southeast screenlines for both the High Residential Assumption and High Commercial Assumption scenarios. The assessment of the "other lines" subcorridor of the southeast screenline indicates that the J Church line would exceed the 85 percent threshold during the a.m. peak hour, but the project would add less than 5 percent ridership to this line.

An evaluation of the individual Muni routes within the southeast "other lines" subcorridor indicates that the 10 Townsend line would operate at 136 percent under the High Residential Assumption and 137 percent under the High Commercial Assumption in the a.m. peak hour with the addition of project transit trips. The addition of project trips to the 10 Townsend line would contribute 11.9 percent for the High Residential Assumption and 12.7 percent for the High Commercial Assumption scenario in the a.m. peak hour. The 10 Townsend line would also exceed the 85 percent utilization threshold during the p.m. peak hour for both the High Residential Assumption and the High Commercial Assumption. This would be a significant impact on the 10 Townsend route because the route would exceed 85 percent utilization, and the project would add more than 5 percent to the baseline ridership.

5.4.2 10 Townsend Route

The proposed project's High Residential Assumption would add 51 additional riders to the inbound 10 Townsend line and 68 riders to the outbound 10 Townsend line during the a.m. peak hour. The proposed project High Residential Assumption would add 72 additional riders to the inbound 10 Townsend line and 64 riders to the outbound 10 Townsend line during the p.m. peak hour. When the less than 5 percent

contribution that is considered less than significant under the significance threshold is subtracted, the High Residential Assumption impact would generate a need for an increase in transit capacity for 28 additional riders to the inbound 10 Townsend line and 51 riders to the outbound 10 Townsend line during the am peak hour. When the less than 5 percent contribution that is considered less than significant under the significance threshold is subtracted, the High Residential Assumption impact would generate a need for an increase in transit capacity 44 riders to the inbound 10 Townsend line and 48 riders to the outbound 10 Townsend line during the pm peak hour. As such, the proposed project would cause a substantial increase in the transit ridership of the 10 Townsend under both Scenarios. While there may be transit capacity by some nearby adjacent lines, this is not consistent throughout the entire 10 Townsend route and is based on origins and destinations of the transit user. Therefore, adjacent transit lines would not be considered to be able to fully accommodate the increase in transit demand associated with the proposed project.

The proposed project's High Commercial Assumption would add 55 additional riders to the inbound 10 Townsend line and 82 riders to the outbound 10 Townsend line during the am peak hour. The proposed project's High Commercial Assumption would add 84 additional riders to the inbound 10 Townsend line and 64 riders to the outbound 10 Townsend line during the pm peak hour. When the less than 5 percent contribution that is considered less than significant under the significance threshold is subtracted, the High Commercial Assumption impact would generate a need for an increase in transit capacity for 31 additional riders to the inbound 10 Townsend line and 65 riders to the outbound 10 Townsend line during the am peak hour. When the less than 5 percent contribution that is considered less than significant under the significance threshold is subtracted, the High Commercial Assumption impact would generate a need for an increase in transit capacity for 54 riders to the inbound 10 Townsend line and 48 riders to the outbound 10 Townsend line during the pm peak hour.

The 10-Townsend line under baseline conditions without the project exceeds Muni's 85 percent capacity utilization threshold. The proposed project's High Residential Assumption and High Commercial Assumption would increase ridership on the Muni 10 Townsend line in the am and pm peak hours that would result in more than a 5 percent contribution to exceedances of Muni's 85 percent capacity utilization threshold; this would be a ***significant impact***.

M-TR-4.1: Provide Fair-Share Contribution to Improve 10 Townsend Line Capacity

Upon completion and occupancy of Phase 1 of the proposed project and upon completion and occupancy of each subsequent phase as defined in the Development Agreement the project sponsor shall obtain from SFMTA the current ridership on the 10 Townsend and conduct an assessment of the capacity utilization at the screenline's Maximum Load Point (MLP) for weekday AM and PM peak hour conditions.

If the capacity utilization exceeds 85 percent, a fair share contribution payment shall be made to SFMTA by the project sponsor, calculated as further provided in a Transit Mitigation Agreement described below, and attached to or incorporated into the Development Agreement. Such payment shall be adjusted, as appropriate, to the extent, if any, that the proposed project reflects either the High Residential Assumption or High Commercial Assumption based upon all phases of the proposed project that have been completed up to such date. Accordingly, the fair share contributions by phase may differ by scenario because the number of transit riders varies due to different mixes of land use.

If the capacity utilization based on SFMTA's ridership data is less than 85 percent, then the project sponsor's fair share payment for that phase shall be $0 and the process will repeat at the next subsequent phase**.** Each subsequent fair share calculation shall take account of amounts paid for prior phases, to ensure that payments are not duplicative for the same transit rider impacts.

The project sponsor shall enter into a Transit Mitigation Agreement with the SFMTA pursuant to which the project sponsor will make a fair share contribution to the cost of providing additional bus service or otherwise improving service on the 10 Townsend. The fair share contribution as documented in the Transportation Impact Study for the proposed project shall not exceed the following amounts, in total across all phases:

a. $991,230 for High Commercial Assumption

b. $782,706 for High Residential Assumption

SFMTA will determine whether adding bus(es) or at other measures are more desirable to increase capacity along the route and will use the funds provided by the project sponsor to implement the most desirable measure, which may include but is not limited to the following measures:

1. Convert to using higher-capacity vehicles on the 10 Townsend route. In this case, the project sponsors fair share contribution may be utilized to convert the route to articulated buses. Some bus stops along the route may not currently be configured to accommodate the longer articulated buses. Some bus zones could be extended by removing one or more parking spaces at locations where appropriate space is available.

2. Instead of adding more buses to a congested route, increase travel speeds along the route which would allow for buses to move faster thus increasing efficiency and reliability. In this case, the project sponsor's fair share contribution may be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase travel speeds enough to increase capacity along the bus route. Such improvements could include transit only lanes, transit signal priority, and transit boarding improvements.

3. Increase capacity along the corridor by adding a new Muni service route in this area. If this option is selected, the project sponsor's fair share contribution may fund the purchase of the new vehicles

Implementing transit line improvements as identified in Mitigation Measure M-TR-4.1 are expected to allow Muni to maintain transit headways, and would reduce the proposed project's impact on the 10 Townsend to less-than-significant levels. However, because the method and total cost of providing additional service and SFMTA's ability to implement improvements is uncertain, the proposed project's impact would be considered to be ***significant and unavoidable with mitigation***.

The 10 Townsend is a top SFMTA priority, identified as part of Muni Forward. The SFMTA is committed to augmentation on this route as soon as feasible. The operations of the 10 Townsend Muni line can only be improved by increasing its capacity, transit frequency, and/or reducing delay through transit priority treatments along the line, which requires providing more buses serving this route or transit enhancements on the line. The SFMTA is committed to augmenting and maintaining the fleet and related facilities to ensure

service accommodates additional ridership on lines identified as having capacity impacts identified as capacity mitigation, subject to availability of funding and consistent with service priorities. While SFMTA has not at this time determined the method it would use to increase capacity on the 10 Townsend, SFMTA has determined that the cost of providing additional bus capacity or improving service is a reasonable method for determining the cost of mitigation. However, the method and total cost of providing additional service on this line is not known at this time. Also, SFMTA would be responsible for implementing improvements and its ability to do so is uncertain. Therefore, the effectiveness of fair-share mitigation is unknown.

5.4.3 Muni Project-Specific Cordon

The project-specific transit cordon was established to measure the number of transit trips between the proposed project and the San Francisco Financial District through the SOMA neighborhood. The project-specific cordon encompasses transit routes that cross Townsend Street, from Fifth Street to Embarcadero and/or from Fifth Street to between Townsend Street and Berry Street.

The project-specific cordon would operate at 44 percent utilization in the a.m. peak hour and 41 percent utilization in the p.m. peak hour under baseline conditions. The addition of riders from the proposed project would increase capacity utilization to the 47 to 49 percent range under the High Commercial Assumption and High Residential Assumption.

Capacity utilization for the four individual Muni routes that were evaluated (i.e., 30 Stockton, 45 Union/Stockton, N Judah, T Third) would range from 13 to 90 percent under baseline conditions. The addition of ridership from the proposed project would increase capacity utilization to a range of 16 to 102 percent under the High Commercial Assumption and High Residential Assumption. The 30 Stockton OB would operate at 102 percent utilization under the High Commercial Assumption in the p.m. peak hour, with the project causing an 11.2 percent increase in riders. This would be a ***significant impact*** on the 30 Stockton route under the High Commercial Assumption because the route would exceed 85 percent utilization, and the project would add more than 5 percent to the baseline ridership.

5.4.4 30 Stockton Route

The proposed project's High Commercial Assumption would add 54 additional riders to the outbound 30 Stockton line during the pm peak hour. When the less than 5 percent contribution that is considered less than significant under the significance threshold is subtracted, the High Commercial Assumption impact would generate a need for an increase in transit capacity for 32 additional riders to the outbound 30 Stockton line during the pm peak hour. As such, the proposed project would cause a substantial increase in the transit ridership of the 30 Stockton line under the High Commercial Assumption. While there may be transit capacity by some nearby adjacent lines, this is not consistent throughout the entire 30 Stockton route and is based on origins and destinations of the transit user. Therefore, adjacent transit lines would not be able to fully accommodate the increase in transit demand associate with the proposed project.

The 30 Stockton line under baseline conditions without the project exceeds Muni's 85 percent capacity utilization threshold. The proposed project's High Commercial Assumption would increase ridership on the Muni 30 Stockton line in the pm peak hours that would result in more than a 5 percent contribution to exceedances of Muni's 85 percent capacity utilization threshold; this would be a ***significant impact***.

M-TR-4.2: Provide Fair-Share Contribution to Improve 30 Stockton Line Capacity

Upon completion and occupancy of Phase 1 of the proposed project and upon completion and occupancy of each subsequent phase as defined in the Development Agreement, the project sponsor shall obtain from SFMTA the current ridership on the 30 Stockton and conduct an assessment of the capacity utilization at the Maximum Load Point (MLP) on the route between the proposed project and Market Street for weekday PM peak hour conditions.

If the capacity utilization exceeds 85 percent, a fair share contribution payment shall be made by the project sponsor, calculated as further provided in Transit Mitigation Agreement described below, and attached to or incorporated into the Development Agreement. Such payment shall be adjusted, as appropriate, to the extent, if any, that the proposed project reflects either the High Commercial Assumption or the High Residential Assumption, the latter of which does not require any fair share contribution. The fair share contributions differ by scenario because the number of transit riders varies due to different mixes of land use. If the capacity utilization based on SFMTA's ridership data is less than 85 percent, then the project sponsor's fair share payment for that phase shall be $0 and the process will repeat at the next subsequent phase. Each subsequent fair share calculation shall take account of amounts paid for prior phases, to ensure that payments are not duplicative for the same transit rider impacts.

The project sponsor shall enter into a Transit Mitigation Agreement with the SFMTA pursuant to which the project sponsor will make a fair share contribution to the cost of providing additional bus service or otherwise improving service on the 30 Stockton. The fair share contribution as documented in the Transportation Impact Study for the proposed project shall not exceed the following amounts, in total across all phases:

a. $417,691 for High Commercial Assumption

b. $0 for High Residential Assumption

SFMTA will determine whether adding bus(es) or other measures are more desirable to increase capacity along the route and will use the funds provided by the project sponsor to implement the most desirable measure, which may include but is not limited to the following measures:

1.Convert to using higher-capacity vehicles on the 30 Stockton route. In this case, the project sponsors fair share contribution may be utilized to convert the route to articulated buses. Some bus stops along the route may not currently be configured to accommodate the longer articulated buses. Some bus zones could be extended by removing one or more parking spaces at locations where appropriate space is available.

2.Instead of adding more buses to a congested route, increase travel speeds along the route which would allow for buses to move faster thus increasing efficiency and reliability. In this case, the project sponsor's fair share contribution may be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase travel speeds enough to increase capacity along the bus route. Such improvements could include transit only lanes, transit signal priority, and transit boarding improvements.

3.Increase capacity along the corridor by adding a new Muni service route in this area. If this option is selected, the project sponsor's fair share contribution may fund the purchase of the new vehicles.

Implementing transit line improvements as identified in Mitigation Measure M-TR-4.2 are expected to allow Muni to maintain transit headways, and would reduce the proposed project's impact on the 30 Stockton to less-than-significant levels. However, because the method and total cost of providing additional service and SFMTA's ability to implement improvements is uncertain, the proposed project's impact under the High Commercial Assumption would be considered to be ***significant and unavoidable with mitigation***.

The 30 Stockton is a top SFMTA priority, identified as part of Muni Forward. The SFMTA is committed to augmentation on this route as soon as feasible. The operations of the 30 Stockton Muni line can only be improved by increasing its capacity, transit frequency, and/or reducing delay through transit priority treatments along, which requires providing more buses serving this route or transit enhancements on the line. The SFMTA is committed to augmenting and maintaining the fleet and related facilities to ensure service accommodates additional ridership on lines identified as having capacity impacts identified as capacity mitigation, subject to availability of funding and consistent with service priorities. While SFMTA has not at this time determined the method it would use to increase capacity on the 30 Stockton, SFMTA has determined that the cost of providing additional bus capacity or improving service is a reasonable method for determining the cost of mitigation. However, the method and total cost of providing additional service on this line is not known at this time. Also, SFMTA would be responsible for implementing improvements and its ability to do so is uncertain. Therefore, the effectiveness of fair-share mitigation is unknown.

5.5 REGIONAL TRANSIT CAPACITY IMPACTS

5.5.1 High Residential Assumption

Development under the High Residential Assumption would generate 298 transit person-trips from the East Bay, 52 transit person-trips from the North Bay, and 265 transit person-trips from the South Bay in the inbound direction in the a.m. peak hour. In the outbound direction in the p.m. peak hour, the High Residential Assumption would generate 284 transit person-trips to the East Bay, 52 transit person-trips to the North Bay, and 271 transit person-trips to the South Bay. The East Bay regional transit screenline would exceed capacity utilization standards in the a.m. peak hour and p.m. peak hour under baseline conditions. The proposed project would increase ridership at the East Bay regional transit screenline by 1 percent in the a.m. peak hour and 1 percent in the p.m. peak hour. Although the BART line to the East Bay would exceed its capacity utilization threshold in the a.m. and p.m. peak hours, the proposed project would contribute less than 5 percent to total ridership on the East Bay regional screenline. Thus, the High Residential Assumption would result in a ***less-than-significant impact*** on regional transit service under baseline plus-project conditions. No mitigation is necessary.

TABLE 26: REGIONAL TRANSIT SCREENLINES – AM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Regional Screenline	Baseline (Inbound)			Baseline Plus Project (Inbound)		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
East Bay						
BART	28,000	25,680	**109%**	253	28,253	**110%**
AC Transit	1,596	2,829	56%	30	1,626	57%
Ferries	818	1,170	70%	15	833	71%
Screenline Total	*30,414*	*29,679*	***102%***	*298*	*30,712*	***103%***
North Bay						
Golden Gate Transit Bus	1,344	2,543	53%	31	1,375	54%
Ferries	1,088	1,959	56%	21	1,109	57%
Screenline Total	*2,432*	*4,502*	*54%*	*52*	*2,484*	*55%*
South Bay						
BART	16,000	21,400	75%	199	16,199	76%
Caltrain	2,258	3,100	73%	53	2,311	75%
SamTrans	266	520	51%	13	279	54%
Screenline Total	*18,524*	*25,020*	*74%*	*265*	*18,789*	*75%*
Regional Screenlines Total	*51,370*	*59,201*	*87%*	*615*	*51,985*	*88%*

Notes: **Bold** indicates capacity utilization of 100 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 27: REGIONAL TRANSIT SCREENLINES – PM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Regional Screenline	Baseline (Outbound)			Baseline Plus Project (Outbound)		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
East Bay						
BART	27,000	25,680	**105%**	242	27,242	**106%**
AC Transit	2,297	3,926	59%	28	2,325	59%
Ferries	813	1,615	50%	14	827	51%
Screenline Total	*30,110*	*31,221*	*96%*	284	30,394	*97%*
North Bay						
Golden Gate Transit Bus	1,399	2,817	50%	31	1,430	51%
Ferries	973	1,959	50%	21	994	51%
Screenline Total	*2,372*	*4,776*	*50%*	52	2,424	*51%*
South Bay						
BART	15,000	21,400	70%	203	15,203	71%
Caltrain	2,472	3,100	80%	54	2,526	81%
SamTrans	147	320	46%	14	161	50%
Screenline Total	*17,619*	*24,820*	*71%*	271	17,890	*72%*
Regional Screenlines Total	*50,101*	*60,817*	*82%*	607	50,708	*83%*

Notes: **Bold** indicates capacity utilization of 100 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

5.5.2 High Commercial Assumption

Development under the High Commercial Assumption would generate 354 transit person-trips from the East Bay, 67 transit person-trips from the North Bay, and 261 transit person-trips from the South Bay in the inbound direction in the a.m. peak hour. In the outbound direction in the p.m. peak hour, the proposed project would generate 332 transit person-trips to the East Bay, 65 transit person-trips to the North Bay, and 260 transit person-trips to the South Bay. The East Bay regional transit screenlines would exceed capacity utilization standards in the a.m. peak and p.m. peak hours under baseline conditions. The proposed project would increase ridership at the East Bay regional transit screenline by 2 percent in the a.m. peak hour and 2 percent in the p.m. peak hour. Although the BART line to the East Bay would exceed its capacity utilization threshold in the a.m. and p.m. peak hours, the proposed project would contribute less than 5 percent to total ridership on the East Bay regional screenline. Thus, the High Commercial Assumption would result in a ***less-than-significant*** impact on regional transit service under baseline plus-project conditions. No mitigation is necessary.

TABLE 27: REGIONAL TRANSIT SCREENLINES – AM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Regional Screenline	Baseline (Inbound)			Baseline Plus Project (Inbound)		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
East Bay						
BART	28,000	25,680	**109%**	301	28,301	**110%**
AC Transit	1,596	2,829	56%	35	1,631	58%
Ferries	818	1,170	70%	18	836	71%
Screenline Total	*30,414*	*29,679*	***102%***	*354*	*30,768*	***104%***
North Bay						
Golden Gate Transit Bus	1,344	2,543	53%	40	1,384	54%
Ferries	1,088	1,959	56%	27	1,115	57%
Screenline Total	*2,432*	*4,502*	*54%*	*67*	*2,499*	*56%*
South Bay						
BART	16,000	21,400	75%	196	16,196	75%
Caltrain	2,258	3,100	73%	52	2,310	75%
SamTrans	266	520	51%	13	279	54%
Screenline Total	*18,524*	*25,020*	*74%*	*261*	*18,785*	*75%*
Regional Screenlines Total	*51,370*	*59,201*	*87%*	*682*	*52,052*	*88%*

Notes: **Bold** indicates capacity utilization of 100 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 28: REGIONAL TRANSIT SCREENLINES – PM PEAK HOUR BASELINE AND BASELINE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Regional Screenline	Baseline (Inbound)			Baseline Plus Project (Inbound)		
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization
East Bay						
BART	27,000	25,680	**105%**	282	27,282	**106%**
AC Transit	2,297	3,926	59%	33	2,330	59%
Ferries	813	1,615	50%	17	830	51%
Screenline Total	*30,110*	*31,221*	*96%*	*332*	*30,442*	*98%*
North Bay						
Golden Gate Transit Bus	1,399	2,817	50%	39	1,438	51%
Ferries	973	1,959	50%	26	999	51%
Screenline Total	*2,372*	*4,776*	*50%*	65	2,437	51%
South Bay						
BART	15,000	21,400	70%	195	15,195	71%
Caltrain	2,472	3,100	80%	52	2,524	81%
SamTrans	147	320	46%	13	160	50%
Screenline Total	*17,619*	*24,820*	*71%*	*260*	*17,879*	*72%*
Regional Screenlines Total	*50,101*	*60,817*	*82%*	*657*	*50,758*	*83%*

Notes: **Bold** indicates capacity utilization of 100 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

5.6 TRANSIT DELAY IMPACTS

The following assessment addresses whether added project traffic could affect transit lines such as the T Third on Third Street by causing transit delays due to intersection congestion or due to queues of vehicle traffic at intersections and/or at entrances to the two proposed parking garages.

The proposed project would include an aboveground parking structure on Block D2 with 2,300 spaces as well as an underground parking structure with 700 parking spaces under Mission Rock Square. A traffic signal would be installed at the new intersection of Third Street/Exposition Street, with all movements allowed including the southbound left turn under non-event conditions. During Giants games and other major events at AT&T Park, southbound left-turn movements for vehicles would be restricted.

The Mission Rock Square underground garage would have a ramp with a single inbound and a single outbound lane connecting to the Third Street/Channel Street intersection on the west side of the garage and a ramp with a single outbound lane connecting to the Terry A. Francois Boulevard/Channel Lane intersection on the east side of the garage. The ramp and single outbound lane to the Terry A. Francois Boulevard/Channel Lane intersection on the east side of the garage would be closed at all times, except during a Giants game or major event at AT&T Park. Attendees at Giants games or major AT&T Park events would not park in the underground garage. During events, the exit ramp on the east side of the garage would be open to allow non-event parkers in the underground garage to exit onto Terry A. Francois Boulevard and thereby reduce traffic volumes on Third Street.

The Block D2 parking structure would have six access points: two driveways on the north side of Mission Rock Street, two driveways on the west side of Bridgeview Street, and two driveways on the south side of Long Bridge Street. A total of 2,000 of the 2,300 spaces in the Block D2 garage would be reserved for use by Giants game attendees on game days. The westernmost driveway on Mission Rock Street and the southernmost driveway on Bridgeview Street to the Block D2 garage would be closed prior to Giants games. Under post-game conditions, the westernmost driveway on Mission Rock Street and the northernmost driveway on Bridgeview Street to the Block D2 garage would be closed. PCOs would be present at the following six locations in and/or adjacent to the project site to manage the flow of vehicles and pedestrians before and after a Giants game:

- Mission Rock Street at westernmost Block D2 garage driveway, Bridgeview Street intersection, and Terry A. Francois Boulevard intersection
- Long Bridge Street at westernmost Block D2 garage driveway and Bridgeview Street intersection
- Exposition Street at Shared Public Way crossing

About half of the vehicle trips to and from the project site from the north are forecast to use Third Street, Fourth Street, and Embarcadero to access the project garages at Channel Street and Mission Rock Street. Rail lines on these streets, including the N Judah line, operate in an exclusive right-of-way. Bus Route 55, which currently operates along 16th Street and Third Street, and the future 22 Fillmore extension (which will replace the 55 when completed) will be served in the future by dedicated transit lanes on 16th Street. The multiple bus routes along Third Street, between Townsend Street and Howard Street at the north end of the study area, are served by an existing exclusive bus lane on Third Street. No transit service is currently provided on Mariposa Street between Third Street and US 101. Because transit lines that are forecast to be most heavily used by project vehicle trips are located along the streets that include dedicated transit lanes under baseline conditions, the project would have a **less than significant impact** on transit delay on the aforementioned routes, based on added vehicle trips.

The queuing assessment for the Mission Rock Square underground garage and the Block D2 aboveground garage was performed for three time periods: the a.m. peak hour, the p.m. peak hour, and the 5:00–6:00 p.m. peak hour with a weekday evening Giants game at AT&T Park. The analysis results were similar for the High Residential Assumption and the High Commercial Assumption because the number of vehicle trips generated by the two scenarios is similar.

The garage queue assessment is based on inbound service flow rates for the garage driveways, ranging from 300 to 800 vehicles per hour per lane, depending on the mix of users and the proposed type of parking control. An entering service flow rate of 300 vehicles per hour is the design hourly capacity for a driveway where cash is accepted, 520 vehicles per hour for a ticket dispenser with a gate, and a higher rate of 800 vehicles per hour for an express driveway with automatic vehicle identification, resulting in an hourly service rate combined of 900 vehicles per hour for the driveway with three entrance lanes on Mission Rock Street that would accept cash and 800 vehicles per hour for the express driveway for season ticket holders with parking passes on Bridgeview Street.

The parking garage under Mission Rock Square would be accessed via the Third Street/Channel Street intersection on the west and the Terry A. Francois Boulevard/Channel Lane intersection on the east. Because the single outbound lane to the Terry A. Francois Boulevard/Channel Lane intersection would be closed at all times, except during a Giants game or major event at AT&T Park, the queue evaluation for the Mission Rock Square underground garage focused on the potential effect of queues on the Third Street/Channel

Street intersection. There would be storage capacity for approximately eight inbound vehicles on the ramp from the Third Street/Channel Street intersection down to the underground garage entry/exit gates. This queue storage length would be enough to serve queues during all study periods without affecting Third Street. As such, the Mission Rock Square underground garage queuing would not substantially delay transit.

The Block D2 aboveground garage would have two driveways on Mission Rock Street, two driveways on Long Bridge Street, and two driveways on Bridgeview Street. The easternmost driveway on Mission Rock Street would have three lanes, each of which could be modified as needed throughout the day to serve either inbound or outbound flows; all other driveways would have two lanes that could be modified throughout the day to serve either inbound or outbound flows. The directionality of the parking garage driveway lanes would be modified during pre-event and post-event conditions, when most of the driveway lanes would be modified to serve inbound flows during pre-event conditions and most would be modified to serve outbound flows during post-event conditions. The queue assessment focuses on the potential effect of queues resulting from inbound vehicles accessing the Block D2 aboveground garage as well as the effect of queues on the approaches to the Third Street/Mission Rock Street intersection on the operation of the T Third line on Third Street and Channel Street.

During the a.m. peak hour, queues for the eastbound left turn into the westernmost driveway on Mission Rock Street (i.e., the driveway closest to Third Street) would extend beyond the 60 feet of available queue space between the westernmost driveway and Third Street and could delay operations of the T Third line. Based on the proposed driveway configurations (i.e., time-specific driveway closures and number of inbound vs. outbound lanes) and the proposed type of driveway parking control for the Block D2 garage, queues would not extend west to Third Street during the p.m. peak hour or during a weekday p.m. peak hour prior to a Giants game. Maximum westbound queues at the Third Street/Mission Rock Street traffic signal would extend up to 250 feet during the a.m. peak hour, providing a potential barrier for eastbound left turn movements into the westernmost driveway (which would have a Keep Clear Zone) on Mission Rock Street and exacerbating queue lengths. Maximum westbound queues at the Third Street/Mission Rock Street traffic signal would extend up to 730 feet during the p.m. peak, potentially blocking access at times to the easternmost driveway on Mission Rock Street, which does not have a Keep Clear zone. The queue impacts at the Mission Rock Street driveways for the Block D2 garage would cause a significant transit delay impact during the a.m. peak hour. Queues impacts may also occur during the p.m. peak hour, not due to capacity constraints of the parking garage driveways, but due to the potential for queues of westbound traffic on Mission Rock Street (i.e., from the traffic signal at Third Street/Mission Rock Street) blocking access to garage driveways.

The queue in the southbound left-turn pocket at the Third Street/Mission Rock Street intersection would exceed the length of the existing left-turn pocket during the a.m. peak hour and during peak events. The current left-turn pocket length is approximately 125 feet. The maximum left-turn queue length for the study scenarios is 325 feet. During the a.m. peak hour, vehicles destined for the southbound left-turn pocket would queue into the southbound through lanes of Third Street since the left turn pocket length is currently not adequate to serve the left turn demand with proposed project traffic levels. Queues in the left-turn pocket that extend into the through lane could extend the overall southbound queue beyond approximately 425 feet and could affect the T Third line at the Third Street/Channel Street intersection. The queue impacts at the southbound left-turn lane at the Third Street/Mission Rock Street intersection would cause a ***significant impact*** to transit delay during the a.m. peak hour.

M-TR-6.1: Parking Garage and Intersection Queue Impacts on Transit Delay

A. The westernmost driveway on Mission Rock Street (i.e., closest to Third Street) shall be restricted to right-in, right-out access and closed during large AT&T Park events. Restricted access could be accomplished by placing signage as well as delineators of a sufficient length between the westbound through and left-turn lanes on Mission Rock Street to block left-turn access to the driveway.

B. A "keep clear" zone shall be provided in front of the easternmost driveway on Mission Rock Street (i.e., closest to Bridgeview Street) to prevent westbound queues at the Third Street/Mission Rock traffic signal from blocking inbound access to the driveway.

C. The southbound left-turn lane at the Third Street/Mission Rock Street intersection shall be restriped to extend the length of the left-turn lane to 350 feet. Advance traffic signal detection equipment shall be installed at the end of the newly striped left-turn pocket to detect when queues fill up the left-turn pocket and extend north to the end of the pocket near the Third Street/Channel Street intersection, allowing additional green time to be allocated to the southbound left-turn movement at the Third Street/Mission Rock Street traffic signal.

D. Wayfinding signs including Static and Variable Message Signs will be installed to provide directions to the parking garages and to provide traffic alerts, messages, and alternate driving routes for drivers traveling to the Block D2 aboveground garage, to destinations in the vicinity, or through the area. Four High Visibility Static Signs will be installed, three on the approaches to the Third Street/Mission Rock Street intersections (for southbound, eastbound and northbound directions) and one for northbound drivers on Terry A. Francois Boulevard, south of Mission Rock Street. One permanent Variable Message Sign shall be installed for southbound drivers on Third Street, between King Street and Berry Street.

E. The project sponsor shall enter into an Event Mitigation Agreement with the SFMTA that provides for Parking Control Officers (PCOs) to manage traffic within the project site and adjacent to the proposed project's parking garages and Exposition Street (between Third Street and the Shared Public Way) during all AT&T Park events and on-site events with 15,000 or more attendees.

F. The site's TDM coordinator shall be a member of the Mission Bay Ballpark Transportation Coordination Committee and provide notification prior to the start of any on-site event that would overlap with an event at AT&T Park or the Warriors arena.

G. Traffic destined for the proposed project's parking garages will be monitored by the owner/operator during all AT&T Park events and on-site events with 15,000 or more attendees, and periodically during weekday a.m. and p.m. peak hours, to ensure that garage access queues do not affect operations of the T Third transit line. Action will be taken by the Mission Rock Transportation Coordinator, onsite transportation staff, parking garage management staff, event staff, and/or PCOs assigned to event traffic management to implement real-time traffic management strategies (i.e., alternative traffic routing, temporal parking pricing, enhanced garage driveway controls, etc.) to reduce vehicle garage access queues so they do not affect operations of the T Third line.

H. If the SFMTA Director, or his or her designee, receives information that a recurring queue that could affect the operation of the T Third line is imminent or present, SFMTA shall notify the property owner in writing. Upon request, the owner/operator shall hire a qualified transportation consultant to evaluate the conditions at the site for no less than 7 days. The consultant shall prepare a monitoring report to be submitted to SFMTA for review. If SFMTA determines that a recurring queue does exist, the facility owner/operator shall have 45 days from the date of the written determination to abate the excessive recurring queue. Approaches to queue abatement could include but are not limited to: changing parking access and revenue collection system (PARCS) technology to process vehicles more rapidly, adjusting the layout of the garage's ground floor to accommodate more queuing vehicles within the garage, implementing peak-period surge pricing to encourage garage access and egress outside of times with recurrent excessive queues; installing additional variable message signage further upstream from the site to direct drivers to garage access routes away from affected intersections; and/or closing, limiting or controlling Mission Rock Street access from Third Street during times with excessive recurrent queuing and redirecting garage-bound traffic to Terry A. Francois Boulevard.

Implementation of Mitigation Measure M-TR-6.1 would resolve transit delay impacts to being less than significant. However, at this time, the approval of the improvements listed in Mitigation Measure M-TR-6.1 is considered somewhat uncertain, because they will require SFMTA Board approval. Thus, based upon such current uncertainty of full implementation of Mitigation Measure M-TR-6.1, the proposed project's transit delay impacts would be considered to remain ***significant and unavoidable with mitigation***.

5.7 PEDESTRIAN HAZARD IMPACTS

Pedestrian Improvements

The following assessment of pedestrian conditions initially addresses on-site pedestrian facilities and subsequently addresses off-site pedestrian facilities. The evaluation considers whether the proposed pedestrian facilities would be adequate with respect to accommodating pedestrian trips and whether any conditions that would be hazardous to pedestrians would be created. The analysis of pedestrian impacts also considers whether the addition of project vehicle trips would have an impact on the pedestrian network. The assessment of potential hazards on the pedestrian network focuses on whether vehicle queues generated by project vehicle trips to the project's parking garages would affect pedestrians at intersections and garage access points.

5.7.1 Pedestrian Hazards

The proposed project includes numerous sidewalk network and traffic control improvements that would improve and define the pedestrian environment adjacent to the project site. The project proposes several new internal streets that will enhance walkability including pedestrian paseos, which restrict nonemergency vehicle access, as well as a Shared Public Way, a multimodal zone which prioritizes safe pedestrian movement per the San Francisco Better Streets manual. Twelve- to 15-foot-wide sidewalks are proposed throughout the site, including new internal streets and the existing streets on the project perimeter. The proposed sidewalk network will comply with City standards for sidewalks on residential streets per the San Francisco Better Streets Plan and will accommodate the pedestrian trips generated by the project. All new sidewalks would include new landscaping on all streets to improve the pedestrian experience.

As presented in **Tables 18 and 19** the proposed project would generate 1,572 non-auto, non-transit trips in the a.m. peak hour and 2,678 during the weekday p.m. peak hour with the High Residential Assumption. The proposed project would generate 1,705 non-auto, non-transit trips in the a.m. peak hour and 2,816 during the weekday p.m. peak hour with the High Commercial Assumption. Many of these trips will be pedestrian trips. In addition, the proposed project would generate 2,451 transit trips in the a.m. peak hour and 2,768 transit trips in the p.m. peak hour with the High Residential Assumption. The proposed project would generate 2,635 transit trips in the a.m. peak hour and 2,841 transit trips in the p.m. peak hour with the High Commercial Assumption. Many of the transit trips also end or begin with a walking trip to get to or from the transit stop. Non-auto, non-transit trips include walking as well as bicycle, motorcycle, taxi, and other transportation modes as well as internal trips.

Pedestrian trips generated by the proposed project would include walking trips to and from the local and regional transit stops, as well as walking trips to and from nearby complementary land uses, including AT&T Park. A significant number of pedestrian trips would also be between the on-site parking structures and internal project uses as well as AT&T Park and other events at the site.

Trips from BART and Muni would arrive at the project site primarily from the T-Third light-rail line, providing direct access to Market Street via the Central Subway. The T-Third station at Third Street and Mission Rock Street would serve the project site directly. The most direct route for pedestrians walking between project uses and this stop would be via Third Street, Long Bridge Street, and the Shared Public Way. The existing traffic signal at Third Street and Mission Rock Street would provide pedestrian phases, allowing for the safe passage of pedestrians between the median stop and the east side of Third Street. Enhanced pedestrian crosswalks would be installed on Third Street at the intersections of Mission Rock Street and Long Bridge

Street. The project would construct a landscaped 12-foot-wide sidewalk on the east side of Third Street between Mission Rock Street and the Third Street Bridge as well as 15-foot-wide sidewalks on both sides of Long Bridge Street.

The Shared Public Way would be a north–south pedestrian promenade, designed to connect Long Bridge Street and the 2,300-space Block D2 garage at the southern end of the project site to the planned China Basin Park and the Third Street Bridge across China Basin, which provides access to events at AT&T Park and the SOMA neighborhood. No driveways would be located along the Shared Public Way. Raised intersections, designed to facilitate north–south pedestrian travel along the Shared Public Way, would be constructed at the junction of the Shared Public Way with stop-controlled intersections at Long Bridge Street and Exposition Street. Vehicle traffic, with the exception of emergency vehicles, would be prohibited along the Shared Public Way during major events at AT&T Park.

An event at the China Basin Park Great Lawn or Mission Rock Square, which could have up to 5,000 attendees, would result in pedestrians walking from the north over the Lefty O'Doul/Third Street Bridge or through the project site from the T Third light-rail stop at Third Street and Mission Rock Street. Pedestrians walking between the Great Lawn and the T Third light-rail stop would walk primarily along Third Street, Long Bridge Street, the Shared Public Way, and Bridgeview Street. Bridgeview Street, a north–south neighborhood street, would have a 12-foot-wide sidewalk on the west side and a 14-foot-wide sidewalk on the east side. No driveways would be located along the section of Bridgeview Street between Long Bridge Street and China Basin Park. Vehicle traffic, with the exception of emergency vehicle access, would be prohibited along the Shared Public Way for big events at the Great Lawn or Mission Rock Square.

The proposed project would include an underground parking structure with 700 parking spaces under Mission Rock Square and an aboveground parking structure on Block D2 with 2,300 spaces. The proposed project may include up to 100 additional parking spaces within the proposed buildings (approximately 10 spaces per block), which would be dispersed throughout the site. Channel Street would have a 12-foot-wide pedestrian throughway and plaza on either side of a vehicle ramp leading to the 700-space underground Mission Rock Square garage.

The Block D2 parking structure would have six access points: two driveways on the north side of Mission Rock Street, two driveways on the west side of Bridgeview Street, and two driveways on the south side of Long Bridge Street. Five of the six driveways would have two lanes, with a width of approximately 25 feet. The easternmost driveway on Mission Rock Street would have three lanes, with a width of approximately 35 feet.

Most pedestrians traveling to and from the Block D2 parking structure would use the elevator bank on the north side of the parking structure to exit onto Long Bridge Street, would cross Long Bridge Street at the Shared Public Way, and then walk along the Shared Public Way or Bridgeview Street to reach project uses located north of the garage. Pedestrians who use these routes would not cross the parking garage driveways and, thus, would avoid conflicts with autos when entering or exiting the garage. Pedestrians who exit the elevator banks and travel to the east or west on the south side of Long Bridge Street would cross one of the two-lane driveways located on Long Bridge Street. Pedestrians who use the stairwells in the northwest and southeast corners of the parking structure would be in proximity to access points and could cross one or more garage driveways to reach their destinations.

The pedestrian-related features of the proposed project would not result in hazardous pedestrian conditions or present barriers to pedestrian accessibility, based on a review of the cross sections and conceptual plans provided in the Mission Rock Design Controls document.

The quantitative parking garage queue analysis described previously in the transit section indicates that queues from the underground parking structure under Mission Rock Square would not extend west to Third Street under any of the study scenarios. The analysis described previously in Impact TR-3 indicates that queues from the easternmost driveway on Long Bridge Street would extend into the adjacent Long Bridge Street/Bridgeview Street intersection and cause a pedestrian hazard. The analysis described previously in Impact TR-4 indicates that the queue from the westernmost driveway on Mission Rock Street would extend into the adjacent Third Street/Mission Rock Street and cause a pedestrian hazard. The above hazards caused by vehicle queues for pedestrians would be a ***significant impact***.

With implementation of Mitigation Measures M-TR-3.1 and M-TR-6.1, vehicle impacts on pedestrians generated by project trips to the project's parking garage would be reduced to ***less-than-significant*** levels.

Although the number of pedestrian crossings at the garage driveways would be small, based on the garage configuration and location of adjacent uses, design features should be provided at the garage driveways to provide for safe crossings. The design of the garage vehicle access points, pedestrian access points, and surrounding streets would minimize the potential for pedestrian/vehicle conflicts. Improvement Measure I-TR-7 would further enhance pedestrian safety at garage entrances.

I-TR-7.1: Garage Access – Pedestrian Design Features

During the final design process for the parking facilities and the pedestrian realm of adjacent streets, improvements should be designed for the safe interface of vehicles and pedestrians at parking facility driveways. This design should include adequate sight distance, signing, striping, warning devices, and lighting.

5.8 PEDESTRIAN CAPACITY IMPACTS

Third Street and Fourth Street would be the primary routes for pedestrians traveling from off-site locations to and from the proposed project. Pedestrians would walk from local and regional transit stops, including Caltrain, BART, Muni, and MBTMA facilities. Pedestrians who walk to and from the Fourth and King Caltrain station, less than 0.5 mile from the project site, would use primarily Fourth Street and Channel Street. Sidewalks, approximately 12 feet wide, exist on both sides of those streets to provide a connection to the site. This section evaluates pedestrian capacity on key off-site locations including the Fourth Street Bridge, the Third Street Bridge, and the Fourth Street/King Street intersection.

Table 29 and **Table 30** present pedestrian volumes and pedestrian LOS at the crosswalks of the intersection of Fourth and King Streets, as well as the two bridges over Mission Creek, for the a.m., p.m. without Giants game, and p.m. with Giants game peak periods with additional pedestrian volumes generated by the proposed project under both land use assumptions. All locations operate at LOS D or better under all baseline plus-project scenarios. As noted previously under Pedestrian Facilities, the intersection of Fourth and King Streets is not evaluated for the p.m. peak hour with a Giants game as the intersection is controlled by a police officer during events at AT&T Park. During crush pre-event and post-event flows, pedestrians often travel outside the marked crosswalk areas, whose dimensions are the basis for the pedestrian level of service assessments. The proposed project would have a ***less-than-significant*** impact on pedestrian LOS

because LOS D or better conditions would occur under all baseline plus-project scenarios, at all evaluated intersections.

5.9 PEDESTRIAN SAFETY IMPACTS AT UNSIGNALIZED INTERSECTIONS

The proposed project would increase traffic volumes on Fourth Street and would result in new pedestrian trips where pedestrians cross Fourth Street. As a result, the proposed project could have significant impacts on pedestrian safety. Proposed project effects would be primarily from new peak-hour vehicle trips and event trips traveling to and from the project site, resulting in an increase in the number of vehicles traveling through unsignalized intersections on Fourth Street at Mission Rock Street and Fourth Street at Long Bridge Street, primarily to access the Block D2 parking garage on Mission Rock Street. The High Residential Assumption would result in approximately 2,678 "other" person-trips during the p.m. peak hour; the High Commercial Assumption would result in approximately 2,786 "other" person-trips during the p.m. peak hour. Some of these "other" person-trips would be pedestrian trips that would utilize Fourth Street. This increase in the number of vehicles and pedestrians from the project site may create potentially hazardous conditions for pedestrians while attempting to cross the street along these unsignalized intersections, which would be a ***significant impact***.

> ***M-TR-9.1: Install Traffic Signals and Related Intersection Improvements at Unsignalized Intersections on Fourth Street at Mission Rock Street and Long Bridge Street***
>
> Prior to issuance of approval of the third building site permit, but in no event later than the site permit for the Block D2 parking garage, the project sponsor shall provide funding to SFMTA, for a maximum amount of $1 million for SFMTA to design and construct (1) a traffic signal at the intersection of Fourth Street/Long Bridge Street and (2) a traffic signal at the intersection of Fourth Street/Mission Rock Street. These improvements should be constructed by SFMTA prior to opening of the Block D2 parking garage.

Mitigation measure M-TR-9.1 would provide traffic signals with pedestrian indications at the unsignalized intersections of Fourth Street/Mission Rock Street and Fourth Street/Long Bridge Street. Northbound and southbound vehicles traveling along Fourth Street do not have stop control at these two intersections. The provision of traffic signals would allow pedestrians to cross Fourth Street while northbound and southbound vehicle traffic is stopped.

Implementation of Mitigation Measure M-TR-9.1 would fully resolve pedestrian safety impacts such that such impacts would be less than significant. However, at this time, the approval of the signalization improvements is considered somewhat uncertain, because they will require SFMTA Board approval. Thus, because implementation of Mitigation Measure M-TR-9.1, is uncertain to such extent, the proposed project's pedestrian safety impacts would at this time continue to be considered ***significant and unavoidable with mitigation***.

TABLE 29: PEDESTRIAN CROSSWALK/SIDEWALK LEVEL OF SERVICE – AM PEAK HOUR

Analysis Locations	Baseline Conditions			Baseline Plus Project Conditions – High Commercial Assumption			Baseline Plus Project Conditions – High Residential Assumption		
	Pedestrians per Hour	Level of Service		Pedestrians per Hour	Level of Service		Pedestrians per Hour	Level of Service	
		Measure of Effectiveness	LOS		Measure of Effectiveness	LOS		Measure of Effectiveness	LOS
Fourth Street / King Street[1]									
North	505	82	A	1,263	31	B	1,212	33	C
South	220	110	A	550	43	A	528	45	B
East	296	119	A	740	47	A	710	49	B
West	1,034	47	B	2,585	18	D	2,482	19	D
Third Street Bridge (Lefty O'Doul Bridge) [2]									
East	131	0.5	B	327	1.4	B	314	1.3	B
West	75	0.3	A	187	0.7	B	180	0.7	B
Fourth Street Bridge[2]									
East	50	0.2	A	126	0.5	B	120	0.5	B
West	145	0.5	B	363	1.4	B	348	1.3	B

Notes:

Bold indicates crosswalk operations at LOS E or LOS F.

1. Square feet per pedestrian.
2. Pedestrians per minute per foot. The LOS is presented for "platoon" conditions, which represent the conditions when pedestrians are walking together in a group.

Source: Fehr & Peers, 2015

TABLE 30: PEDESTRIAN CROSSWALK/SIDEWALK LEVEL OF SERVICE – PM PEAK HOUR WITHOUT GIANTS GAME

Analysis Locations	Baseline Conditions			Baseline Plus Project Conditions – High Commercial Assumption			Baseline Plus Project Conditions – High Residential Assumption		
	Pedestrians per Hour	Level of Service		Pedestrians per Hour	Level of Service		Pedestrians per Hour	Level of Service	
		Measure of Effectiveness	LOS		Measure of Effectiveness	LOS		Measure of Effectiveness	LOS
Fourth Street / King Street[1]									
North	695	69	A	1,738	26	C	1,668	28	C
South	761	46	B	1,902	17	D	1,826	18	D
East	678	65	A	1,695	25	C	1,627	26	C
West	1,648	38	C	3,296	18	D	3,131	19	D
Third Street Bridge (Lefty O'Doul Bridge) [2]									
East	209	0.8	B	523	2.0	B	502	1.9	B
West	120	0.5	A	300	1.2	B	288	1.2	B
Fourth Street Bridge[2]									
East	19	0.1	A	47	0.2	A	46	0.2	A
West	213	0.8	B	533	1.9	B	511	1.8	B

Notes:

Bold indicates crosswalk operations at LOS E or LOS F.

1. Square feet per pedestrian.
2. Pedestrians per minute per foot. The LOS is presented for "platoon" conditions, which represent the conditions when pedestrians are walking together in a group.

Source: Fehr & Peers, 2015

TABLE 31: PEDESTRIAN CROSSWALK/SIDEWALK LEVEL OF SERVICE – PM PEAK HOUR WITH GIANTS GAME

Analysis Locations	Baseline Conditions			Baseline Plus Project Conditions – High Commercial Assumption			Baseline Plus Project Conditions – High Residential Assumption		
	Pedestrians per Hour	Level of Service		Pedestrians per Hour	Level of Service		Pedestrians per Hour	Level of Service	
		Measure of Effectiveness	LOS		Measure of Effectiveness	LOS		Measure of Effectiveness	LOS
Third Street Bridge (Lefty O'Doul Bridge) [1]									
East	907	3.4	C	2,267	8.5	D	2,176	8.2	D
West	125	0.5	B	313	1.3	B	300	1.3	B
Fourth Street Bridge[1]									
East	28	0.1	A	70	0.3	A	67	0.3	A
West	205	0.8	B	513	2.0	B	492	2.0	B

Notes:

Bold indicates crosswalk operations at LOS E or LOS F.

1. Pedestrians per minute per foot. The LOS is presented for "platoon" conditions, which represent the conditions when pedestrians are walking together in a group.

Source: Fehr & Peers, 2015

5.10 BICYCLE IMPACTS

The following assessment of bicycle conditions considers whether the project would create any conditions hazardous to cyclists. The assessment of potential safety impacts on the bicycle network includes whether vehicle queues generated by project vehicle trips to the project's parking garages would affect cyclists at intersections and garage access points. The analysis of bicycle impacts also considers whether the addition of project vehicle trips would have an impact on the bicycle network.

5.10.1 Bicycle Hazards

The proposed project would provide two major north–south bicycle routes within the site, improving accessibility by providing connections between the Lefty O'Doul/Third Street Bridge over China Basin and the Blue Greenway along Terry A. Francois Boulevard south of Mission Rock Street, as shown in **Figure 4**. In addition, northbound cyclists would be able to bypass China Basin Park via a Class II bicycle lane on westbound Exposition Street and northbound Third Street. For internal circulation within the project site, cyclists would share the travel lane with trucks and autos within the shared zone on Terry A. Francois Boulevard and the Shared Public Way as well as the travel lanes on Long Bridge Street and the eastbound lane of Exposition Street.

As presented in **Tables 17** and **18**, the proposed project would generate 1,572 non-auto, non-transit trips in the a.m. peak hour and 2,678 during the weekday p.m. peak hour with the High Residential Assumption. The proposed project would generate 1,705 non-auto, non-transit trips in the a.m. peak hour and 2,816 during the weekday p.m. peak hour with the High Commercial Assumption. Many of these trips will be bicycle trips. Non-auto, non-transit trips include bicycle, pedestrian, motorcycle, taxi, and other transportation modes as well as internal trips.

Bicycle travel for an event at the China Basin Park Great Lawn or Mission Rock Square, which could have up to 5,000 attendees, would occur primarily via the Lefty O'Doul/Third Street Bridge from the north or through the project site from the south via the Blue Greenway, located along Terry A. Francois Boulevard. Bike valet facilities would be located just southeast of the Great Lawn, immediately adjacent to the Blue Greenway, for major events.

The access points and driveways to parking garages could create conflicts with cyclists. With respect to Mission Rock Square underground parking structure, because there are no existing or proposed bicycle facilities along Channel Street west of Third Street or along Third Street at Channel Street where the primary garage driveway ramp is located, and the cycle track on the east side of Terry A. Francois is on the opposite side of the street from the exit ramp on the east side of the garage and buffered by a three-foot-wide barrier, as such effects on cyclists due to the Mission Rock Square underground parking structure would be minimal. The Block D2 parking structure would have six access points: two driveways on the north side of Mission Rock Street, two driveways on the west side of Bridgeview Street, and two driveways on the south side of Long Bridge Street. The major bicycle facilities through the project site include the cycle track along the east side of Bridgeview Street and the Blue Greenway along the east side of Terry A. Francois Boulevard. The Block D2 parking structure access points on Bridgeview Street would be on the west side of the street; vehicle access to these driveways would not conflict with cyclists in the protected cycle track on the east side of the street. Long Bridge Street would have a designated Class III shared bicycle route along the north side of the Block D2 parking structure. The Block D2 parking structure access points on Long Bridge Street would be located on both sides of the intersection of Long Bridge Street and the Shared Public Way, which would be all-way stop controlled with a raised design. The proposed project's raised intersection design and stop control on Long Bridge Street would mean that traffic on Long Bridge Street would travel at slow speeds adjacent to the garage driveway.

The analysis described previously indicates that queues from the easternmost driveway on Long Bridge Street would extend into the adjacent Long Bridge Street/Bridgeview Street intersection and cause a bicycle hazard. The analysis also indicates that the queue from the westernmost driveway on Mission Rock Street would extend into the adjacent Third Street/Mission Rock Street and cause a bicycle hazard. The above hazards caused by vehicle queues for pedestrians would be a ***significant impact***.

With implementation of Mitigation Measures M-TR-3.1 and M-TR-6.1, vehicle impacts on bicycles generated by project trips to the project's parking garage would be reduced to ***less-than-significant*** levels.

A total of 38 trucks would use Exposition Street and Terry A. Francois Boulevard each day to access Pier 48. Trucks accessing Pier 48, that are a maximum size of WB-67, would cross the Blue Greenway. Only trucks servicing Pier 48 and emergency vehicles would be able to access Pier 48 and cross the Blue Greenway. Large WB-67 trucks accessing Pier 48 from Terry A. Francois Boulevard would need to back into the Pier 48 valley, based on the proposed driveway design, and would do so by making a three point turn at the intersection of Terry A. Francois Boulevard and Exposition Street. The movement of trucks backing into Pier 48 across the Blue Greenway along the east side of Terry A. Francois Boulevard could result in hazards with cyclists. This would be a ***significant impact***.

M-TR-10.1: Bicycle-Truck Interface at Pier 48

The project shall construct a highly visible crossing treatment across the driveway as well as bollards and detectable warning pavers that satisfy ADA requirements at the Pier 48 driveway's beginning and

end locations along the Blue Greenway path to warn cyclists and pedestrians of the upcoming driveway crossing.
The project shall provide a traffic control staff at the junction of the Blue Greenway and the driveway to the Pier 48 valley during deliveries to manage bicycle and truck traffic. A flagger shall be provided to manage bicycle and pedestrian travel along the Blue Greenway at the Pier 48 valley driveway whenever trucks back into Pier 48.

With implementation of Mitigation Measure M-TR-10.1, the proposed project would reduce hazards to bicycle circulation within the project site. The impact would be reduced to ***less-than-significant*** levels.

Although the potential for conflict would be low, based on the garage access locations and slow vehicle speeds on Long Bridge Street, design features should be provided on Long Bridge Street at the garage driveways to provide good visibility for vehicles when exiting the garage. The design of the garage vehicle access points, bicycle facilities, and surrounding streets would minimize the potential for bicycle/vehicle conflicts. Improvement Measure I-TR-10.1 would further enhance vehicle/bicycle safety at the Long Bridge Street garage entrance.

I-TR-10.1: Garage Access – Bicycle-Vehicle Design Features

During the final design process for Long Bridge Street, adequate sight distance should be provided through a combination of signing, striping, and lighting improvements, which should be designed for the safe interface of vehicles and cyclists at the two Block D2 parking facility driveways.

5.10.2 Bicycle Parking

The project would provide a variety of permanent bicycle storage options, including a network of spaces in public areas and conveniently located secure spaces inside the site's residential and office buildings. The High Residential Assumption would provide 2,090 Class I bicycle parking facilities and 692 Class II bicycle racks. The High Commercial Assumption would provide 1,715 Class I bicycle parking facilities and 675 Class II bicycle racks. Bike parking facilities could be located on the ground-floor or basement level of project buildings, as well as throughout the district, in accordance with the Mission Rock SUD and Design Controls, including in plaza areas, building entries, and open space. Lockers and showers would also be provided to encourage cycling. Furthermore, the proposed project would set aside space for at least one Bay Area Bike Share dock to facilitate onsite bike sharing and include bicycle maintenance spaces for residents and employees. The level of bicycle activity in relation to the supply of on-street bicycle facilities would be similar to most other comparable areas in San Francisco.

The City of San Francisco Planning Code Section 155.2 specifies the requirements for bicycle parking in new developments. **Table 32** summarizes the requirements for the land uses in the Proposed Project. Class 1 bicycle parking can include bicycle lockers, check-in facilities, monitored parking, or other types of restricted-access parking area. Class 2 bicycle parking typically refers to publicly available bicycle racks for short-term use.

TABLE 32: BICYCLE PARKING CODE REQUIREMENTS

Land Use	Class 1 Parking Requirement	Class 2 Parking Requirement	Maximum Commercial Scenario Requirements			Maximum Residential Scenario Requirements		
			Amount	Class 1	Class 2	Amount	Class 1	Class 2
Residential	100 spaces plus 1 space per 4 du over 100	1 space per 20 du	1,048 DU	337	52	1,579 DU	470	79
Retail	1 space per 7.5 ksf	10 spaces plus 1 space per 10 ksf over 50	143.388 ksf	19	19	141.519 ksf	19	19
Office	1 space per 5 ksf	2 spaces plus 1 space per 50 ksf over 5	1,369.06 ksf	274	29	980.05 ksf	196	22
Restaurant	1 space per 7.5 ksf	1 per 750 sf (minimum 2)	133.389 ksf	18	178	131.519 ksf	18	175
Brewery	1 space per 12 ksf (minimum 2)	4 if larger than 50 ksf (minimum 2)	200.125 ksf	17	4	200.125 ksf	17	4
Open Space	1 space per 5 ksf (minimum 2)	1 per 2.5 ksf (minimum 2)	5.12 acres	45	89	5.12 acres	45	89
Total			**--**	**710**	**371**	**--**	**765**	**388**

Source: City of San Francisco Planning Code, 2017.

5.11 LOADING IMPACTS

5.11.1 Residential and Commercial Loading

The loading demand generated by the proposed project is presented below in Table 4.E-20, on the next page. The daily truck generation rates for all uses in Table 4.E-20, with the exception of the brewery on Pier 48, are from SF Guidelines. Truck count data were collected at the existing Anchor Brewery facility in San Francisco and adjusted to reflect the proposed brewery facility on Pier 48 because the SF Guidelines do not provide truck trip generation rates for brewery uses.

Overall, the High Residential Assumption would generate a demand for approximately 800 daily delivery and service vehicle trips. The High Commercial Assumption would generate a demand for approximately 877 daily delivery and service vehicle trips. Deliveries would be made primarily by small trucks and vans, typical of deliveries throughout the city. About 25 percent of deliveries would be made by large trucks, such as garbage trucks, and tractor-trailer rigs. Loading would not occur within proposed curb cuts.

The loading demand for Pier 48 uses would be for four loading spaces during the average loading hour and five loading spaces during the peak loading hour. The loading demand for Pier 48 uses are based on data collected at the existing Anchor Brewery site in San Francisco and adjusted to reflect the proposed brewery on Pier 48. A total of five loading spaces would be provided on Pier 48. As such, the project would adequately accommodate loading demand on Pier 48 uses and loading impacts at Pier 48 would be ***less-than-significant***.

The demand for loading spaces for Seawall Lot 337 uses would range from approximately 34 spaces in the High Residential Assumption to 37 spaces in the High Commercial Assumption in the average loading hour. In the peak loading hour, the demand for loading spaces for Seawall Lot 337 uses would be approximately 40 loading spaces in the High Residential Assumption and 45 loading spaces in the High Commercial Assumption. Residential or commercial loading demand, which are included in the loading demand totals, would be generated when tenants move in and out of a building. This loading would be from on-street loading spaces near the building entrances. During peak hours, the loading demand for all residential uses would be three spaces for the High Residential Assumption and two spaces for the High Commercial Assumption. Residential and commercial buildings would also generate parcel delivery vehicles (e.g., U.S. Postal Service, United Parcel Service, and Federal Express vans) in addition to large moving vans.

The Mission Rock Transportation Demand Management (TDM) Strategy includes several planned strategies designed to reduce peak truck loading demands.

- Onsite Transportation Staff: hire at least one onsite transportation staff person proficient in the planning and implementation of a TDM program, with an annual budget for TDM staff, communications and programs. This staff person would act as a centralized transportation resource to in-building concierges.

- In-Building Concierge Services: encourage vertical developers to appoint an in-building concierge to provide information about local merchants and coordinate/facilitate delivery services for residents.

- Coordinated Delivery Services: aim to establish site-wide partnerships with delivery service companies. This will be documented in a loading management plan, which will be developed in a future phase of project development, in coordination with the City.

Figure 5 shows the location of loading zones that would be provided by the proposed project for Seawall Lot 337 uses. The project would provide 650 linear feet of curb space for commercial loading activities associated with Seawall Lot 337 uses during the peak loading hour. Garbage and recycling needs would be served by the commercial loading areas as well as commercial deliveries. The 650 linear feet of curb space provided for commercial loading activities associated with Seawall Lot 337 uses would accommodate approximately 24 trucks, based on the truck vehicle mix in SF Guidelines, and would not meet demand during the peak loading hour for Seawall Lot 337 uses under either the High Residential Assumption or High Commercial Assumption. The shortfall in loading spaces would result in delivery vehicles double parking on interior streets such as Long Bridge Street and Exposition Street, which may result in hazards to cyclists and other vehicles. As such, there would be a loading supply shortfall for Seawall Lot 337 uses that would result in potentially hazardous traffic conditions, resulting in a ***significant impact***.

M-TR-11.1: Commercial Loading Supply – Monitor Loading Activity and Implement Additional Loading Management Strategies as Needed

After completion (of the first phase of the proposed project and prior to approval of each subsequent phase, the project sponsor shall conduct a study of utilization of commercial loading spaces. The methodology for the study shall be reviewed and approved by the Planning Department prior to completion. If the result of the study indicates that fewer than 15 percent of the commercial loading spaces are available during the peak loading period, the project sponsor shall implement additional loading management strategies and/or provide additional or expanded off-street loading supply in subsequent phases of the project in either the garages or in off-street

parking in individual buildings, consistent with the proposed project's design intent sufficient to meet the loading demand. Additional loading strategies could include (but are not limited to): expanding efforts to coordinate with parcel delivery companies to schedule deliveries to the site during hours outside the peak hour of loading, installing parcel lock boxes that allow parcel delivery personnel unsupervised access to enable off-hour deliveries, coordinating delivery services across buildings to enable the delivery of several buildings' packages to a single location, and/or encouraging deliveries to the retail and restaurant components of the projects to happen during early morning or late evening hours. The project sponsor may also address a shortfall by reserving parking spaces for smaller delivery vehicles such as autos or vans, which comprise approximately two-thirds of the vehicle types for freight delivery service, on the ground floor of the Block D2 garage during peak or appropriate business hours for small-vehicle deliveries and, in connection therewith, providing hand trucks, bicycles, or electric wheeled carts for distribution of packages to buildings throughout the site.

If plans for individual buildings include a driveway to off-street loading or parking (maximum 10 off-street spaces) along a frontage that has a designated on-street loading zone, an equivalent amount or level of off-street loading space shall be provided to effectively replace the lost on-street loading area.

M-TR-11.2: Coordinate Deliveries and Tenant Moving Activities

The project's transportation coordinator and in-building concierges shall coordinate with building tenants and delivery services to minimize deliveries and moving activities during peak periods, and endeavor to spread deliveries across the full day and moving activities to time periods after regular working hours, thereby reducing activity during the peak hour for loading.

Although many deliveries cannot be limited to specific hours, the transportation coordinator and in-building concierges shall work with tenants to find opportunities to consolidate deliveries and reduce the need for peak-period deliveries, wherever possible.

Implementation of Mitigation Measures M-TR-11.1 and M-TR-11.2 would resolve the loading shortfall. Thus, with implementation of Mitigation Measures M-TR-11.1 and M-TR-11.2, the proposed project's loading impacts would be ***less than significant***.

5.12 EMERGENCY ACCESS IMPACTS

Emergency access to the project site and the emergency room at UCSF Medical Center at Mission Bay would remain unchanged from existing conditions. Emergency vehicles would continue to access the site from Third Street and Terry A. Francois Boulevard. Aside from the general increase in vehicle traffic that would result from the additional activity at the site, the proposed project would not inhibit emergency access to the project site.

The proposed internal roadway network includes a minimum 20-foot clear width on all streets. Clear street widths range from 20 to 26 feet on most streets, with Mission Rock Street and Bridgeview Street widths at 34 feet. Proposed paseos would accommodate emergency vehicles and the proposed Shared Public Way includes a 20-foot-wide shared zone for vehicular and loading access, including emergency vehicles. Proposed street cross-sections include loading and parking restrictions where width is limited to avoid impeding access for San Francisco Fire Department (SFFD) vehicles. A fire access evaluation of turning radii

indicates that emergency vehicles can access the project site from Third Street and travel throughout all internal project streets. Internal intersections are designed to accommodate the truck turning movements of the City of San Francisco 57-foot Articulated Fire Truck, which was the largest of emergency vehicles that were evaluated including the SFFD Engine, the SFFD Rescue squad, and a second version of the 57-foot Articulated Truck. At intersections approaches and within intersections, the Articulated Fire Truck may encroach into the opposing vehicular travel lane to complete turning movements, but a minimum of seven feet of refuge area is provided for any cars within the opposing lanes. The fire access evaluation is included in **Appendix M**.

Emergency vehicle access to Pier 48 would be provided via Terry A. Francois Boulevard. The proposed cross-section for this roadway includes a 26-foot-wide shared zone for vehicular access, including emergency vehicles. The aforementioned fire access evaluation indicates that emergency vehicles can access Pier 48 via any of the three east-west project streets that connect to Terry A. Francois Boulevard.

Regarding police access to the Public Safety Building at 1245 Third Street, located immediately south of the project site, primary garage access occurs on China Basin Street, secondary garage access occurs on Mission Rock Street, and public entry occurs on Third Street. These access points would be affected by the proposed project. Fire truck access occurs on Mission Rock Street. The proposed project includes implementation of a "keep clear" zone on Mission Rock Street in front of the police and fire truck access point to ensure that police vehicles and fire trucks are provided clear access and egress. Mitigation Measure 4.3 will further improve conditions by prohibiting left turns into the westernmost driveway for the Block D2 parking garage on Mission Rock Street, which is located across the street from the fire truck access point, and thereby shifting eastbound vehicles destined to the Block D2 parking garage to the easternmost driveway on Mission Rock Street.

Development of the project site, and associated increases in vehicles, pedestrians, and bicycle travel would not substantially affect emergency vehicle access to other buildings and areas within Mission Bay, including the UCSF campus. The new UCSF Medical Center Phase 1 opened in February 2015, and contains an emergency room and urgent care center for the UCSF Children's Hospital at the southern end of the hospital complex, with access from Fourth Street, north of Mariposa Street. Access to the Fourth Street urgent care center is directly from Mariposa Street, or from Owens Street via the Southern Connector Road (an internal road within the medical center campus site that provides access between the south Medical Center entrance and the parking facilities). Owens Street can be accessed from 16th Street, the I-280 northbound off-ramp, and Mariposa Street. A number of roadway improvements were implemented as part of Phase 1 of the UCSF Medical Center that enhance access to UCSF and critical hospital services including extending Owens Street between Mariposa and 16th Streets, widening Mariposa Street to five lanes, installing a new signal at the Mariposa Street and Owens Street intersection, adding a lane on the I-280 northbound off-ramp at Mariposa Street, and constructing a new signal at Mariposa Street at the I-280 northbound off-ramp. Transit priority and pedestrian safety improvements along 16th Street, including median transit-only lanes, could be used by emergency vehicles traveling to UCSF Medical Center.

On Mariposa Street, if necessary, emergency vehicles and other persons accessing the emergency room and urgent care center in their personal vehicles during an emergency would be able to travel within the center left-turn lane to access the intersection of Fourth/Mariposa. As documented in the Mission Rock (Seawall Lot 337/Pier 48) Transportation Impact Study, the three signalized intersections along the segment of Mariposa Street that serves as the main access points to UCSF Children's Hospital, between I-280 and Third Street, are projected to operate at LOS D or better during the a.m. peak hour and p.m. peak hour under baseline plus-project conditions under both the High Commercial Assumption and High Residential

Assumption with no events (the exception would be the Mariposa Street/I-280 southbound off-ramp, which would change to LOS E during the a.m. peak hour). Therefore, the proposed project would not result in substantial increases in vehicle delay for emergency vehicles or other persons accessing the emergency room and urgent care center in their personal vehicles under the no-event scenarios.

During events at AT&T Park, pre-event and post-event vehicular traffic destined for the onsite garages will be managed as it is currently to minimize impacts on emergency-vehicle circulation and access as well as private vehicles destined for the UCSF emergency room and urgent care center. During pre-event conditions at AT&T Park, up to 21 PCOs are stationed at 17 locations. During post-event conditions, up to 19 PCOs are stationed at 14 locations. These locations include intersections along Third Street, Mission Rock Street, and Terry A. Francois Boulevard along the project boundaries. During major events, the north–south Shared Public Way within the project site would be closed to vehicles, with the exception of emergency vehicles. If necessary, emergency vehicles would be able to travel on Muni's light rail right-of-way in the median of Third Street. PCOs deployed for dual events at AT&T Park and/or the proposed Golden State Warriors Event Center would have the capability to respond to conflicts between event center traffic and UCSF hospital access. PCOs also have the capability to radio ahead to other downstream PCOs to inform them of approaching vehicles requiring emergency access.

To address issues related to simultaneous events at AT&T Park and the Mission Rock site, the proposed project has prepared detailed event management plans that include combinations of strategies, as described in Chapter 5 of the Mission Rock Transportation Plan. The Event Management measures identified in the Mission Rock Transportation Plan describe strategies for a primary event at AT&T Park (40,000+ attendees), a secondary event at AT&T Park (15,000 to 25,000 attendees), and onsite events (2,000 to 5,000 attendees). Additionally, event traffic management systems at AT&T Park are reviewed and refined continuously to plan for such simultaneous events. Therefore, both events would develop refinements to their plans as needed to ensure emergency vehicle circulation is accommodated.

Roadway improvements adjacent to the UCSF facilities would facilitate emergency vehicle access. Before and after events, emergency vehicle access to the project site and UCSF Medical Center uses would be maintained, as would emergency access for persons traveling to the emergency room and urgent care center in their personal vehicles.

For these reasons, the proposed project would not inhibit emergency vehicle access to the project site and nearby vicinity under the event scenario. The proposed project would be designed to provide access for Police and Fire department vehicles into the Public Safety Building across Mission Rock Street. However, because coordination with the Police and Fire Departments on the final street design has not yet occurred, this would conservatively be a ***significant impact***.

M-TR-12.1: Coordinate Final Design of the "keep clear" zone on Mission Rock Street (in front of the Public Safety Building) with Police and Fire Departments.

Prior to finalizing the design and dimensions of the "keep clear" zone on Mission Rock Street in front of the police and fire truck access point (in front of the Public Safety Building), the project sponsor shall coordinate this design with the Police and Fire Departments.Implementation of Mitigation Measures M-TR-12.1 would ensure clear access and ingress/egress for the Police and Fire Departments' vehicles to the Public Safety Building. Thus, with implementation of Mitigation Measure M-TR-12.1, the proposed project's significant impacts on Police and Fire Department vehicles' clear access to the Public Safety Building would be ***less-than-significant with mitigation***.

Additionally, implementation of Improvement Measure I-TR-12.1: Strategies to Enhance Transportation Conditions During Events would ensure that events at the Mission Rock project are coordinated with events at AT&T Park to further reduce the less-than-significant effects of access for emergency vehicles.

5.13 PARKING IMPACTS

Parking conditions are not static, as parking supply and demand vary from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel. While parking conditions change over time, a substantial deficit in parking caused by a project that creates hazardous conditions or major delays to traffic, transit, bicycles or pedestrians could adversely affect the physical environment. Whether a deficit in parking creates such conditions will depend on the magnitude of the shortfall and the ability of drivers to change travel patterns or switch to other travel modes. If a substantial deficit in parking caused by a project creates hazardous conditions or major delays in travel, such a condition also could result in secondary physical environmental impacts (e.g., air quality or noise impacts cause by congestion), depending on the project and its setting.

The absence of a ready supply of parking spaces, combined with available options other than auto travel (e.g., transit service, taxis, bicycles or walking) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service or other modes (walking and biking) would be in keeping with the City's Transit-First Policy and numerous San Francisco General Plan Policies, including those in the Transportation Element, as discussed previously in the transportation regulatory framework. The City's Transit-First Policy, established in the City's Charter Article 8A, §8A.115 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The proposed project would generate demand from people who need to access the site, which may result in people deciding to drive and then park at or near the project site. In evaluating whether a parking deficit is substantial, and thus could result in hazardous conditions or delays, the analysis considered whether the parking demand resulting from the proposed project could not be met by the overall supply of parking in the general vicinity of the proposed project; and whether the project site is adequately served by other modes of transportation (i.e., taxis, transportation network company vehicles, Muni, regional transit providers, bicycle and pedestrian facilities). The analysis also considers whether the potential loss of parking, or shortfall in parking, is temporary or intermittent. Generally, if the parking loss is not substantial, it is anticipated that it would not create hazardous conditions or major delays to other modes. In situations where a parking deficit is considered substantial, potential hazardous conditions related to the parking loss were considered. The potential hazards or delays considered included: whether the parking loss would lead to additional traffic circling in the area that could result in vehicles double parking in a bicycle lane or in mixed-flow/transit-only lanes, particularly when it is a one-lane roadway in each direction; and whether vehicles would impair visibility on narrow streets (e.g., the midblock alleys), block sidewalks or crosswalks, or block access to fire hydrants.

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near their destination and then seek parking farther away if convenient parking is unavailable. The

secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area, and thus choose to reach their destination by other modes (i.e., walking, biking, transit, taxi). If this occurs, any secondary environmental impacts that may result from a shortfall in parking in the vicinity of the proposed project would be minor, and the assessment of transit delay, as well as the associated air quality, noise, and pedestrian safety analyses, would reasonably address potential secondary effects.

This section includes a discussion of the project's parking supply, the overall availability of parking in the broader study area, and the calculated project-generated parking demand. A summary of the project's parking supply and demand is shown in **Table 33**.

The baseline and "with project" deficits and surpluses, both for the project site alone and for the broader study area take into consideration the removal of the 95 on-street parking spaces along Terry A. Francois Boulevard.

The project site was recently rezoned, pursuant to Proposition D, to the Mission Rock Height and Bulk District, which is intended "to enable development of Mission Rock as a mixed use, transit-oriented neighborhood, with significant open space, public access and affordable housing." The project site is proposed to be further rezoned by adding a Special Use District (SUD) overlay district. The City's Planning Code does not have parking minimums or maximums for the Mission Rock Height and Bulk District; moreover, it allows SUDs to establish parking minimums or maximums that may deviate from otherwise applicable parking requirements. The SUD for the project site would establish project-specific parking requirements consistent with the parking proposed to be provided as part of the project that would be considered by the San Francisco Board of Supervisors based upon consideration of recommendations from the Planning Commission and Planning Department staff.

As shown in **Table 33**, the broader study area currently has substantial surpluses of parking, including during weekday evenings during Giants games at AT&T Park. The largest surplus in parking in the study area occurs during weekday evenings. The estimated peak demand for parking generated by the proposed project would exceed the amount of parking proposed by the project, with the exception of weekday evenings under the High Commercial Assumption when there is no Giants game. Given the current parking surplus in the study area, there is adequate parking supply to absorb the additional demand generated by the proposed project, except during the midday period and during Giants games with the High Residential Assumption when the demand generated by event traffic combined with project demand would exceed the overall study area supply by approximately 100 to 150 spaces. For large events at AT&T Park, parking pricing at the project parking garages would be used to encourage users to vacate spaces before they are needed for AT&T Park patrons. Approximately 600 of the parking spaces that would make up the evening demand for the project are short-term parking spaces generated by restaurants and retail uses. During Giants games, it is anticipated that a large share of the evening demand for the proposed project's restaurants and retail uses would come from game attendees, thereby lowering the overall parking demand and deficit.

Existing AT&T Park event parking on the project site, currently 2,870 spaces (2,170 at Lot A and 700 at Pier 48), would be replaced with a 2,000 parking spaces for ballpark events.

Because any shortfalls in area-wide parking would occur intermittently during Giants games and would be temporary in nature and the robust sustainable transportation options available in the study area, the proposed project would not have a substantial parking deficit and impacts would be ***less-than-significant***.

TABLE 33: PARKING SUPPLY AND DEMAND

Land Use	Proposed Supply	Existing Study Area Surplus (Deficit)[1]	Calculated Project Peak Demand	Onsite Surplus/(Deficit) With Project	Study Area Surplus /(Deficit) With Project
Midday					
High Residential Assumption	3,100	596	3,846	(746)	(150)
High Commercial Assumption	3,100	596	3,655	(555)	41
Evening					
High Residential Assumption	3,100	2,204	3,344	(244)	1,960
High Commercial Assumption	3,100	2,204	2,614	486	2,690
Evening with Game					
High Residential Assumption	1,100[2]	2,145	3,344	(2,244)	(99)
High Commercial Assumption	1,100[2]	2,145	2,614	(1,514)	631

Notes:

1. Study Area surplus/deficit does not account for existing Lot A, which will be removed as part of the proposed project.
2. Assumes 2,000 spaces are prioritized for parking for Giants game patrons.

Source: *SF Guidelines*, 2002; Fehr & Peers, 2015

6 CUMULATIVE CONDITIONS

The cumulative impact analysis is divided into two main groups: constructed-related impacts and operational impacts. The first group covers impacts attributable to construction-related activities of other nearby projects expected to be under construction at the same time. The second group covers the long-term effects associated with the full use of the project structures and features following construction based on future year 2040 conditions.

Cumulative Projects For Construction Impacts

The cumulative impact analysis considers the combined effects of multiple construction projects within the project vicinity during the same time frame as the proposed project's construction schedule. Construction projects in the vicinity of the proposed project include the following:

- **Third Street Bridge Project**. The Third Street Rehabilitation Project, being undertaken by San Francisco Public Works, consists of rehabilitation of the Third Street Bridge (also known as the Francis "Lefty" O'Doul Bridge), located just north of the project site. The rehabilitation project will involve the entire span of the bridge and requires a temporary reduction in roadway capacity. Project-related construction is anticipated to occur for 14 months, beginning spring 2017 and ending summer 2018.

- **Extension of 16th Street.** The extension of 16th Street, between Illinois Street and Terry A. Francois Boulevard, is expected to be completed by 2018.

- **Realignment of Terry A. Francois Boulevard and Mission Bay Park P22.** The realignment of Terry A. Francois Boulevard, between South Street and 16th Street, and construction of Park P22 is estimated to be completed by 2018.

- **UCSF Research Building, Block 23A.** Located southwest of the projects site, this project consists of about 170,000 gsf and is expected to begin construction in fall 2017.

- **UCSF East Campus, Blocks 33/34.** Located south of 16th Street and east of Third Street, this project consists of 500,000 gsf of office space. Block 33 is anticipated to begin construction in June 2017. Block 34 construction would occur in the 2020 to 2025 timeframe.

- **UCSF Cancer Outpatient Building on Medical Center Site.** Located on the southwest corner of the Third Street/16th Street intersection, this project is a 180,000 gsf of medical outpatient facility. Construction is anticipated to begin in 2017 and be completed by early 2019.

- **Pier 70 Mixed-Use District Project.** Located east of Illinois Street and roughly bounded on the south by 22nd Street and on the north by 20th Street, this project would have a mix of residential, office, retail, and restaurant uses. Build-out would occur in up to five phases over an approximately 11-year period from about 2018 through 2029.

Cumulative Transportation Projects for Operational Impacts

There are several reasonably foreseeable transportation improvements planned on the transportation network in the study area. For the purposes of the transportation analysis for this EIR, the following transit

improvements from Muni Forward were assumed to be in place as part of the 2040 cumulative conditions, in addition to those assumed to be in place for the baseline conditions:

- On the T Third light rail line, a.m./p.m. peak period headways would be reduced and trains would operate as two-car trains.[25]
- The 10 Townsend route would be rerouted off Townsend Street at Fourth Street. From Fourth Street the route would extend through Mission Bay to new proposed street segments on Seventh Street between Mission Bay Boulevard and Hubble Street, on Hubble Street between Seventh and 16th Streets, on 16th Street between Hubble and Connecticut Streets, and on Connecticut Street between 16th and 17th Streets. The a.m./p.m. peak period headways would be reduced from 20 to 6 minutes. Midday headways would be reduced from 20 to 12 minutes. The 10 Townsend would be renamed the 10 Sansome.

Other transportation projects assumed complete and operational in the cumulative transportation analysis include:

- Blue Greenway, a 13-mile corridor of multi-use trails, parks, and bay access points along San Francisco's southeastern waterfront [26]
- 16th Street Extension, from Illinois Street to Terry A. Francois Boulevard
- San Francisco Bicycle Plan
- Van Ness and Geary Bus Rapid Transit Projects
- Caltrain Peninsula Corridor Electrification Project

Cumulative Development Projects for Operational Impacts

In addition to the transportation improvements listed above, the cumulative transportation impact analysis includes forecast growth in jobs and employment in San Francisco by the year 2040. This growth includes the following reasonably foreseeable nearby development projects:

- Mission Bay Redevelopment Plan, as modified (the portions not yet built out);
- Pier 70 (mixed-use project with housing, office, light industrial, arts, general retail, and restaurant uses);
- Candlestick Point-Hunters Point Shipyard Development Plan (500-acre master-planned community with 12,000 housing units, more than 300 acres of parks, and more than 3 million gsf of research and development uses);

[25] The assumptions for service increases as part of the Central Subway described herein are based on the Central Subway operating plan, which were developed independent of and supersede assumptions for the T-Third Short Line outlined in Muni Forward.

[26] The proposed project would include construction of the portion of the Blue Greenway within the project site.

- Development associated with nearby neighborhood plans, including the Eastern Neighborhoods Plans and the Western SOMA Plan;
- Golden State Warriors Event Center and Mixed-Use Development Project at Mission Bay Blocks 29–32 (including an 18,064-seat event center, 605,000 gsf of office uses, 62,500 gsf of retail uses, 62,500 gsf of restaurant uses, and 950 below-grade or at-grade parking spaces);
- Future Crane Cove Park (7-acre waterfront park, east of Illinois Street between 19th Street and Mariposa Streets);
- India Basin (30-acre mixed-use master-planned development with housing, retail/commercial, open space, park, and school uses); and
- Potrero Hope SF Master Plan (38-acre mixed-income housing project with community-serving retail).

The Warriors Event Center Project DEIR analyzed three scenarios:

- No Event, which reflects conditions associated with 580,000 sf of office uses, 62,500 sf of retail uses, and 62,500 sf of restaurant uses on days when no events are scheduled. This scenario was analyzed during a weekday PM peak hour (4:00 PM to 6:00 PM) and a weekend evening peak hour (7:00 PM to 9:00 PM).
- Convention Event, which reflects an event with an attendance of approximately 9,000 attendees. This attendance level represents the average attendance for about 50 percent of the events that would occur at the proposed event center. This scenario was analyzed during a weekday PM peak hour (4:00 PM to 6:00 PM).
- Basketball Game, which reflects sell-out conditions for a Golden State Warriors evening basketball game, assuming that the event center would be filled to capacity (18,064 attendees). It also represents conditions for a sold-out evening concert. This scenario was analyzed during a weekday PM peak hour (4:00 PM to 6:00 PM), weekday evening peak hour (6:00 PM to 8:00 PM), late evening peak hour (9:00 PM to 11:00 PM), and a weekend evening peak hour (7:00 PM to 9:00 PM).

Among the three choices of Warriors Event Center Project scenarios for inclusion in the PM peak hour intersection and freeway analysis of the proposed Project's impacts under Cumulative Conditions, the Convention Event scenario was selected. The total peak hour vehicle trips for the Convention Event were approximately 15 percent higher than for the No Event scenario. This scenario adds the most trips during the PM peak hour, as the basketball game scenario's peak travel times occur later in the day than the evaluated PM peak hour. With an event, many of the retail and restaurant trips were assumed to be associated with the event and were considered linked trips (i.e. trips that were made for one purpose but had two stops). Additionally, though the Basketball Game attracts more total vehicle trips, those trips will mostly occur after the peak hour of the transportation network and of the Proposed Project's vehicle trip generation. Therefore, the Convention Event is a reasonably conservative assumption for the Cumulative Conditions analysis of the PM peak hour.

The cumulative transportation analysis is projection-based, rather than list-based; therefore, the projects listed above are examples of those that are accounted for in the growth forecasts used in the travel demand forecasting model. The model includes a comprehensive projection of growth that is reasonably foreseeable

in 2040, based on known and forecast development including growth under adopted area plans that could affect San Francisco's transportation network.

Cumulative Transportation Demand

Future year 2040 cumulative intersection traffic volumes were derived from outputs from the SFCTA's travel demand forecasting model (SF-CHAMP). The SF-CHAMP model is an activity-based travel demand model that has been validated to represent existing and future transportation conditions in San Francisco. The model predicts all person travels for a full day based on total and locations of population, housing units, and employment, which are then allocated to different periods throughout the day, using time of day sub-models. The model predicts person travel by mode for walking, auto, transit, and bicycle trips. The model also provides forecasts of vehicular traffic on regional freeways and major arterials and on the study area local roadway network, considering the available roadway capacity, origin-destination demand, and travel speeds when assigning the future travel demand to the roadway network.

Future year 2040 cumulative transit ridership projections were developed based on transit growth projections developed for the Transit Effectiveness Project and provided by the Planning Department. Forecast future hourly ridership demand was then compared to expected hourly capacity, as determined by the likely route and headway changes identified in Muni Forward, including those described above under the *Travel Demand Analysis* discussion, to estimate capacity utilization under 2040 cumulative conditions.

Cumulative SB 743/VMT Methodology

OPR's proposed transportation impact guidelines do not specify a separate methodology for analyzing cumulative impacts using a VMT metric. Under CEQA, a project is considered to have "cumulatively considerable" impacts if the incremental effects of the individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (CEQA Guidelines Section 15065(a)(3)).

VMT by its very nature is largely a cumulative impact. In general, no single project by itself would be large enough to prevent the region or state from meeting its VMT (and GHG) reduction goals. Rather, an individual project's VMT contributes cumulatively to the physical secondary environmental impacts associated with the VMT resulting from the distance that existing, currently proposed, and future projects would be expected to cause people to drive. VMT (and induced automobile travel) project-level significance thresholds are based on whether project VMT levels would be consistent with state and regional long-term GHG emissions reduction targets and corresponding VMT per capita reduction targets.

The Planning Department determined that a project's incremental VMT effects are not cumulatively considerable if the project site is in an area where per capita VMT is more than 15 percent below the projected 2040 per capita regional averages for residential, office, and retail uses. This is an appropriate metric to assess cumulative VMT impacts for the reasons set forth below.

As noted above, the SFCTA uses SF-CHAMP to estimate VMT for different land use types within individual TAZs. For the cumulative scenario, San Francisco 2040 cumulative VMT conditions, including cumulative VMT conditions for the TAZ where the project is located, were projected using a SF-CHAMP model run. This model run used the same methodology as outlined for existing conditions but included residential and job growth estimates and reasonably foreseeable transportation investments through 2040, based on the most recent ABAG projections (with projected citywide growth in population and employment allocated to individual TAZs by the Planning Department).

As stated above, OPR's proposed use of a VMT metric is intended to implement SB 743's mandate to establish criteria for determining the significance of project transportation impacts that promote the "reduction of greenhouse gas emissions." Notably, San Francisco has been shown to have a significantly lower per-household carbon footprint than most other cities and counties in the San Francisco Bay Area region. Specifically, a December 2015 GHG consumption study published by the University of California, Berkeley and funded by the Bay Area Air Quality Management District (BAAQMD)[27] concluded that the average San Francisco household produces 38.7 metric tons of carbon dioxide equivalents (CO_2e) annually, which is 12.7 percent lower than the overall San Francisco Bay Area average household emissions of 44.3 metric tons of CO_2e.

Maintaining per capita VMT that is 15 percent or more below the regional average is an essential component of the City's aggressive GHG reduction targets, detailed in Section 4.H, *Greenhouse Gas Emissions*. Specifically, Ordinance No. 81-08, adopted in May 2008, established targets that included reducing GHG emissions by 25 percent below 1990 levels by 2017, reducing GHG emissions by 40 percent below 1990 levels by 2025, and reducing GHG emissions by 80 percent below 1990 levels by 2050. The targets are consistent with and, in fact, more ambitious than those set forth in Governor Brown's recent Executive Order B-30-15 by targeting a 40 percent reduction by 2025 rather than a 40 percent reduction by 2030.

Similarly, reducing per capita VMT is also a key component of the City's local GHG reduction plan, Strategies to Address Greenhouse Gas Emissions, which has been recognized by BAAQMD as meeting the criteria of a qualified GHG reduction strategy. As further described in Section 4.H, *Greenhouse Gas Emissions*, the City's GHG reduction strategy includes 30 specific regulations for new development to reduce a project's GHG emissions. In fact, GHG reduction actions in San Francisco resulted in a 23.3 percent reduction in GHG emissions in 2012 compared to 1990 levels, exceeding the 2020 reduction goals in BAAQMD's *Bay Area 2010 Clean Air Plan*, Executive Orders S-3-05 and B-30-15, and AB 32. By complying with and exceeding Plan Bay Area targets, San Francisco is on a trajectory to meet the GHG reduction goals established by AB 32 and SB 375.

The Planning Department's cumulative significance threshold of 15 percent below 2040 per capita regional average VMT and the proposed project's VMT per capita, which is well below that threshold, are consistent with the adopted sustainability targets of Plan Bay Area. The current Plan Bay Area, adopted on July 18, 2013, is the region's sustainable communities strategy for the San Francisco Bay Area for 2013–2040. The current update that began in spring 2015 is called Plan Bay Area 2040, with release of the Draft Plan Bay Area 2040 and associated Draft EIR anticipated in spring 2017.

Plan Bay Area 2013 is designed to reach GHG reductions established by CARB for the Bay Area region (i.e., a 7 percent per capita reduction by 2020 and a 15 percent per capita reduction by 2035).[28] Plan Bay Area 2013 identified 10 performance targets, which include both mandatory and voluntary targets. One of the

[27] Jones, C., and D. Kammen. 2015. *A Consumption-based Greenhouse Gas Inventory of San Francisco Bay Area Neighborhoods, Cities and Counties: Prioritizing Climate Action for Different Locations*. University of California, Berkeley and Bay Area Air Quality Management District. Available: http://www.baaqmd.gov/research-and-data/emission-inventory/consumption-based-ghg-emissions-inventory. Accessed: September 30, 2016.

[28] Association of Bay Area Governments and Metropolitan Transportation Commission, *Plan Bay Area*, July 18, 2013 (hereinafter "Plan Bay Area 2013"), p. 4.

mandatory performance targets requires the Bay Area to reduce its per capita carbon dioxide (CO_2) emissions from cars and light-duty trucks by 15 percent by 2040. Plan Bay Area achieves this milestone.[29] One of the voluntary targets includes decreasing automobile VMT per capita by 10 percent.[30] Plan Bay Area 2013 states that the average Bay Area resident traveled about 22 miles by car on a typical weekday in 2005; by 2040, the average resident is expected to travel 20 miles per day, a reduction of 9 percent. This near-achievement of the per capita VMT target reflects the carefully targeted locations of envisioned housing and commercial development in Priority Development Areas (PDAs) with excellent transit service.[31] Even though Plan Bay Area achieves VMT reductions of 9 percent, which does not fully achieve the adopted 10 percent reduction target, Plan Bay Area nonetheless achieves the mandatory performance target to reduce per capita CO_2 emissions from cars and light-duty trucks by 15 percent by 2040.[32]

Notably, the type of growth planned within the Port of San Francisco PDA, as well as growth within the city and county of San Francisco as a whole, will necessarily result in a population-based increase in the volume of VMT and GHG emissions, regardless of the City's GHG reduction targets and any new GHG reduction measures. Similarly, the population and economic activity associated with each project within the Port of San Francisco PDA, as well as within the city and county of San Francisco, will result in a total increase in VMT and GHG emissions. Certain projects may meet or exceed estimated population and/or employment growth identified for the Port of San Francisco PDA while remaining within ABAG projections for the 2040 cumulative scenario. Notwithstanding such increased volume of GHG emissions and VMT, San Francisco complies with and exceeds Plan Bay Area GHG reduction targets and is on a trajectory to meet the GHG reduction goals established by AB 32 and SB 375. Accordingly, consistency with Plan Bay Area, a plan designed to reach GHG reductions established by CARB for the Bay Area region, provides further support for the Planning Department's adopted significance threshold for determining whether a project's incremental VMT effects are cumulatively considerable.

6.1 CUMULATIVE CONSTRUCTION IMPACTS

The construction of the proposed project may overlap with the construction of other reasonably foreseeable projects listed in the Methods for Analysis discussion provided earlier in this section including the Third Street Bridge Rehabilitation Project, the extension of 16th Street to Terry A. Francois Boulevard, the realignment of Terry A. Francois Boulevard between 16th Street and South Street, UCSF LRDP Mission Bay campus projects, and the Pier 70 mixed-use district project.

It is anticipated that construction of the project site over an approximately six-year period ending in 2023 would overlap with the construction activity of other projects in the area, notably the UCSF LRDP projects, planned for construction between 2017 and 2025, and the Pier 70 Mixed-Use District Project. There would be up to a one-year overlap of the proposed project's construction activities with the Third Street Bridge, 16th Street Extension, and Terry A. Francois Boulevard Realignment, all of which are short-term infrastructure projects scheduled for completion in 2018.

[29] Plan Bay Area 2013, p. 5.
[30] Ibid., p. 106.
[31] Ibid.
[32] Ibid., p. 5.

Localized cumulative construction-related transportation impacts would occur as a result of reasonably foreseeable projects in the vicinity of the project site that would generate increased traffic at the same time and on the same roads as the proposed project. As part of the construction permitting process, each development project would be required to work with the various Departments of the City to develop a detailed and coordinated plan that would address construction vehicle routing, traffic control, transit movement, pedestrian movement, and bicycle movement adjacent to the construction area. The cumulative construction-related transportation impacts of the multiple nearby construction projects would occur over an extended duration, and the project sponsor would coordinate with various City departments such as SFMTA and DPW through the SFMTA Transportation Advisory Committee (TASC), a multi-agency body, to develop coordinated plans that would address construction-related vehicle routing, pedestrian movements, and bicycle movements adjacent to the construction area for the duration of the construction overlap.

Overall, because proposed project's construction activities would be temporary and limited in duration, and are required to be conducted in accordance with City requirements, the proposed project would not contribute considerably to the cumulative construction-related transportation impacts. Furthermore, proposed project Improvement Measure I-TR-1.1: Construction Management Plan would further reduce the proposed project's less-than-significant impacts related to potential conflicts between construction activities and pedestrians, cyclists, transit, and autos, and includes provisions for construction truck traffic management, construction worker parking plan, project construction updates for existing businesses and residents, and carpool and transit access for construction workers. Therefore, for the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would not contribute considerably to the significant cumulative construction-related transportation impacts, and the project's cumulative impact would be ***less-than-significant.***

6.2 VEHICLE-MILES TRAVELED ESTIMATES

San Francisco 2040 cumulative conditions were projected using a SF-CHAMP model run, using the same methodology as outlined for existing conditions, but including residential and job growth estimates and reasonably foreseeable transportation investments through 2040, as shown in **Table 34**. Projected 2040 average daily VMT per capita for residential uses is 2.6 for the TAZ where the project is located (TAZ 655). This is 84 percent below the 2040 projected regional average daily VMT per capita of 16.1 for residential uses. Projected 2040 average daily VMT per capita for office uses is 8.6 for the project's TAZ, 50 percent below the 2040 projected regional average daily VMT per capita of 17.1 for office uses. Projected 2040 average daily VMT per capita for retail uses is 12.4 for the proposed project's TAZ, 15 percent less than the 2040 projected regional average daily VMT per capita of 14.6 for retail uses.

TABLE 34: DAILY VEHICLE-MILES TRAVELED

	Bay Area VMT Regional Average	TAZ 655 VMT	Percent TAZ 655 Below Regional Average
Households (Residential)	16.1	2.6	-84%
Employment (Office)	17.1	8.6	-50%
Visitors (Retail)	14.6	12.4	-15%

Source: Adavant Consulting, March 2015, SF-CHAMP 2015, Fehr & Peers 2015, San Francisco Planning Department 2016.

Because the project site is located in an area where VMT is 15 percent or more below the projected 2040 regional averages for residential, office, and retail uses, the proposed project's incremental effects would not be significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

The proposed project is not a transportation project. However, the proposed project would include features that would alter the transportation network. As discussed in the evaluation of project impacts, these features fit within the general types of projects identified above that would not substantially induce automobile travel.

Based on the above factors and data demonstrating San Francisco's low per-household GHG generation, GHG reductions exceeding BAAQMD and state GHG reductions goals, and consistency with Plan Bay Area, the Planning Department has determined that regardless of any increase in VMT and GHG emissions, if a project is located within an area where the percentage by which per capita VMT is more than 15 percent below the projected 2040 per capita regional averages for residential, office, and retail uses, the project's incremental effects on VMT would not be significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

San Francisco also complies with and exceeds Plan Bay Area GHG reduction targets and is on a trajectory to meet the GHG reduction goals established by AB 32 and SB 375. The proposed project is a mixed-use infill project located immediately adjacent to major transit lines and stations. The proposed project would construct active transportation improvements, including a pedestrian-oriented internal street network and a segment of the Blue Greenway along the San Francisco waterfront. The proposed project would thus be consistent with the GHG reduction goals in Plan Bay Area. Therefore, the proposed project would not have

a considerable contribution to any substantial cumulative increase in automobile travel. Cumulative VMT impacts are considered ***less-than-significant***.

6.3 CUMULATIVE TRAFFIC IMPACTS

The proposed project would have a significant cumulative impact on traffic if the project in combination with other long-term (by 2040) forecast growth, would cause a major traffic hazard in the study area and the project would make a considerable contribution to this cumulative traffic hazard. In general, the proposed project and other local and regional growth would add vehicle trips to surrounding roadways; however, a general increase in traffic in and of itself would not be considered a traffic hazard.

Although the proposed project is expected to increase vehicle, bicycle, and pedestrian travel in the area, the existing local roadways are generally designed to adopted design standards, which are developed to ensure the safe circulation for all modes, including conflicts between vehicles and other modes. Consistent with the City's Better Streets Plan and Transit First Policy, roadway improvements throughout the city, including the study area, are contemplated to improve overall safety and encourage sustainable modes of transportation. Future growth is expected to increase traffic volumes somewhat in the future. As described earlier, the proposed project's internal roadway system would be designed to reduce traffic speeds and promote walking and bicycling. Other long-term forecast changes in the study area are also anticipated to encourage bicycling, walking, and transit use and expected to further enhance area safety.

The Golden State Warriors Event Center would be constructed and operational under cumulative conditions. The Warriors event center project includes a detailed Transportation Management Plan to ensure that travelers in the area are accommodated efficiently, with minimal disruptions to bicyclists, pedestrians, transit, and emergency vehicles.

Under 2040 cumulative conditions, development projects in Mission Bay including the proposed project would provide new roadways, bicycle facilities, sidewalks and enhanced intersection crossing treatments, traffic control devices, and transportation wayfinding. The Giants currently have a Transportation Management Plan (TMP) and Parking Control Officers (PCOs) are deployed during major events at AT&T Park at key intersections to monitor and manage traffic as needed. The Golden State Warriors also have a TMP for the Event Center that includes commitments to provide transit service and deploy PCOs at key intersections during Warriors' games and major overlapping events at AT&T Park. Therefore, for these reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would result in ***less-than-significant*** cumulative traffic hazard impacts.

Under Baseline plus Project conditions, the project would result in a significant traffic hazard impact, given the parking garage queues and their impact on the Long Bridge Street/Bridgeview Street intersection, with implementation of Mitigation Measure M-TR-3.1, reducing impacts to ***less-than-significant*** levels by prohibiting left-turn movements at the eastbound driveway for the Block D2 parking garage on Long Bridge Street.

Thus, long-term forecast traffic hazards are not expected in the study area, and the proposed project's contribution to cumulative traffic hazard impacts is considered ***less-than-significant with mitigation***.

6.4 CUMULATIVE MUNI TRANSIT CAPACITY IMPACTS

Future year 2040 Cumulative ridership projections were developed based on transit growth projections developed for the Transit Effectiveness Project and provided by the Planning Department. Forecasted future hourly ridership demand was then compared to expected hourly capacity, as determined by the likely route and headway changes identified in the TEP to estimate capacity utilization under 2040 Cumulative conditions. The year 2040 Cumulative analysis assumes changes to the capacity of the lines as identified by route changes and headway changes indicated within the recommended TEP (as described in Section 3.3).

6.4.1 Muni Downtown Screenlines, Subcorridors, and Individual Routes

Table 35A and **Table 36A** present ridership and capacity utilization data for Muni screenlines and subcorridors, with project-generated transit trips added to the cumulative ridership for the High Residential Assumption in the a.m./p.m. peak hours. **Table 35B** and **Table 36B** present ridership and capacity utilization data for individual Muni routes that comprise the "other lines" subcorridor of the northeast and southeast screenlines for the High Residential Assumption in the a.m./p.m. peak hours. As shown in the tables, the proposed project would add transit riders to several Muni transit subcorridors and individual routes that would exceed Muni's capacity utilization standard of 85 percent.

Table 37A and **Table 38A** present ridership and capacity utilization data for Muni screenlines and subcorridors, with project-generated transit trips added to the cumulative ridership for the High Commercial Assumption in the a.m./p.m. peak hours. **Table 37B** and **Table 38B** present ridership and capacity utilization data for individual Muni routes that comprise the "other lines" subcorridor of the northeast and southeast screenlines for the High Commercial Assumption in the a.m./p.m. peak hours. As shown in the tables, with the addition of project-generated transit trips, some Muni transit subcorridors and individual routes would exceed Muni's capacity utilization standard of 85 percent.

Capacity utilization at the four downtown Muni screenlines would range from a low of 68 percent at the southeast screenline in the p.m. peak hour to a high of 88 percent at the southwest screenline in the a.m. peak hour under cumulative conditions. Both the High Residential Assumption and High Commercial Assumption would add riders to northeast, southeast, and southwest screenlines, but neither would add any riders to the northwest screenline. The addition of riders from the proposed project would increase capacity utilization but would not cause any screenlines to operate above 85 percent capacity utilization, with the exception of the southwest screenline during the a.m. peak hour and the northwest screenline during the p.m. peak hour. For both the High Residential Assumption and High Commercial Assumption, the addition of riders from the proposed project would increase capacity utilization on the southwest screenline from 86 to 88 percent during the a.m. peak hour. The northwest screenline would operate at 87 percent capacity utilization during the p.m. peak hour. The addition of project trips would cause an increase in ridership of less than 5 percent on the southwest screenline during the a.m. peak hour and the northwest screenline during the p.m. peak hour, under the High Residential Assumption and High Commercial Assumption.

Several subcorridors within the Muni downtown screenlines would exceed 85 percent capacity utilization under cumulative conditions. Subcorridors that would exceed 85 percent capacity utilization during the a.m. peak hour include the California and Fulton/Hayes subcorridors in the northwest screenline; the Mission, San Bruno/Bayshore, and "other lines" subcorridors in the southeast screenline; and the subway lines and Haight/Noriega subcorridors in the southwest screenline under both the High Commercial Assumption and High Residential Assumption. Subcorridors that would exceed 85 percent capacity utilization during the

p.m. peak hour include the California, Sutter/Clement, and Fulton/Hayes subcorridors in the northwest screenline; the Mission, San Bruno/Bayshore, and "other lines" subcorridors in the southeast screenline; and the subway lines subcorridor in the southwest screenline under both the High Commercial Assumption and High Residential Assumption. The addition of project trips would cause an increase in ridership of less than 5 percent on all the above subcorridors, with one exception. The "other lines" subcorridor within the southeast screenline would operate at 87 percent under both the High Residential Assumption and High Commercial Assumption in the p.m. peak hour. The addition of project trips to this subcorridor would contribute 5.8 percent for the High Residential Assumption and 6.1 percent for the High Commercial Assumption scenario in the a.m. peak hour. As noted below, additional analysis of the southeast "other lines" subcorridor indicates that the increase is due to conditions on the 10 Townsend line.

Table 35B, **Table 36B**, **Table 37B**, and **Table 38B** present ridership and capacity utilization data for individual Muni routes that comprise the "other lines" subcorridor of the northeast and southeast screenlines for both the High Commercial Assumption and High Residential Assumption scenarios. The assessment of the "other lines" subcorridor of the southeast screenline indicates that the J Church would exceed the 85 percent threshold during the a.m. peak hour, but the project would add less than 5 percent to ridership of this line.

An evaluation of the remaining individual Muni routes within the southeast "other lines" subcorridor indicates that the 10 Townsend line would operate at 95 percent under the High Residential Assumption and 94 percent under the High Commercial Assumption in the a.m. peak hour with the addition of project transit trips. The addition of project trips to the 10 Townsend line would contribute 9.2 percent for the High Residential Assumption and 8.6 percent for the High Commercial Assumption scenario in the a.m. peak hour. The 10 Townsend line would also exceed the 85 percent utilization threshold during the p.m. peak hour for both the High Residential Assumption and the High Commercial Assumption and contribute more than 5 percent to riders. Thus the project would make a considerable contribution to cumulative impacts on the 10 Townsend under 2040 cumulative conditions because the route would exceed 85 percent utilization, and the project would add more than 5 percent to the cumulative ridership. This is a ***significant cumulative impact***.

Implementing transit line improvements as identified in Mitigation Measure M-C-TR-4 are expected to allow Muni to maintain transit headways, and would reduce the proposed project's impact on the 10 Townsend to less-than-significant levels. However, because the method and total cost of providing additional service and SFMTA's ability to implement improvements is uncertain, the proposed project's impact would be ***significant and unavoidable with mitigation***.

The 10 Townsend is a top SFMTA priority, identified as part of Muni Forward. The SFMTA is committed to augmentation on this route as soon as feasible. The operations of the 10 Townsend Muni line can only be improved by increasing its capacity, transit frequency, and/or reducing delay through transit priority treatments along the line, which requires providing more buses serving this route or transit enhancements on the line. The SFMTA is committed to augmenting and maintaining the fleet and related facilities to ensure service accommodates additional ridership on lines identified as having capacity impacts identified as capacity mitigation, subject to availability of funding and consistent with service priorities. While SFMTA has not at this time determined the method it would use to increase capacity on the 10 Townsend, SFMTA has determined that the cost of providing additional bus capacity or improving service is a reasonable method for determining the cost of mitigation. However, the method and total cost of providing additional service on this line is not known at this time. Also, SFMTA would be responsible for implementing improvements and its ability to do so is uncertain. Therefore, the effectiveness of fair-share mitigation is unknown.

TABLE 35A: MUNI DOWNTOWN SCREENLINES AM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Muni Screenline	Cumulative 2040			Cumulative 2040 Plus Project			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
Northeast							
Kearny/Stockton	7,394	9,473	78%	57	7,451	79%	0.8%
Other lines	758	1,785	42%	101	859	48%	11.8%
Screenline Total	*8,152*	*11,258*	72%	*158*	*8,310*	74%	1.9%
Northwest							
Geary	2,673	3,763	71%	0	2,673	71%	0.0%
California	1,989	2,306	**86%**	0	1,989	**86%**	0.0%
Sutter/Clement	581	756	77%	0	581	77%	0.0%
Fulton/Hayes	1,962	1,977	**99%**	0	1,962	**99%**	0.0%
Balboa	690	1,008	68%	0	690	68%	0.0%
Screenline Total	*7,895*	*9,810*	80%	*0*	*7,895*	80%	0.0%
Southeast							
Third Street	2,422	5,712	42%	207	2,629	46%	7.9%
Mission	3,117	3,008	**104%**	0	3,117	**104%**	0.0%
San Bruno/Bayshore	1,952	2,197	**89%**	0	1,952	**89%**	0.0%
Other lines	1,795	2,027	**89%**	87	1,882	**93%**	4.6%
Screenline Total	*9,286*	*12,944*	*72%*	*294*	*9,580*	*74%*	*3.1%*
Southwest							
Subway lines	6,314	7,020	**90%**	173	6,487	**92%**	2.7%
Haight/Noriega	1,415	1,596	**89%**	0	1,415	**89%**	0.0%
Other lines	175	560	31%	0	175	31%	0.0%
Screenline Total	*7,904*	*9,176*	**86%**	*173*	*8,077*	**88%**	2.1%
Muni Screenlines Total	*33,237*	*43,188*	77%	*625*	*33,862*	*78%*	*1.8%*
Project Specific Cordon							
Project-Specific Cordon Total	*5,541*	*10,994*	*50%*	*401*	*5,941*	*54%*	6.74%
Individual Routes at Project-Specific Cordon							
30 Stockton IB	215	705	30%	50	265	38%	18.87%
30 Stockton OB	478	705	68%	29	507	72%	5.72%
45 Union/Stockton IB	606	473	**128%**	7	613	**130%**	1.14%
45 Union/Stockton OB	485	473	**103%**	4	489	**103%**	0.82%
N Judah IB	382	2,596	15%	92	474	18%	19.41%
N Judah OB	398	2,596	15%	54	452	17%	11.95%
T Third IB	1,554	5,712	27%	350	1,905	33%	18.39%
T Third OB	3,327	5,712	58%	207	3,534	62%	5.84%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 35B: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER SUBCORRIDORS AM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Muni Screenline	Cumulative 2040			Cumulative 2040 Plus Project			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
Northeast/Other Lines							
E Embarcadero	75	280	27%	11	86	31%	12.79%
F Market and Wharves	315	560	56%	0	315	56%	0.00%
10 Townsend	259	630	41%	68	327	52%	20.80%
11 Downtown Circ.	109	315	35%	22	131	42%	16.79%
12 Folsom Pacific	—	—	—	—	—	—	—
Southeast/Other Lines							
J Church	915	893	**102%**	0	915	**102%**	0.00%
10 Townsend	544	630	**86%**	51	595	**94%**	8.57%
12 Folsom Pacific	—	—	—	—	—	—	—
19 Polk	160	252	63%	0	160	63%	0.00%
27 Bryant	176	252	70%	36	212	84%	16.98%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.
The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 36A: MUNI DOWNTOWN SCREENLINES PM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Muni Screenline	Cumulative 2040			Cumulative 2040 Plus Project			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
Northeast							
Kearny/Stockton	6,295	8,329	76%	56	6,351	76%	0.9%
Other lines	1229	2,065	60%	101	1,330	64%	7.6%
Screenline Total	*7,524*	*10,394*	*72%*	*157*	*7,681*	*74%*	*2.0%*
Northwest							
Geary	2,996	3,621	83%	0	2,996	83%	0.0%
California	1,766	2,021	**87%**	0	1,766	**87%**	0.0%
Sutter/Clement	749	756	**99%**	0	749	**99%**	0.0%
Fulton/Hayes	1,762	1,878	**94%**	0	1,762	**94%**	0.0%
Balboa	776	974	80%	0	776	80%	0.0%
Screenline Total	*8,049*	*9,250*	***87%***	*0*	*8,049*	***87%***	*0.0%*
Southeast							
Third Street	2,300	5,712	40%	276	2,576	45%	10.7%
Mission	2,673	3,008	**89%**	0	2,673	**89%**	0.0%
San Bruno/Bayshore	1,817	2,134	**85%**	0	1,817	**85%**	0.0%
Other lines	1,582	1,927	82%	102	1,684	**87**%	6.1%
Screenline Total	*8,372*	*12,781*	*66%*	*378*	*8,750*	*68%*	*4.3%*
Southwest							
Subway lines	5,692	6,804	84%	170	5,862	**86%**	2.9%
Haight/Noriega	1,265	1,596	79%	0	1,265	79%	0.0%
Other lines	380	840	45%	0	380	45%	0.0%
Screenline Total	7,337	9,240	79%	*170*	7,507	81%	2.3%
Muni Screenlines Total	*31,282*	*41,665*	*75%*	*705*	*31,987*	*77%*	*2.2%*
Project Specific Cordon							
Project-Specific Cordon Total	*5,552*	*10,805*	*51%*	*532*	*6,084*	*56%*	8.74%
Individual Routes at Project-Specific Cordon							
30 Stockton IB	347	705	49%	40	387	55%	10.34%
30 Stockton OB	400	705	57%	49	449	64%	10.91%
45 Union/Stockton IB	297	473	63%	5	302	64%	1.66%
45 Union/Stockton OB	323	473	68%	7	330	70%	2.12%
N Judah IB	338	2,596	13%	73	411	16%	17.76%
N Judah OB	265	2,596	10%	89	354	14%	25.14%
T Third IB	3,758	5,712	66%	276	4,034	71%	6.84%
T Third OB	2,219	5,712	39%	335	2,554	45%	13.11%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 36B: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER SUBCORRIDORS PM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Muni Screenline	Cumulative 2040			Cumulative 2040 Plus Project			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
Northeast/Other Lines							
E Embarcadero	96	280	34%	10	106	38%	9.43%
F Market and Wharves	490	840	58%	0	490	58%	0.00%
10 Townsend	482	630	77%	72	554	**88%**	13.00%
11 Downtown Circ.	161	315	51%	19	180	57%	10.56%
12 Folsom Pacific	—	—	—	—	—	—	—
Southeast/Other Lines							
J Church	655	793	**83%**	0	655	**83%**	0.00%
10 Townsend	627	630	**100%**	64	691	**110%**	9.26%
12 Folsom Pacific	—	—	—	—	—	—	—
19 Polk	160	252	63%	0	160	63%	0.00%
27 Bryant	140	252	56%	38	178	71%	21.35%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.
The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 37A: MUNI DOWNTOWN SCREENLINES AM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Muni Screenline	Cumulative 2040			Cumulative 2040 Plus Project			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
Northeast							
Kearny/Stockton	7,394	9,473	78%	68	7,462	79%	0.9%
Other lines	758	1,785	42%	119	877	49%	13.6%
Screenline Total	*8,152*	*11,258*	72%	*187*	*8,339*	74%	2.2%
Northwest							
Geary	2,673	3,763	71%	0	2,673	71%	0.0%
California	1,989	2,306	**86%**	0	1,989	**86%**	0.0%
Sutter/Clement	581	756	77%	0	581	77%	0.0%
Fulton/Hayes	1,962	1,977	**99%**	0	1,962	**99%**	0.0%
Balboa	690	1,008	68%	0	690	68%	0.0%
Screenline Total	*7,895*	*9,810*	80%	*0*	*7,895*	80%	0.0%
Southeast							
Third Street	2,422	5,712	42%	185	2,607	46%	7.1%
Mission	3,117	3,008	**104%**	0	3,117	**104%**	0.0%
San Bruno/Bayshore	**1,952**	**2,197**	**89%**	**0**	**1,952**	**89%**	**0.0%**
Other lines	1,795	2,027	**89%**	90	1,885	**93%**	4.8%
Screenline Total	*9,286*	*12,944*	*72%*	*275*	*9,561*	*74%*	*2.9%*
Southwest							
Subway lines	6,314	7,020	**90%**	210	6,524	**93%**	3.2%
Haight/Noriega	1,415	1,596	**89%**	0	1,415	**89%**	0.0%
Other lines	175	560	31%	0	175	31%	0.0%
Screenline Total	*7,904*	*9,176*	**86%**	*210*	*8,114*	**88%**	2.6%
Muni Screenlines Total	*33,237*	*43,188*	77%	*672*	*33,909*	*79%*	*2.0%*
Project Specific Cordon							
Project-Specific Cordon Total	*5,541*	*10,994*	*50%*	*364*	*5,905*	*54%*	6.17%
Individual Routes at Project-Specific Cordon							
30 Stockton IB	215	705	30%	60	275	39%	21.82%
30 Stockton OB	478	705	68%	27	505	72%	5.35%
45 Union/Stockton IB	606	473	**128%**	8	614	**130%**	1.30%
45 Union/Stockton OB	485	473	**103%**	4	489	**103%**	0.82%
N Judah IB	382	2,596	15%	111	493	19%	22.52%
N Judah OB	398	2,596	15%	49	447	17%	10.96%
T Third IB	1,554	5,712	27%	418	1,972	35%	21.19%
T Third OB	3,327	5,712	58%	185	3,513	61%	5.28%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 37B: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER SUBCORRIDORS AM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Muni Screenline	Cumulative 2040			Cumulative 2040 Plus Project			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
Northeast/Other Lines							
E Embarcadero	75	280	27%	12	87	31%	13.79%
F Market and Wharves	315	560	56%	0	315	56%	0.00%
10 Townsend	259	630	41%	82	341	54%	24.05%
11 Downtown Circ.	109	315	35%	25	134	43%	18.66%
12 Folsom Pacific	—	—	—	—	—	—	—
Southeast/Other Lines							
J Church	915	893	**102%**	0	915	**102%**	0.00%
10 Townsend	544	630	**86%**	55	599	**95%**	9.18%
12 Folsom Pacific	—	—	—	—	—	—	—
19 Polk	160	252	63%	0	160	63%	0.00%
27 Bryant	176	252	70%	35	211	84%	16.59%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.
The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 38A: MUNI DOWNTOWN SCREENLINES PM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Muni Screenline	Cumulative 2040			Cumulative 2040 Plus Project			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
Northeast							
Kearny/Stockton	6,295	8,329	76%	63	6,358	76%	1.0%
Other lines	1,229	2,065	60%	111	1340	65%	8.3%
Screenline Total	*7,524*	*10,394*	72%	*174*	*7,698*	74%	2.3%
Northwest							
Geary	2,996	3,621	83%	0	2,996	83%	0.0%
California	1,766	2,021	**87%**	0	1,766	**87%**	0.0%
Sutter/Clement	749	756	**99%**	0	749	**99%**	0.0%
Fulton/Hayes	1,762	1,878	**94%**	0	1,762	**94%**	0.0%
Balboa	776	974	80%	0	776	80%	0.0%
Screenline Total	*8,049*	*9,250*	**87%**	*0*	*8,049*	**87%**	0.0%
Southeast							
Third Street	2,300	5,712	40%	253	2,553	45%	9.9%
Mission	2,673	3,008	**89%**	0	2,673	**89%**	0.0%
San Bruno/Bayshore	1,817	2,134	**85%**	0	1,817	**85%**	0.0%
Other lines	1,582	1,927	**82%**	97	1,679	**87%**	5.8%
Screenline Total	*8,372*	*12,781*	66%	*350*	*8,722*	*68%*	*4.0%*
Southwest							
Subway lines	5,692	6,804	84%	201	5,893	**87%**	3.4%
Haight/Noriega	1,265	1,596	79%	0	1,265	79%	0.0%
Other lines	380	840	45%	0	380	45%	0.0%
Screenline Total	*7,337*	*9,240*	79%	*201*	*7,538*	82%	2.7%
Muni Screenlines Total	*31,282*	*41,665*	75%	*725*	*32,007*	*77%*	*2.3%*
Project Specific Cordon							
Project-Specific Cordon Total	*5,552*	*10,805*	*51%*	*488*	*6,040*	*56%*	8.08%
Individual Routes at Project-Specific Cordon							
30 Stockton IB	347	705	49%	36	383	54%	9.40%
30 Stockton OB	400	705	57%	54	454	64%	11.89%
45 Union/Stockton IB	297	473	63%	5	302	64%	1.66%
45 Union/Stockton OB	323	473	68%	9	332	70%	2.71%
N Judah IB	338	2,596	13%	67	405	16%	16.54%
N Judah OB	265	2,596	10%	103	368	14%	27.99%
T Third IB	3,758	5,712	66%	253	4,011	70%	6.30%
T Third OB	2,219	5,712	39%	389	2,608	46%	14.91%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 38B: MUNI DOWNTOWN SCREENLINES: ROUTES FOR OTHER SUBCORRIDORS PM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Muni Screenline	Cumulative 2040			Cumulative 2040 Plus Project			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
Northeast/Other Lines							
E Embarcadero	96	280	34%	9	105	38%	8.57%
F Market and Wharves	490	840	58%	0	490	58%	0.00%
10 Townsend	482	630	77%	84	566	**90%**	14.84%
11 Downtown Circ.	161	315	51%	18	179	57%	10.06%
12 Folsom Pacific	—	—	—	—	—	—	—
Southeast/Other Lines							
J Church	655	793	83%	0	655	83%	0.00%
10 Townsend	627	630	**100%**	64	691	**110%**	9.26%
12 Folsom Pacific	—	—	—	—	—	—	—
19 Polk	160	252	63%	0	160	63%	0.00%
27 Bryant	140	252	56%	33	173	69%	19.08%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

The ridership and capacity data presented above are at the screenline maximum load point.
The a.m. peak-hour inbound and p.m. peak-hour outbound data are presented because those peak directions have higher ridership than the opposing directions of travel.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

Mitigation Measure M-C-TR-4: Provide Fair-Share Contribution to Improve 10 Townsend Line Capacity

Upon completion and occupancy of Phase 1 and upon completion and occupancy of each subsequent phase of the proposed project as defined in the Disposition and Development Agreement, the project sponsor shall fund a transit capacity study to be reviewed and approved by the SFMTA. The project sponsor shall obtain from SFMTA the current ridership on the 10 Townsend and conduct an assessment of the capacity utilization at the screenline's Maximum Load Point (MLP) for weekday AM and PM peak hour conditions.

If the capacity utilization exceeds 85 percent, a fair share payment shall be made to SFMTA by the project sponsor, calculated as further provided in a Transit Mitigation Agreement. Such payment shall be calculated in light of the project's progress towards one or the other of the development scenario (i.e. High Commercial or High Residential) as reflected by all phases of the project that have been completed up to such date. The fair share contributions by phase differ by scenario because the number of transit riders varies due to different mixes of land use.

If the capacity utilization based on SFMTA's ridership data is less than 85 percent, then the project sponsor's fair share payment for that phase shall be $0 and the process will repeat at the next subsequent phase. Each subsequent fair share calculation shall take account of amounts paid for prior phases, to ensure that payments are not duplicative for the same transit rider impacts.

The project sponsor shall enter into a Transit Mitigation Agreement with the SFMTA under which the agreement shall provide for the project sponsor to make a fair share contribution to the cost of providing additional bus service or improving service on the 10 Townsend by paying a fee. The fair share contribution as documented in the Transportation Impact Study from the proposed project shall not exceed the following amounts, in total across all phases:

a. $391,179 for High Commercial

b. $324,595 for High Residential

SFMTA may determine that other measures to increase capacity along the route would be more desirable than adding buses and may use the funds provided by the project sponsor to implement these other measures, which include but are not limited to the following measures:

1. Convert to using higher-capacity vehicles on the 10 Townsend route. In this case, the project sponsor's fair share contribution may be utilized to convert the route to articulated buses. Some bus stops along the route may not currently be configured to accommodate the longer articulated buses. Some bus zones could be extended by removing one or more parking spaces at locations where appropriate space is available.

2. Instead of adding more buses to a congested route, it would be more desirable to increase travel speeds along the route which would allow for buses to move faster thus increasing efficiency and reliability. In this case, the project sponsor's fair share contribution may be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase travel speeds enough to increase capacity along the bus route. Such improvements could include transit only lanes, transit signal priority, and transit boarding improvements.

3. Another option to increase capacity along the corridor is to add a new Muni service route in this area. If this option is selected, the project sponsor's fair share contribution may fund the purchase of the new vehicles.

6.4.2 Muni Project-Specific Cordon

The project-specific transit cordon was established to measure the number of transit trips traveling between the proposed project and the San Francisco Financial District through the SOMA neighborhood. The project-specific cordon encompasses transit routes that cross Townsend Street, from Fifth Street to Embarcadero and/or from Fifth Street between Townsend Street and Berry Street.

The project-specific cordon would operate at 34 percent utilization in the a.m. peak hour and 31 percent utilization in the p.m. peak hour under cumulative conditions. The addition of ridership from the proposed project would increase capacity utilization to a range of 34 to 38 percent under the High Commercial Assumption and High Residential Assumption.

Capacity utilization on the four individual Muni routes that were evaluated as part of the Muni project-specific cordon analysis would range from 13 to 130 percent under cumulative conditions. The 45 Union/Stockton IB route would operate at 130 percent utilization in the a.m. peak hour and 64 percent utilization in the p.m. peak hour for both the High Residential Assumption and High Commercial Assumption. The 45 Union/Stockton OB route would operate at 103 percent utilization in the a.m. peak

hour and 70 percent utilization in the p.m. peak hour for both the High Residential Assumption and High Commercial Assumption. The addition of transit trips from the proposed project would result in an increase in riders of less than 5 percent under all scenarios for the 45 Union/Stockton route. The remaining three Muni routes would operate at capacity utilization levels of less than 85 percent under all cumulative scenarios. The 30 Stockton route, which would exceed 85 percent utilization and 5 percentage contribution levels under baseline conditions, would operate at utilization rates of less than 85 percent under cumulative conditions because of future capacity improvements to the route under Muni Forward.

Because the proposed project would not cause the project-specific cordon screenline or individual routes evaluated as part of the project-specific cordon screenline to exceed 85 percent or cause more than a 5 percent capacity utilization increase along any of the individual Muni routes that would exceed 85 percent utilization under the High Residential Assumption or High Commercial Assumption, the project would not make a consideration contribution to 2040 cumulative conditions and the cumulative impact from the project would be ***less-than-significant***.

6.5 CUMULATIVE REGIONAL TRANSIT CAPACITY IMPACTS

6.5.1 High Residential Assumption

Transit trips were assigned to the regional routes based on the likely origins and destinations of the trips and the available capacity for each regional provider. **Table 39** and **Table 40** present the ridership and capacity utilization at regional screenlines with project-generated transit trips added to cumulative ridership for the High Residential Assumption in the a.m. and p.m. peak hours.

The High Residential Assumption would contribute 298 riders from the East Bay, 52 riders from the North Bay, and 265 riders from the South Bay in the inbound direction in the a.m. peak hour, and 284 riders to the East Bay, 52 riders to the North Bay, and 271 riders to the South Bay in the outbound direction in the p.m. peak hour.

The East Bay regional transit screenlines would not exceed capacity utilization standards in the a.m. and p.m. peak hours under cumulative conditions. The proposed project would increase ridership at the East Bay regional transit screenline by 0.6 percent in the a.m. and p.m. peak hours under the High Residential Assumption. Although the BART line to the East Bay would exceed its capacity utilization in the a.m. peak hour and the p.m. peak hour, the proposed project would contribute less than 5 percent to total ridership on the East Bay regional transit screenline.

Because the proposed project would not cause any of the regional screenlines to exceed 100 percent or result in more than a 5 percent capacity utilization increase in any of the regional screenlines and exceed 100 percent utilization under cumulative conditions under the High Residential Assumption, project contributions to cumulative impacts would be ***less-than-significant***. No mitigation is required.

TABLE 39: REGIONAL TRANSIT SCREENLINES AM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Regional Screenline	Cumulative 2040 (Inbound)			Cumulative 2040 Plus Project (Inbound)			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
East Bay							
BART	38,000	32,100	**118%**	253	38,253	**119%**	0.7%
AC Transit	7,000	12,000	58%	30	7,030	59%	0.4%
Ferries	4,682	5,940	79%	15	4,697	79%	0.3%
Screenline Total	*49,682*	*50,040*	*99%*	*298*	*49,980*	**100%**	0.6%
North Bay							
Golden Gate Transit Bus	1,990	2,543	78%	31	2,021	79%	1.5%
Ferries	1,619	1,959	83%	21	1,640	84%	1.3%
Screenline Total	*3,609*	*4,502*	*80%*	*52*	*3,661*	*81%*	*1.4%*
South Bay							
BART	21,000	28,808	73%	199	21,199	74%	0.9%
Caltrain	2,310	3,600	64%	53	2,363	66%	2.2%
SamTrans	271	520	52%	13	284	55%	4.6%
Screenline Total	*23,581*	*32,928*	*72%*	*265*	*23,846*	*72%*	*1.1%*
Regional Screenlines Total	*76,872*	*87.470*	*88%*	*615*	*77,487*	*89%*	*0.8%*

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 40: REGIONAL TRANSIT SCREENLINES PM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH RESIDENTIAL ASSUMPTION)

Regional Screenline	Cumulative 2040 (Inbound)			Cumulative 2040 Plus Project (Inbound)			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
East Bay							
BART	36,000	32,100	**112%**	242	36,242	**113%**	0.7%
AC Transit	7,000	12,000	58%	28	7,028	59%	0.4%
Ferries	5,319	5,940	90%	14	5,333	90%	0.3%
Screenline Total	*48,319*	*50,040*	*97%*	*284*	*48,603*	*97%*	*0.6%*
North Bay							
Golden Gate Transit Bus	2,070	2,817	74%	31	2,101	75%	1.5%
Ferries	1,619	1,959	83%	21	1,640	84%	1.3%
Screenline Total	*3,689*	*4,776*	*77%*	*52*	*3,741*	*78%*	*1.4%*
South Bay							
BART	20,000	28,808	69%	203	20,203	70%	1.0%
Caltrain	2,529	3,600	70%	54	2,583	72%	2.1%
SamTrans	150	320	47%	14	164	51%	8.5%
Screenline Total	*22,679*	*32,728*	*69%*	*271*	*22,950*	*70%*	*1.2%*
Regional Screenlines Total	*74,687*	*87,544*	*85%*	*607*	*75,294*	*86%*	*0.8%*

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

6.5.2 High Commercial Assumption

Table 41 and **Table 42** present the ridership and capacity utilization at regional screenlines with project-generated transit trips added to cumulative ridership for the High Commercial Assumption in the a.m. and p.m. peak hours in 2040.

The High Commercial Assumption would contribute 354 transit riders from the East Bay, 67 transit riders from the North Bay, and 261 transit riders from the South Bay in the inbound direction in the a.m. peak hour. In the outbound direction in the p.m. peak hour the proposed project would contribute 332 transit riders to the East Bay, 65 transit riders to the North Bay, and 260 transit riders to the South Bay.

The East Bay regional transit screenlines would not exceed capacity utilization standards in the a.m. and p.m. peak hours under cumulative conditions. The proposed project would increase ridership at the East Bay regional transit screenline by 0.7 percent in the a.m. and p.m. peak hours under the High Commercial Assumption. Although the BART line to the East Bay would exceed its capacity utilization in the a.m. peak hour and p.m. peak hour, the proposed project would contribute less than 5 percent to total ridership on the East Bay regional transit screenline.

Because the proposed project would not cause any of the regional screenlines to exceed 100 percent or cause more than a 5 percent capacity utilization increase in any of the regional screenlines that would

exceed 100 percent utilization under cumulative 2040 conditions under the High Commercial Assumption, project contributions to cumulative impacts would be ***less-than-significant***. No mitigation is required.

TABLE 41: REGIONAL TRANSIT SCREENLINES AM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Regional Screenline	Cumulative 2040 (Inbound)			Cumulative 2040 Plus Project (Inbound)			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
East Bay							
BART	38,000	32,100	**118%**	301	38,301	**119%**	0.8%
AC Transit	7,000	12,000	58%	35	7,035	59%	0.5%
Ferries	4,682	5,940	79%	18	4,700	79%	0.4%
Screenline Total	*49,682*	*50,040*	*99%*	*354*	*50,036*	***100%***	0.7%
North Bay							
Golden Gate Transit Bus	1,990	2,543	78%	40	2,030	80%	2.0%
Ferries	1,619	1,959	83%	27	1,646	84%	1.6%
Screenline Total	*3,609*	*4,502*	*80%*	*67*	*3,676*	82%	1.8%
South Bay							
BART	21,000	28,808	73%	196	21,196	74%	0.9%
Caltrain	2,310	3,600	64%	52	2,362	66%	2.2%
SamTrans	271	520	52%	13	284	55%	4.6%
Screenline Total	*23,581*	*32,928*	*72%*	*261*	*23,842*	72%	1.1%
Regional Screenlines Total	*76,872*	*87.470*	*88%*	*682*	*77,554*	89%	0.9%

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

TABLE 42: REGIONAL TRANSIT SCREENLINES PM PEAK HOUR – CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS (HIGH COMMERCIAL ASSUMPTION)

Regional Screenline	Cumulative 2040 (Inbound)			Cumulative 2040 Plus Project (Inbound)			
	Ridership	Capacity	Utilization	Project Trips	Ridership	Utilization	% Contribution
East Bay							
BART	36,000	32,100	**112%**	282	36,282	**113%**	0.8%
AC Transit	7,000	12,000	58%	33	7,033	59%	0.5%
Ferries	5,319	5,940	90%	17	5,336	90%	0.3%
Screenline Total	*48,319*	*50,040*	*97%*	*332*	*48,651*	*97%*	*0.7%*
North Bay							
Golden Gate Transit Bus	2,070	2,817	74%	39	2,109	75%	1.8%
Ferries	1,619	1,959	83%	26	1,645	84%	1.6%
Screenline Total	*3,689*	*4,776*	*77%*	*65*	*3,754*	*79%*	*1.7%*
South Bay							
BART	20,000	28,808	69%	195	20,195	70%	1.0%
Caltrain	2,529	3,600	70%	52	2,581	72%	2.0%
SamTrans	150	320	47%	13	163	51%	8.0%
Screenline Total	*22,679*	*32,728*	*69%*	*260*	*22,939*	*70%*	*1.1%*
Regional Screenlines Total	*74,687*	*87,544*	*85%*	*657*	*75,344*	*86%*	*0.9%*

Notes: **Bold** indicates capacity utilization of 85 percent or greater.

Source: San Francisco Planning Department, "Transit Data for Transportation Impact Studies," May 2015. See **Appendix C** for Transit Line Capacity Calculations.

6.6 TRANSIT DELAY IMPACTS

Traffic volumes in the project vicinity would increase between implementation of the proposed project and 2040 cumulative conditions due to buildout of planned Mission Bay developments in the project vicinity. Dedicated transit lanes exist or would be provided by 2040 on Third Street, Fourth Street, Embarcadero, and 16th Street. The T Third will operate in the Central Subway north of King Street. Transit routes that are forecast to be most heavily used under cumulative conditions are located along these four streets that provide dedicated transit lanes.

Impact TR-4 provides a detailed description of the assessment of the potential effects of the project on transit delays that would affect operations of the T Third line. These delays would be caused by the addition of project vehicle trips that would result in queues at the driveways for the proposed project parking garages and or queues at intersections adjacent to the garage facilities.

The queue impact at the Mission Rock Square underground garage would be ***less-than-significant***. The queue impacts at the Mission Rock Street driveways for the Block D2 garage during the a.m. peak hour would cause a significant transit delay impact. Due to growth in background traffic under cumulative conditions, the queue impacts at the southbound left-turn lane at the Third Street/Mission Rock Street intersection during the a.m. peak hour would cause a significant transit delay impact. This is a ***significant cumulative impact***.

Implementation of Mitigation Measure M-TR-6.1 would resolve transit delay impacts to being less than significant. However, at this time they may not be considered to fully resolve transit delay impacts because, and to the extent that, implementation of some of components of the mitigation (i.e., approval of restriping on Third Street and entering into an Event Management Agreement with the project sponsor to allocate PCOs on site), require SFMTA Board approval, and such approval is currently considered uncertain. Thus, based upon such current uncertainty of full implementation of Mitigation Measure M-TR-6.1, the proposed project's cumulative impact on transit delay be considered to remain ***significant and unavoidable with mitigation***.

6.7 CUMULATIVE PEDESTRIAN IMPACTS

Pedestrian volumes in the project vicinity would increase between implementation of the proposed project and 2040 cumulative conditions due to build-out of planned Mission Bay developments in the project vicinity. As described earlier, the proposed project includes numerous sidewalks, traffic control modifications, and intersection pedestrian crossing treatments that would improve and define the pedestrian network adjacent to the project site.

In addition, there would be a projected increase in background vehicle and bicycle traffic between implementation of the proposed project and 2040 cumulative conditions that could result in increased potential for pedestrian-vehicle and pedestrian-bicycle conflicts. Implementation of Mitigation Measure M-TR-9.1 would fully resolve pedestrian safety impacts associated with the project such that such impacts would be less than significant. However, at this time, the approval of the signalization improvements is considered somewhat uncertain, because they will require SFMTA Board approval. For the above reasons, the proposed project's contribution to potential cumulative impacts would be ***significant and unavoidable with mitigation***.

6.8 CUMULATIVE BICYCLE IMPACTS

Bicycle volumes in the project vicinity would increase between implementation of the proposed project and 2040 cumulative conditions due to build-out of planned Mission Bay developments in the project vicinity. The proposed project includes numerous bicycle facilities, traffic control modifications, and intersection crossing treatments that would improve and define the bicycle network adjacent to the project site. New bicycle facilities such as the Blue Greenway and bike lanes on the 16th Street Extension to Terry A. Francois Boulevard would also be in place.

As noted above, under 2040 cumulative conditions, there is a projected increase in vehicles at intersections in the vicinity of the proposed project, which may result in an increase in vehicle-bicycle conflicts at intersections in the study area. However, the numerous bicycle improvements that would be implemented by the proposed project and other Mission Bay development and infrastructure projects would define the bicycle network and would offset the risks associated with increase in vehicle volumes. For the above reasons, the proposed project's contribution to potential cumulative impacts would be ***less than significant with mitigation***.

6.9 CUMULATIVE LOADING IMPACTS

Loading impacts are by their nature localized and site-specific. With mitigation, the proposed project would result in a less-than-significant loading impact based on the shortfall in on-street loading facilities proposed compared to the demand, as explained in Impact TR-11. Mitigation Measures M-TR-11.1 and M-TR-11.2

provide for ongoing monitoring and management of commercial loading and deliveries. The shortfall on the project site would not be expected to contribute to any loading impacts from other development projects near the project site. Overall, because loading tends to occur as close to the delivery point as possible, particularly in cases where loading occurs via double-parking, as may be the case within the project site, it is not expected that unmet loading demand associated with the proposed project would be accommodated outside of the project site. Similarly, it is not likely that unmet loading demand from other parts of the study area would interfere with the project site. Thus, there is no significant cumulative loading impact in the project area. Consequently, the project would not make a considerable contribution to cumulative loading impacts and cumulative impacts are ***less than significant with mitigation.***

6.10 CUMULATIVE EMERGENCY VEHICLE ACCESS IMPACTS

As described above, the proposed project is located adjacent to the Public Safety Building located on Third Street at Mission Rock Street. This facility accommodates the headquarters of the San Francisco Police Department, the new Southern District police station, and a new fire station (i.e., Station 4). The fire station has access on Mission Rock Street between Third Street and Terry A. Francois Boulevard, immediately adjacent to the study area. Fire truck ingress and egress occurs on the south side of Mission Rock Street, approximately 125 feet east of Third Street. The fire station driveway is approximately 56 feet wide. Police vehicles can access the Public Safety Building via two driveways; one is located on China Basin Street and a secondary driveway is located on Mission Rock Street. The proposed project includes implementation of a "keep clear" zone on Mission Rock Street in front of the police and fire truck access point to ensure that police vehicles and fire trucks are provided clear access and egress. Under cumulative conditions, the emergency vehicles from the public safety building would be able to continue to access this site as necessary to respond to incidents in the area.

Emergency vehicle could use mixed-flow lanes to respond to incidents as needed. In addition, with the implementation of the planned 22 Fillmore Transit Priority Project, transit-only lanes will be implemented adjacent to the curb on 16th Street west of Third Street, and emergency vehicles will be permitted use of the transit-only lanes. The transit-only lanes on 16th Street would have fewer vehicles in them than the adjacent mixed-flow lanes, and would not be subject to any turn restrictions. Persons accessing the UCSF Medical Center emergency room and urgent care center in their personal vehicles during an emergency would, if necessary, also be able to utilize the transit-only lanes to bypass congested segments on 16th Street.

The proposed project would not contribute considerably to cumulative emergency vehicle access impacts in the area. With implementation of transit-only lanes and changes to the number and direction of travel lanes on streets in the vicinity of the proposed project, emergency vehicle providers may adjust travel routes to respond to incidents; however, emergency vehicle access in the area would not be substantially affected. Emergency vehicles would be permitted full use of transit-only lanes and would not be subject to any turn restrictions.

With the addition of the Golden State Warriors Event Center, south of the project site, there will be additional periods of congestion in the area. However, the arena operators are required to provide comprehensive event transportation management strategies to reduce the overall effect of event-related congestion on bicycles, pedestrians, transit, and emergency vehicle operations.

On days with dual events at AT&T Park and at the proposed Golden State Warriors Event Center, traffic conditions and overall congestion levels may be substantial. The proposed project would not schedule an

on-site major special event (i.e., an event not related to a Giants game) with an anticipated attendance of approximately 5,000 persons during the same period of time as a dual Warrior arena and ballpark major event. The Ball Park/Mission Bay Transportation Coordination Committee (BMBTCC) coordinates event schedules and transportation management strategies. SFMTA also has a special events manager to coordinate special events. Relevant transportation plans for special events include but are not limited to the Pacific Bell (now AT&T) Park Transportation Management Plan and the Transportation Management Plan for the Warriors San Francisco Event Center. The Pier 70 Transportation Plan and the Mission Rock Transportation Plan would both have provisions for managing special events. The ability of emergency vehicles to maneuver through the study area via transit-only lanes, combined with the strategies in the Transportation and Event Management Plans described above including a high level of active management from parking control officers who can assist with prioritizing emergency vehicle travel through congestion locations, would mean that emergency vehicles would be able to operate under these conditions. Therefore, for the above reasons, the proposed project, in combination with past, present, and reasonably foreseeable development in the area, would result in ***less-than-significant*** cumulative emergency vehicle access impacts.

In addition, the TIS analyzed a dual event scenario that added trips from approximately 9,000 attendees from a convention event at the Warriors Event Center to the proposed project's trips in the p.m. peak hour. A convention event, rather than a basketball game, at the Warriors Event Center was selected for analysis as a reasonably conservative assumption, because the convention event scenario adds the most trips to the p.m. peak hour, as the basketball game scenario's peak travel times occur later in the day than the evaluated p.m. peak hour. The analysis concluded that the proposed project, in combination with past, present, and reasonably foreseeable development in San Francisco, including a convention event at the Warriors Event Center, would result in ***less-than-significant*** cumulative emergency vehicle access.

As discussed above, Mitigation Measure M-TR-12.1 would ensure that the proposed project would be designed to not impede access and to ensure clear ingress/egress for the Police and Fire Departments' vehicles into the Public Safety Building. Thus, with implementation of Mitigation Measure M-TR-12.1, there would be no cumulative impacts and no cumulatively considerable contribution to significant cumulative impacts related to the Police and Fire Departments' vehicles access to the Public Safety Building. Implementation of M-TR-12.1 would result in ***less-than-significant*** cumulative emergency vehicle impact.

6.11 CUMULATIVE PARKING IMPACTS

Over time, due to the land use development and increased density anticipated within the city, parking demand and competition for on-street and off-street parking will likely increase. As described in Impact TR 12, the new off-street parking supply provided as part of the proposed project would not be expected to accommodate the projected parking demand, and would result in a shortfall in parking spaces that would need to be accommodated in other off-street public parking facilities and on-street or would result in a greater use of transit, bicycle, or pedestrian modes as an alternative to driving.

Other cumulative development projects may also contribute to area-wide parking demand. Additionally, through the implementation of the City's Transit-First Policy, the San Francisco Better Streets Plan, Vision Zero projects, and related projects, on-street parking spaces may be further removed to promote sustainable travel modes and sustainable street designs including cycle tracks, bicycle lanes, transit bulbs, and corner bulb-outs. These projects would encourage transit use through the reduction of transit travel time and increase of transit reliability, and would encourage bicycle use through provision of separate

bicycle facilities that would offer a higher level of security than bicycle lanes and would be attractive to a wider spectrum of the public.

Under 2040 cumulative conditions, within the study area, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles, or walking) and a relatively dense pattern of urban development, may induce drivers to shift to other modes of travel, or change their overall travel habits. Implementation of the proposed project's TDM Program would further lead to a mode shift from private passenger vehicles to transit or other modes of travel. On February 7, 2017, the San Francisco Board of Supervisors approved an ordinance amending the Planning Code to establish a citywide TDM Program.

Considering the location in proximity to high-quality local and regional transit service with multiple alternative public parking facilities the cumulative increase in parking demand as part of new development and associated parking shortfall would not be considered substantial. Thus, the project in combination with past, present, and reasonably foreseeable development in the area, would result in ***less-than-significant*** cumulative impacts on parking.

7 INTERSECTION AND FREEWAY OPERATIONS ANALYSIS (FOR INFORMATIONAL DISCUSSION ONLY)

The operating characteristics of intersections are evaluated using the concept of Level of Service ("LOS"). LOS is a qualitative description of driver comfort and convenience. Most often, an intersection's average delay per vehicle is used as a quantitative proxy for LOS. Intersection levels of service range from LOS A, which indicates free flow or unimpeded vehicle flow conditions with short delays, to LOS F, which indicates congested or overloaded vehicle flow conditions with extremely long delays. LOS A through D are generally considered desirable, unless achieving this through capacity increases would generally conflict with other City policies. The intersections were evaluated using the *2000 Highway Capacity Manual* (HCM) methodology.[33]

Table 43 and **Table 44** summarize the relationship between average delay per vehicle and LOS for signalized and unsignalized intersections according to the 2000 HCM method. Twenty-one of the 37 existing study intersections are signalized. Seven intersections are all-way stop controlled, and the remaining eight are stop-controlled for side-street vehicles.

For signalized intersections, this methodology determines the capacity for each lane group approaching the intersection. The LOS is based on average delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average delay and LOS is presented for the intersection. For unsignalized intersections, operations are defined by the average control delay per vehicle (in seconds per vehicle) for each stop-controlled movement or movement that must yield the right-of-way. Control delay and corresponding LOS for the approach with the highest delay is reported. Delay LOS ranges are lower for unsignalized intersections than for signalized intersections because drivers expect to incur less delay at unsignalized intersections.

[33] As part of the HCM methodology, adjustments are typically made to the capacity of each intersection to account for various factors that reduce the ability of the streets to accommodate vehicles (such as the downtown nature of the study area, number of pedestrians, vehicle type, lane widths and queues). These adjustments are performed to ensure that the LOS analysis results reflect the operating conditions that are observed in the field. See **Appendix H** for adjustments made at study intersections.

TABLE 43: SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10.0
B	Operations with low delay occurring with good progression and short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual – Special Report 209 (Transportation Research Board, 2000).

TABLE 44: UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no traffic delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: Highway Capacity Manual – Special Report 209 (Transportation Research Board, 2000).

Similar to intersections, the operating characteristics of freeway merge and diverge segments are evaluated using the concept of LOS. Freeway ramp merge and diverge section LOS is based on vehicle density (passenger cars per lane-mile) using the relationships presented in **Table 45**. Freeway ramp density is calculated using the methods described in Chapter 13 of the Highway Capacity Manual. In San Francisco, LOS A through D are considered desirable; LOS E and LOS F are considered unsatisfactory service levels.

Service volume is the primary measure used to evaluate operations of weaving sections. For weaving sections, the specific service volume, and thus level of service, is prescribed by the weaving volume, number of lanes, and length of weave. The service volume is calculated with the aid of nomographs published in *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, by J Leisch, & Associates, September 1983.

TABLE 45: FREEWAY MERGE AND DIVERGE SEGMENT LOS CRITERIA

Level of Service	Description	Density (pc/mi/ln)
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 11
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45
F	Represents a breakdown in flow.	> 45

Source: Highway Capacity Manual – Special Report 209 (Transportation Research Board, 2000).

7.1 EXISTING CONDITIONS

This section includes descriptions of current intersection and freeway operating conditions.

7.1.1 Intersection Operations

This report evaluates intersection operating conditions during the weekday AM and PM peak periods without a Giants game, as well as the PM peak period during a Giants home game. Thirty-six study area intersections were selected for analysis through consultation with City staff. The intersection of 16th Street / Terry A. Francois Boulevard does not exist presently (vehicle traffic on 16th Street is currently blocked between Third Street and Terry A. Francois Boulevard), although some turning movements from the previous driveway were included in the counts. These study intersections are shown in **Figure 16** and are listed below:

1. Embarcadero / Bryant Street
2. Embarcadero / Brannan Street
3. Embarcadero / Townsend Street
4. King Street / Second Street
5. King Street / Third Street
6. King Street / Fourth Street
7. King Street / Fifth Street / I-280 Ramps
8. Beale Street / Bryant Street
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp
11. Second Street / Brannan Street
12. Second Street / Bryant Street
13. Third Street / Bryant Street

14. Third Street / Harrison Street
15. Third Street / Howard Street
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp
17. Fourth Street / Harrison Street / I-80 WB On-Ramp
18. Fourth Street / Howard Street
19. Fifth Street / Bryant Street / I-80 EB On-Ramp
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp
21. Third Street / Terry A. Francois Boulevard
22. Third Street / Channel Street
23. Third Street / Mission Rock Street
24. Fourth Street / Channel Street
25. Terry A. Francois Boulevard / Mission Rock Street
26. 16th Street / Terry A. Francois Boulevard (future)
27. 16th Street / Third Street
28. 16th Street / Owens Street
29. 16th Street / Seventh Street / Mississippi Street
30. Seventh Street / Mission Bay Drive
31. Mariposa Street / Terry A. Francois Blvd. / Illinois St.
32. Mariposa Street / Third Street
33. Mariposa Street / I-280 NB Off-Ramp
34. Mariposa Street / I-280 SB On-Ramp
35. Third Street / 22nd Street
36. Third Street / Cesar Chavez Street

Figure 17 displays the existing peak hour traffic volumes for the three peak periods studied (AM peak hour, PM peak hour, and PM peak hour with a Giants game), lane configurations and traffic controls (signal or stop) at each of the 35 existing study intersections. Traffic counts were obtained from previous transportation studies within the study area or from new intersection turning movement counts conducted in 2010, 2012, and 2013. **Table 46** includes the count dates for all study intersections. Counts conducted in 2010 were verified in the spring of 2015. The 2015 counts showed that current intersection traffic volumes are lower across the five intersections surveyed that in 2010. In order to maintain consistency with other studies and provide a conservative estimate, the 2010 counts are used in this study. Intersection turning movement count sheets and a summary of data sources (including the date of data collection) are provided in **Appendix** C**E**.

TABLE 46: INTERSECTION VEHICLE COUNT DATES

#	Intersection Name	AM	PM	PM Game
1	Third Street / Howard Street	4/9/2013	1/14/2010	9/10/2013
2	Fourth Street / Howard Street	9/12/2013	9/11/2012	6/4/2013
3	The Embarcadero / Folsom Street	4/9/2013	11/15/2012	6/4/2013
4	Fremont Street / Folsom Street / I-80 Westbound Off-Ramp	4/10/2013	11/14/2012	6/18/2013
5	The Embarcadero / Harrison Street	9/12/2013	11/15/2012	6/4/2013
6	Fremont Street / Harrison Street / I-80 Westbound Off-Ramp	9/12/2013	11/14/2012	6/18/2013
7	Third Street / Harrison Street	4/8/2013	1/14/2010	9/10/2013

TABLE 46: INTERSECTION VEHICLE COUNT DATES

#	Intersection Name	AM	PM	PM Game
8	Fourth Street / Harrison Street / I-80 Westbound On-Ramp	9/12/2013	11/14/2012	6/18/2013
9	Fifth Street / Harrison Street / I-80 Westbound Off-Ramp	9/12/2013	11/28/2012	6/18/2013
10	The Embarcadero / Bryant Street	9/12/2013	11/15/2012	6/4/2013
11	Beale Street / Bryant Street	4/17/2013	4/17/2013	6/4/2013
12	Second Street / Bryant Street	4/10/2013	11/15/2012	6/4/2013
13	Third Street / Bryant Street	1/13/2010	1/13/2010	9/10/2013
14	Fourth Street / Bryant Street / I-80 Eastbound Off-Ramp	1/13/2010	4/17/2013	6/18/2013
15	Fifth Street / Bryant Street / I-80 Eastbound On-Ramp	12/3/2009	11/28/2012	9/10/2013
16	The Embarcadero / Brannan Street	9/12/2013	11/15/2012	6/4/2013
17	Second Street / Brannan Street	9/12/2013	11/15/2012	6/4/2013
18	The Embarcadero / Townsend Street	9/12/2013	11/15/2012	6/4/2013
19	King Street / Second Street	9/12/2013	11/15/2012	6/4/2013
20	King Street / Third Street	4/9/2013	11/15/2012	6/4/2013
21	King Street / Fourth Street	4/10/2013	11/15/2012	6/4/2013
22	King Street / Fifth Street / I-280 On-/Off-Ramp	9/12/2013	11/15/2012	6/4/2013
23	Third Street / Terry A. Francois Boulevard	9/12/2013	9/12/2013	9/10/2013
24	Fourth Street / Channel Street	9/12/2013	6/12/2013	6/12/2013
25	Seventh Street / Mission Bay Drive	9/12/2013	6/11/2013	6/4/2013
26	Third Street / Channel Street	9/12/2013	6/11/2013	6/4/2013
27	Terry A. Francois Boulevard / Mission Rock Street	9/12/2013	9/12/2013	9/10/2013
28	Third Street / Mission Rock Street	9/12/2013	6/11/2013	6/4/2013
29	Terry A. Francois Boulevard / 16th Street (Future)	9/12/2013	9/12/2013	9/10/2013
30	Third Street / 16th Street	9/12/2013	6/11/2013	6/4/2013
31	Owens Street / 16th Street	9/12/2013	6/11/2013	6/4/2013
32	Seventh Street / Mississippi Street / 16th Street	9/12/2013	6/11/2013	6/4/2013
33	Terry A. Francois Boulevard / Illinois Street / Mariposa Street	9/12/2013	9/12/2013	9/10/2013
34	Third Street / Mariposa Street	9/12/2013	6/11/2013	6/4/2013
35	Mariposa Street / I-280 Northbound Off-Ramp	9/12/2013	6/11/2013	6/4/2013
36	Mariposa Street / I-280 Southbound On-Ramp	9/12/2013	6/11/2013	6/4/2013

Notes

September 2012 Count = For 5M Project TIS - Case No. 2011.0409E
November 2012 Count = For Central SoMa Plan TIS - Case No. 2011.1356E
April 2013 Count = For Central SoMa Plan TIS - Case No. 2011.1356E
June 2013 Count = For GS Warriors - Case No. 2014.1441E
September 2013 Count = For Mission Rock (Seawall Lot 337/Pier 48) - Case No. 2013.0208!

N

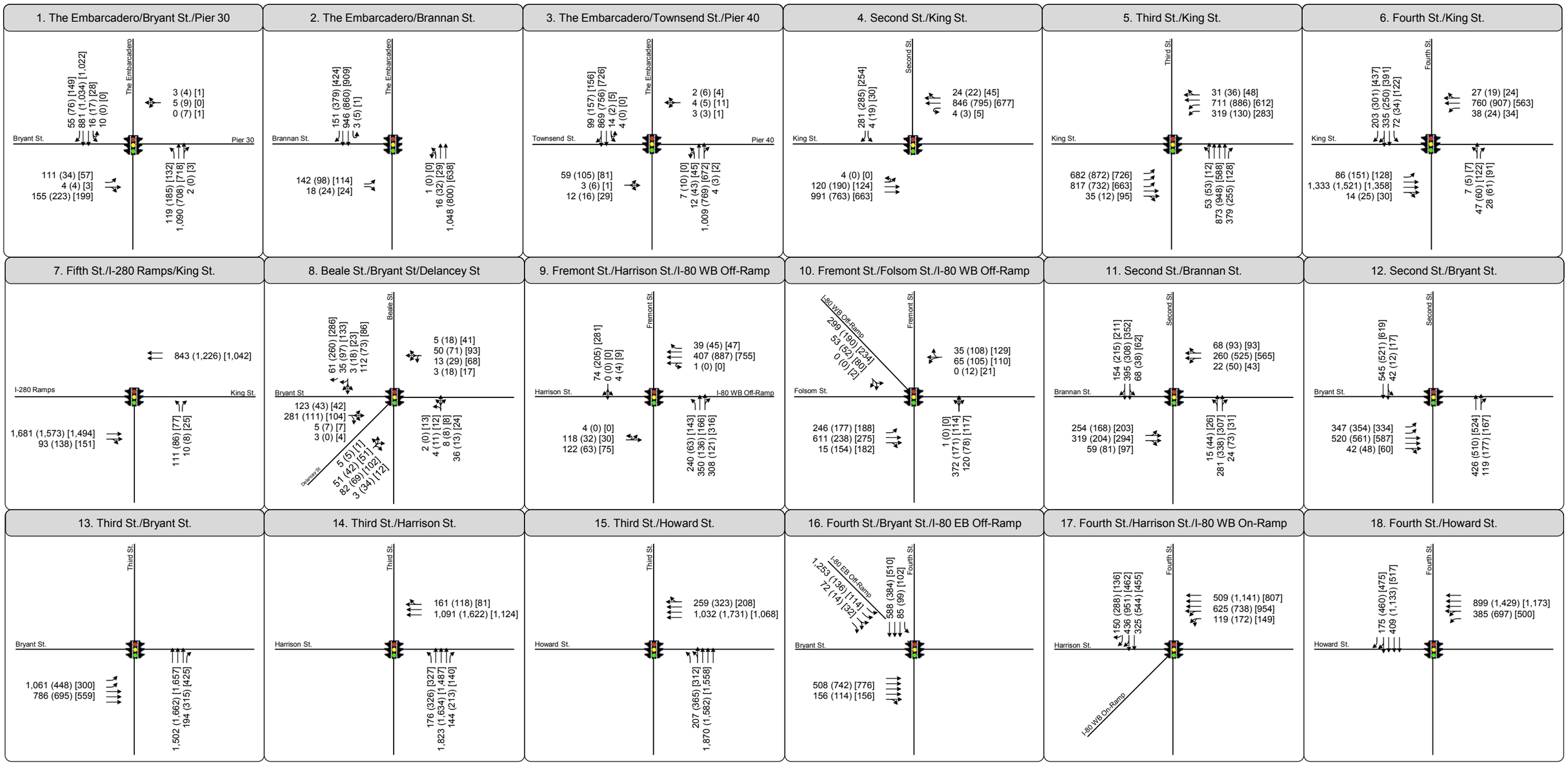
Not to Scale

SEAWALL LOT 337/PIER 48 STUDY INTERSECTIONS

FIGURE 16

FEHR PEERS

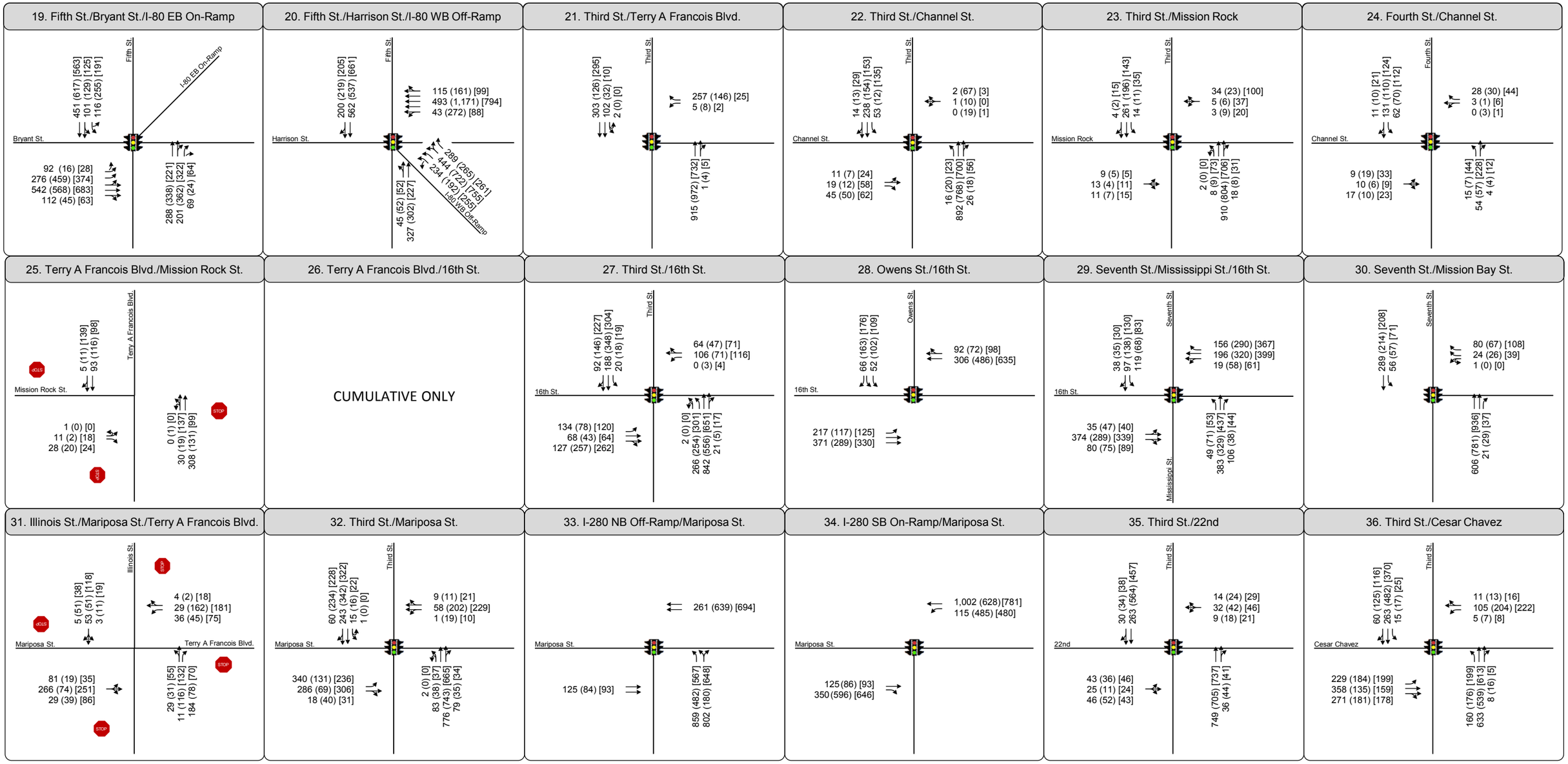
SF13-0697 Seawall Lot 337\Graphics



EXISTING PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES

FEHR PEERS

FIGURE 17-A



Turn Lane

AM (PM)
[PM w/Ballgame]
Peak Hour Traffic Volume

Critical Movement

Traffic Signal

Stop Sign

EXISTING PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES

FEHR PEERS

FIGURE 17-B

The study intersections were observed during both AM and PM peak hours to determine locations where queue spillback from adjacent intersections affects the operations at the study intersections in a way that may not be accounted for in the traffic counts. PM peak period queues were observed on weekday with no Giants home game; adjustments to the intersection analysis model default values for the PM peak hour without a Giants game (such as lane capacities and utilization) were carried over to the PM peak hour with a Giants game model. Model adjustments were also made for lanes that were blocked during one or both peak hours by parking. These model adjustments are consistent with results from other intersection impact analyses in the area. **Figure 18** shows the observed queues within the study area that affected operations at the study intersections during the AM peak hour and the PM peak hour without a Giants game.

Table 47 presents the results of the intersection LOS analysis and corresponding delay at each study intersection for the study weekday peak periods. As shown in the table, 31 of the 35 study intersections currently operate satisfactorily at LOS D or better during the AM peak hour. The Embarcadero/Bryant, King/Fifth/I-280 Ramps, and Fremont/Folsom/I-80 WB Off-Ramp intersections all operate at LOS E, and the Mariposa Street St/I-280 SB On-Ramp intersection operates at LOS F during the AM peak hour. Without a Giants Game, 27 of the 35 study intersections currently operate satisfactorily at LOS D or better during the PM peak hour. Four intersections operate at LOS E and four operate at LOS F during the PM period. These intersections include:

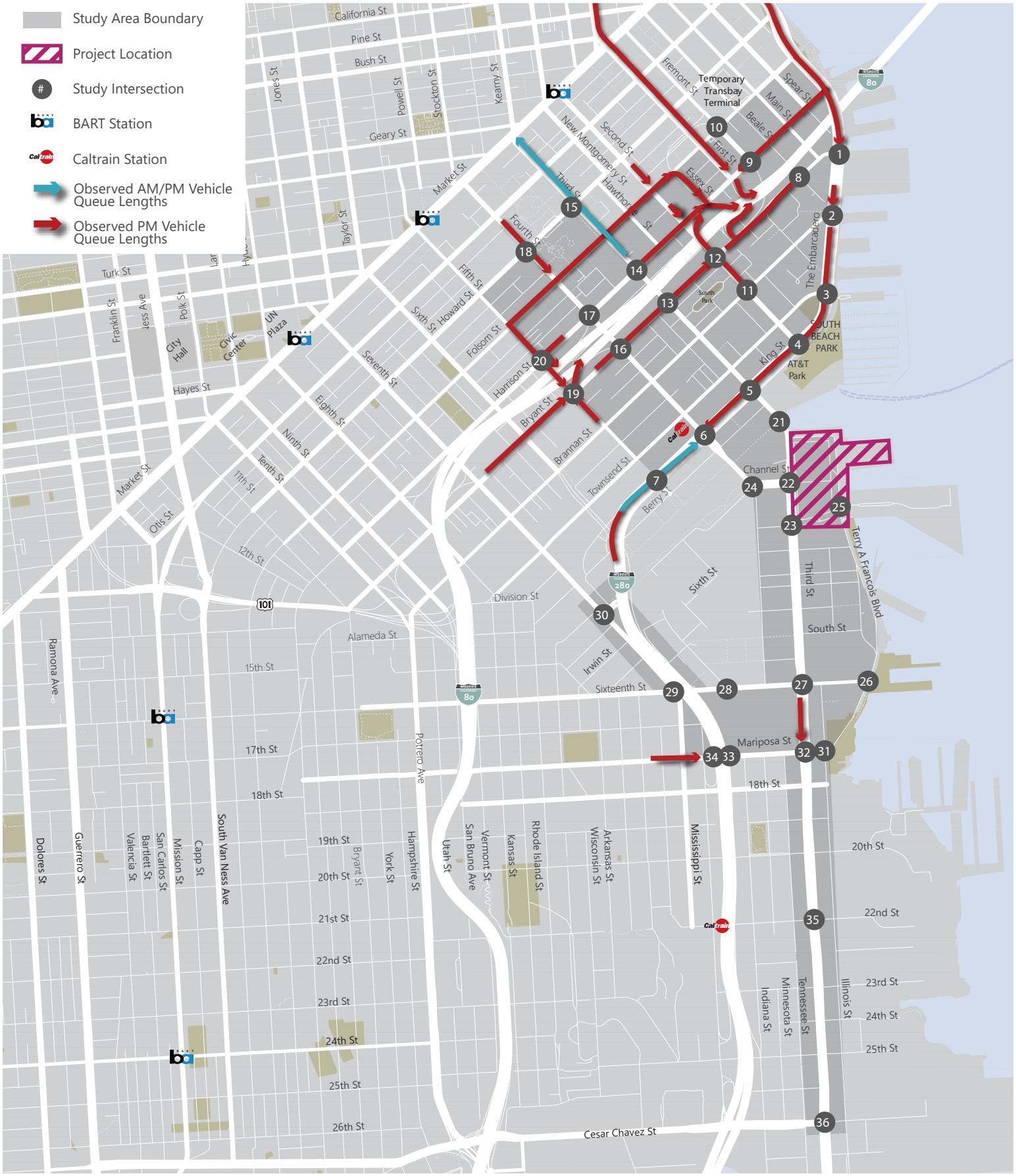
- 1. Embarcadero / Bryant Street (LOS F)
- 3. Embarcadero / Townsend Street (LOS E)
- 5. King Street / Third Street (LOS E)
- 12. Second Street / Bryant Street (LOS F)
- 13. Third Street / Bryant Street (LOS E)
- 18. Fourth Street / Howard Street (LOS E)
- 19. Fifth Street / Bryant Street / I-80 EB On-Ramp (LOS F)
- 34. Mariposa Street / I-280 SB On-Ramp (LOS F)

With a Giants game, 24 of the 35 study intersections currently operate satisfactorily at LOS D or better during the PM peak hour. Intersections that operate unsatisfactorily with the Giants game that operate satisfactorily under non-game conditions include Fremont/Folsom/I-80 WB Off-Ramp, Fourth/Bryant/I-80 EB Off-Ramp, Fifth/Harrison/I-80 WB Off-Ramp, and 16th/Seventh/Mississippi. Operations at Fourth/Howard improve to LOS D with a Giants game. The vehicle counts without a Giants game are twice as high for the southbound through movement and 40 percent higher for the westbound left-turn movement. It is possible that vehicles not going to a Giants game attempt to avoid the Fourth/Howard intersection on game days. Intersections that operate unacceptably during the PM peak hour during a Giants game include:

- 1. Embarcadero / Bryant Street (LOS F)
- 3. Embarcadero / Townsend Street (LOS E)
- 5. King Street / Third Street (LOS E)

- 10. Fremont Street / Folsom Street / I-80 WB Off-Ramp (LOS E)
- 12. Second Street / Bryant Street (LOS F)
- 13. Third Street / Bryant Street (LOS E)
- 16. Fourth Street / Bryant Street / I-80 EB On-Ramp (LOS E)
- 19. Fifth Street / Bryant Street / I-80 EB On-Ramp (LOS F)
- 20. Fifth Street / Harrison Street / I-80 WB Off-Ramp (LOS E)
- 29. 16th Street / Seventh Street / Mississippi Street (LOS E)
- 34. Mariposa Street / I-280 SB On-Ramp (LOS F)

Intersection level of service calculation sheets are provided in **Appendix H**.



N

Not to Scale

OBSERVED AM/PM VEHICLE QUEUE LENGTHS

FIGURE 18

FEHR PEERS

SF13-0697 Seawall Lot 337\Graphics

TABLE 47: PEAK HOUR INTERSECTION LEVEL OF SERVICE – EXISTING CONDITIONS

	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour with No Giants Game		PM Peak Hour with Giants Game[3]	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
1.	Embarcadero / Bryant Street	Signal	**75**	**E**	**>80**	**F**	**>80**	**F**
2.	Embarcadero / Brannan Street	Signal	31	C	27	C	32	C
3.	Embarcadero / Townsend Street	Signal	17	B	**75**	**E**	**63**	**E**
4.	King Street / Second Street	Signal	30	C	36	D	36	D
5.	King Street / Third Street	Signal	39	D	**77**	**E**	**63**	**E**
6.	King Street / Fourth Street	Signal	39	D	52	D	55	D
7.	King Street / Fifth Street / I-280 Ramps	Signal	**58**	**E**	37	D	40	D
8.	Beale Street / Bryant Street	Signal	38	D	33	C	43	D
9.	Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	45	D	41	D	30	C
10.	Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	**59**	**E**	49	D	**57**	**E**
11.	Second Street / Brannan Street	Signal	17	B	17	B	20	B
12.	Second Street / Bryant Street	Signal	9	A	**>80**	**F**	**>80**	**F**
13.	Third Street / Bryant Street	Signal	24	C	**57**	**E**	**56**	**E**
14.	Third Street / Harrison Street	Signal	27	C	32	C	15	B
15.	Third Street / Howard Street	Signal	49	D	39	D	34	C
16.	Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	34	C	23	C	**55**	**E**
17.	Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	36	D	41	D	29	C
18.	Fourth Street / Howard Street	Signal	26	C	**57**	**E**	40	D
19.	Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	28	C	**>80**	**F**	**>80**	**F**
20.	Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	42	D	54	D	**63**	**E**
21.	Third Street / Terry A. Francois Boulevard	Signal	16	B	12	B	8	A
22.	Third Street / Channel Street	Signal	37	D	27	C	29	C
23.	Third Street / Mission Rock Street	Signal	37	D	21	C	24	C
24.	Fourth Street / Channel Street	Signal	10	B	11	B	12	B
25.	Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	7 (NB)	A	9 (NB)	A
26.	16th Street / Terry A. Francois Boulevard (Future)	SSSC	--	--	--	--	--	--
27.	16th Street / Third Street	Signal	24	C	22	C	26	C
28.	16th Street / Owens Street	Signal	12	B	21	C	25	C
29.	16th Street / Seventh Street / Mississippi Street	Signal	24	C	35	D	**70**	**E**
30.	Seventh Street / Mission Bay Drive	Signal	10	B	10	A	11	B
31.	Mariposa Street / Terry A. Francois Blvd. / Illinois St.	AWSC	19 (EB)	C	11 (EB)	B	26 (EB)	D
32.	Mariposa Street / Third Street	Signal	34	C	25	C	33	C

TABLE 47: PEAK HOUR INTERSECTION LEVEL OF SERVICE – EXISTING CONDITIONS

	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour with No Giants Game		PM Peak Hour with Giants Game[3]	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
33.	Mariposa Street / I-280 NB Off-Ramp	Signal	23	C	23	C	46	D
34.	Mariposa Street / I-280 SB On-Ramp	SSSC	**>50 (EB)**	**F**	**>50 (EB)**	**F**	**>50 (EB)**	**F**
35.	Third Street / 22nd Street	Signal	8	A	14	B	16	B
36.	Third Street / Cesar Chavez Street	Signal	29	C	41	D	46	D

Notes:
Bold indicates intersection operations at LOS E or LOS F.
1. Average delay reported as seconds per vehicle.
2. For signalized intersections, LOS based on average intersection delay calculated using 2000 HCM methodology. For unsignalized intersections, LOS based on worst approach (indicated in parentheses).
3. Improvement in traffic operations at intersections is most likely due to vehicles avoiding the area due to the Giants game.

Source: Fehr & Peers, 2017.

7.1.2 Freeway Ramp Operating Conditions

This section examines operating conditions on selected freeway sections in the study area during the weekday AM and PM peak hours, as well as during the PM peak hour when a Giants game is scheduled. Freeway segments are classified in four major categories. Merge segments are defined as the section of freeway after two traffic streams join together. Diverge segments are defined as the section of freeway before one traffic stream splits to create two traffic streams. Weaving segments are generally defined as the crossing of two or more traffic streams traveling in the same direction along a substantial length of highway without the aid of traffic control devices. Thus, weaving segments are formed when merge segments are followed by diverge segments so closely that there is not sufficient distance between the merge and diverge segments for them to operate independently. Additionally, these sections evaluate only the acceleration/deceleration/auxiliary lanes and the outside two lanes of the freeway mainline for a distance of 1,500 feet downstream of a merge point or upstream of a diverge point. The last category, basic freeway segments, encompasses all remaining freeway segments. Because of the density of freeway ramps in the study area, no basic segments have been identified.

Analyzed freeway segments include the following weaving segment, on-ramp merge sections, and off-ramp diverge sections and each location can be seen on **Figure 16**. No basic freeway segments have been included in the analysis as the primary locations where congestion occurs in the study area are associated with merge, diverge, and weaving segments.

Freeway weave segments:

- WB I-80 between Fourth Street on-ramp (at Harrison Street) and Eighth Street off-ramp

Freeway on-ramp merge sections:

- EB I-80 Fifth Street on-ramp (at Bryant Street)

- SB I-280 Mariposa Street on-ramp

Freeway off-ramp diverge sections:

- WB I-80 Harrison Street off-ramp
- WB I-80 Fremont Street off-ramp
- WB I-80 Fifth Street off-ramp (at Harrison Street)
- EB I-80 Fourth Street off-ramp (at Bryant Street)
- NB I-280 Mariposa Street off-ramp

Traffic volumes for the study ramps were collected from previous transportation studies within the study area or from the intersection turning movement counts mentioned in the previous section. Intersection turning movement count sheets are provided in **Appendix C**. Freeway mainline volumes were obtained from Caltrans Performance Measurement System (PeMS) data. **Table 48** presents the resulting LOS and corresponding density at the freeway ramps.

During the weekday AM and PM peak hours, three of the five ramp diverge sections currently operate at LOS D or better. The I-80 westbound Harrison off-ramp and the I-80 westbound Fremont off-ramp diverge sections operate at LOS E in the AM peak hour. The Fifth Street ramp merge section operates at LOS F during all peak hours. The only weaving section in the study area, I-80 westbound from the Fourth Street on-ramp to the Eighth Street off-ramp, operates at LOS E during the AM peak hour and LOS F during the PM peak hour both with and without a Giants game. During the weekday PM peak period with a Giants game, typical weekday conditions are exacerbated by the additional traffic due to the game. However, only the I-80 westbound Harrison off-ramp diverge section (which operates at LOS D under Existing Conditions in the PM Peak Hour without a Giants Game and LOS E in the PM peak hour with a Giants game) degrades from an acceptable to an unacceptable LOS with a Giants game. All other sections operate at the same LOS as under PM peak hour conditions without a Giants game, except for the Mariposa Street off-ramp diverge section, which operates at LOS C in the PM peak hour without a Giants game and at LOS D in the PM peak hour with a Giants game. Freeway level of service calculation sheets are provided in **Appendix I**.

TABLE 48: FREEWAY LEVELS OF SERVICE – EXISTING CONDITIONS

Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour with No Giants Game		PM Peak Hour with Giants Game	
		Density [1]	**LOS** [2]	***Density*** [1]	**LOS** [2]	***Density*** [1]	**LOS** [2]
Westbound I-80							
Harrison off-ramp	Ramp Diverge	**40**	**E**	32	D	**37**	**E**
Fremont off-ramp	Ramp Diverge	**35**	**E**	30	D	34	D
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	29	D	30	D	32	D
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**1,880**	**E**	**2,059**	**F**	**2,012**	**F**
Eastbound I-80							
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	13	B	11	B	11	B
Northbound I-280							
Mariposa Street off-ramp	Ramp Diverge	25	C	25	C	30	D
Southbound I-280							
Mariposa Street on-ramp	Ramp Merge	16	B	28	D	29	D

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

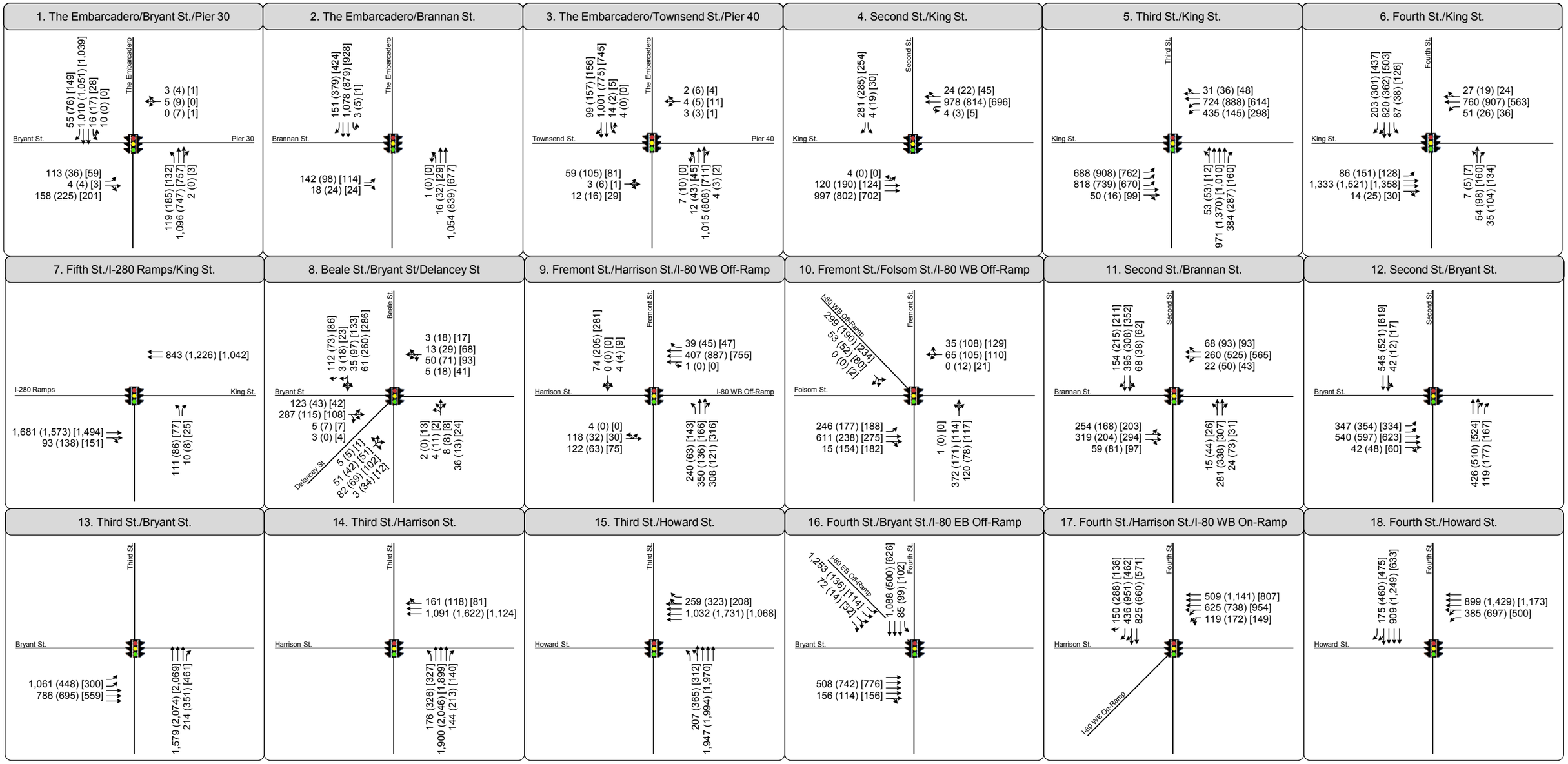
Source: Fehr & Peers, 2017.

7.2 BASELINE CONDITIONS

7.2.1 Intersection Operations

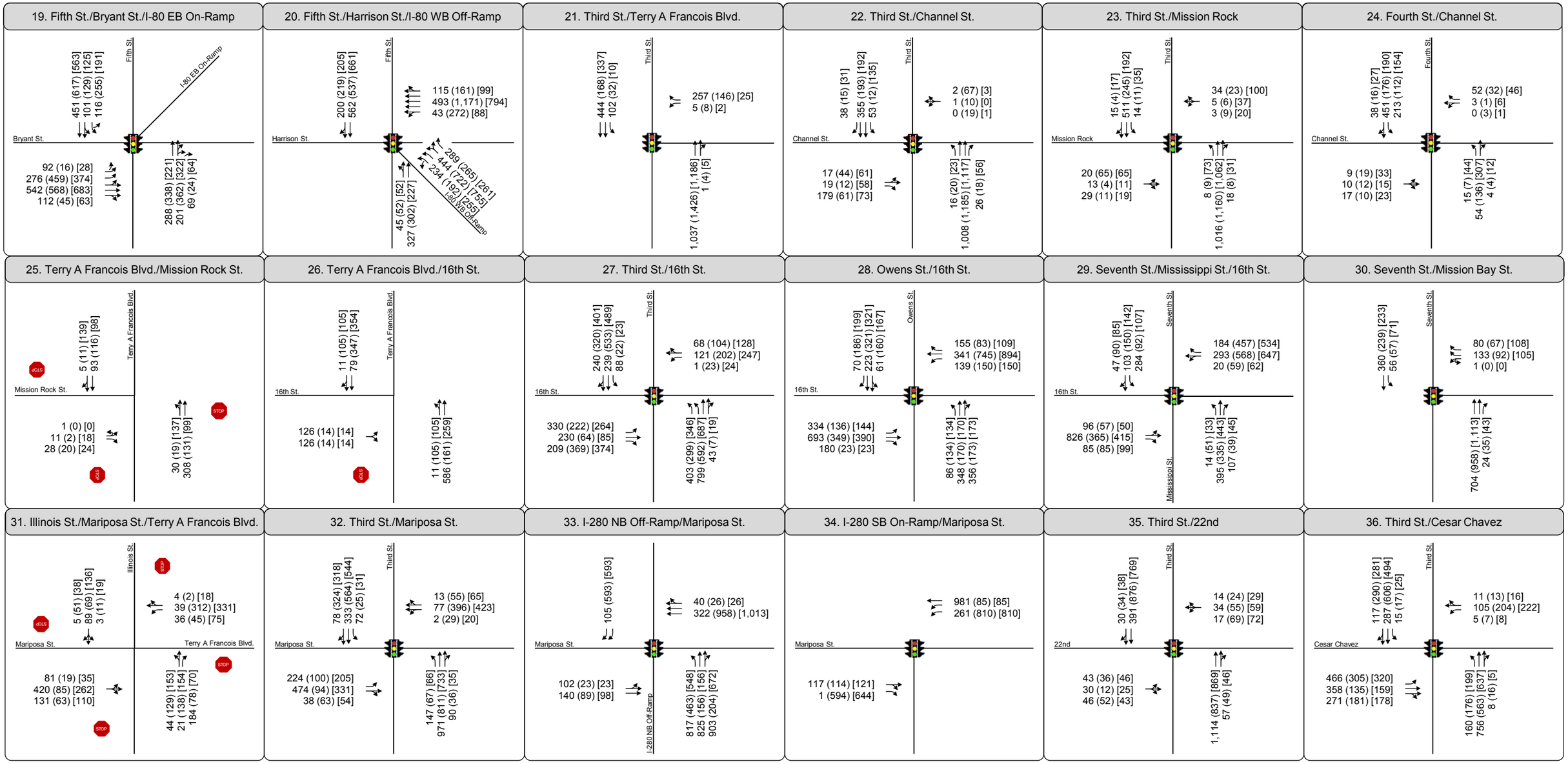
Figure 19 displays the Baseline (No Project) peak hour traffic volumes for the peak periods studied, lane configurations and traffic controls (signal or stop) at each study intersection. These volumes reflect the projects mentioned earlier that are approved, funded, under construction, or have been built since the counts were collected. Baseline vehicle volumes were developed using trip assignment from the various approved traffic studies and environmental documents for the respective projects, where available (these accounted for approximately 80 percent of the additional vehicle trips). In situations where detailed trip assignment from traffic studies was not available, documents were reviewed to determine if trip generation and distribution information were available, and trip assignment was completed to be consistent with the other project assumptions. For remaining projects, trip generation estimates were developed using *SF Guidelines* and Institute of Transportation Engineers (ITE) *Trip Generation, 9th Edition*.

Table 49 presents the results of the Baseline Conditions intersection LOS analysis and corresponding delay at each study intersection for the study weekday peak periods with the projects that are approved, under construction, or have been built since the counts were collected.



BASELINE PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES

FIGURE 19-A



Turn Lane

Traffic Signal

AM (PM)
[PM w/Ballgame]
Peak Hour Traffic Volume

Stop Sign

Critical Movement

BASELINE PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES

FEHR PEERS

FIGURE 19-B

TABLE 49: PEAK HOUR INTERSECTION LEVEL OF SERVICE – BASELINE CONDITIONS

	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour with No Giants Game		PM Peak Hour with Giants Game	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
1.	Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**	**>80**	**F**
2.	Embarcadero / Brannan Street	Signal	50	D	28	C	32	C
3.	Embarcadero / Townsend Street	Signal	**>80**	**F**	**80**	**E**	**68**	**E**
4.	King Street / Second Street	Signal	52	D	37	D	37	D
5.	King Street / Third Street	Signal	42	D	**>80**	**F**	**77**	**E**
6.	King Street / Fourth Street	Signal	**58**	**E**	49	D	53	D
7.	King Street / Fifth Street / I-280 Ramps	Signal	**58**	**E**	37	D	40	D
8.	Beale Street / Bryant Street	Signal	39	D	33	C	43	D
9.	Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	45	D	41	D	30	C
10.	Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	44	D	23	C	40	D
11.	Second Street / Brannan Street	Signal	17	B	17	B	20	B
12.	Second Street / Bryant Street	Signal	10	A	**>80**	**F**	**>80**	**F**
13.	Third Street / Bryant Street	Signal	31	C	**>80**	**F**	**>80**	**F**
14.	Third Street / Harrison Street	Signal	35	C	38	D	16	B
15.	Third Street / Howard Street	Signal	**61**	**E**	**>80**	**F**	**>80**	**F**
16.	Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**60**	**E**	**58**	**E**	**>80**	**F**
17.	Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	41	D	50	D	31	C
18.	Fourth Street / Howard Street	Signal	28	C	**63**	**E**	40	D
19.	Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	28	C	**>80**	**F**	**>80**	**F**
20.	Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	42	D	54	D	**63**	**E**
21.	Third Street / Terry A. Francois Boulevard	Signal	15	B	15	B	10	B
22.	Third Street / Channel Street	Signal	**60**	**E**	**77**	**E**	**69**	**E**
23.	Third Street / Mission Rock Street	Signal	52	D	**71**	**E**	42	D
24.	Fourth Street / Channel Street	Signal	7	A	9	A	13	B
25.	Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	7 (NB)	A	8 (NB)	A
26.	16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	15 (EB)	C	16 (EB)	C
27.	16th Street / Third Street	Signal	38	D	35	C	**60**	**E**
28.	16th Street / Owens Street	Signal	**64**	**E**	**>80**	**F**	**>80**	**F**
29.	16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**	**>80**	**F**
30.	Seventh Street / Mission Bay Drive	Signal	16	B	**>80**	**F**	**>80**	**F**
31.	Mariposa Street / Terry A. Francois Blvd. / Illinois St.	AWSC	**>50 (EB)**	**F**	16 (WB)	C	**46 (EB)**	**E**
32.	Mariposa Street / Third Street	Signal	36	D	27	C	43	D
33.	Mariposa Street / I-280 NB Off-Ramp	Signal	29	C	39	D	**55**	**E**

TABLE 49: PEAK HOUR INTERSECTION LEVEL OF SERVICE – BASELINE CONDITIONS

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour with No Giants Game		PM Peak Hour with Giants Game	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
34.	Mariposa Street / I-280 SB On-Ramp	Signal	22	C	15	B	16	B
35.	Third Street / 22nd Street	Signal	9	A	16	B	12	B
36.	Third Street / Cesar Chavez Street	Signal	46	D	**>80**	**F**	**>80**	**F**

Notes: **Bold** indicates intersection operations at LOS E or LOS F.
1. Average delay reported as seconds per vehicle.
2. For signalized intersections, LOS based on average intersection delay calculated using 2000 HCM methodology. For unsignalized intersections, LOS based on worst approach (indicated in parentheses).

Source: Fehr & Peers, 2017.

As shown in **Table 49**, 25 of the 36 study intersections would operate satisfactorily at LOS D or better during the AM peak hour, 21 of the 36 study intersections would operate satisfactorily at LOS D or better during the PM peak hour without a Giants game, and 18 of the 36 study intersections would operate satisfactorily at LOS D or better during the PM peak hour with a Giants game. Intersection level of service calculation sheets are provided in **Appendix H**. In addition to the intersections that currently operate at LOS E or F under Existing Conditions, the following intersections would also deteriorate to unacceptable LOS under Baseline Conditions:

- 3. Embarcadero / Townsend Street (AM peak hour)
- 6. King Street / Fourth Street (AM peak hour)
- 15. Third Street / Howard Street (AM peak hour, PM peak hour, and PM peak hour with Giants game)
- 16. Fourth Street / Bryant Street / I-80 EB Off-Ramp (AM peak hour and PM peak hour)
- 22. Third Street / Channel Street (AM peak hour, PM peak hour, and PM peak hour with Giants game)
- 23. Third Street / Mission Rock Street (PM peak hour)
- 27. 16th Street / Third Street (PM peak hour with Giants game)
- 28. 16th Street / Owens Street (AM peak hour, PM peak hour, and PM peak hour with Giants game)
- 29. 16th Street / Seventh Street / Mississippi Street (AM peak hour and PM peak hour)
- 30. Seventh Street / Mission Bay Drive (PM peak hour and PM peak hour with the Giants game)
- 31. Mariposa Street / Terry A. Francois Blvd. / Illinois St. (AM peak hour and PM peak hour with Giants game)
- 33. Mariposa Street / I-280 NB Off-Ramp (PM peak hour with the Giants game)
- 36. Third Street / Cesar Chavez Street (PM peak hour and PM peak hour with the Giants game)

Signal warrant analysis for these intersections show that one unsignalized intersection would meet peak hour warrants for signalization under Baseline Conditions:

- 31. Mariposa Street / Terry A. Francois Blvd. / Illinois St. (AM peak hour and PM peak hour with Giants game)

It should be noted that this intersection was signalized until recently, when the signals were removed due to deterioration and all-way stop control was installed.

7.2.2 Freeway Ramp Operations

Table 50 presents the resulting LOS and corresponding density and service volumes at the freeway ramp and weave sections for the study weekday peak periods under Baseline Conditions.

TABLE 50: FREEWAY LEVELS OF SERVICE – BASELINE CONDITIONS

Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour with No Giants Game		PM Peak Hour with Giants Game	
		Density [1]	**LOS** [2]	***Density*** [1]	**LOS** [2]	***Density*** [1]	**LOS** [2]
Westbound I-80							
Harrison off-ramp	Ramp Diverge	**40**	**E**	32	D	**37**	**E**
Fremont off-ramp	Ramp Diverge	**35**	**E**	30	D	34	D
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	29	D	30	D	32	D
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**1,921**	**F**	**2,100**	**F**	**2,056**	**F**
Eastbound I-80							
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	13	B	11	B	11	B
Northbound I-280							
Mariposa Street off-ramp	Ramp Diverge	**>45**	**F**	26	C	31	D
Southbound I-280							
Mariposa Street on-ramp	Ramp Merge	17	B	29	D	30	D

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017.

With the introduction of the Baseline Condition projects (listed at the beginning of Chapter 3), freeway conditions deteriorate in the northbound direction on I-280 in the AM peak, with the Mariposa Street off-ramp experiencing volumes slightly over capacity resulting in LOS F. The changes from the Existing Conditions results presented in Table 7 and the Baseline Conditions results presented in Table 18 are mainly

reflective of the trip assignment from the UCSF Hospital project, which adds almost 800 vehicle trips to the I-280 Northbound off-ramp at Mariposa Street. The weaving section in the northbound direction on I-280 also deteriorates from LOS E to LOS F in the AM peak hour. Freeway level of service calculation sheets are provided in **Appendix I**.

7.3 INTERSECTION AND FREEWAY POTENTIAL MEASURE ANALYSIS

The CEQA significance criteria formerly used by the San Francisco Planning Department (2002 *San Francisco Transportation Impact Analysis Guidelines for Environmental Review* (SF Guidelines)) specified the use of level of service (LOS) to assess whether a Proposed Project would result in significant traffic impacts. Although no longer the basis for identifying significant impacts under CEQA in San Francisco, the LOS analysis was still conducted for this Proposed Project to help identify locations for potential infrastructure measures. The same methodology and criteria were used in this document to identify locations where potential measures may be desirable. A discussion of feasibility is also included, and for those measures deemed feasible, the responsible party and the Project Sponsor's share of the potential cost is noted.

Intersection LOS was analyzed for the Baseline Plus Project Conditions by adding net Project travel demand associated with the Proposed Project to Baseline Conditions. Below is the list of criteria used in this analysis to assess whether the Proposed Project may cause the need for modifications to the vehicle traffic network.

7.3.1 Signalized Intersection Analysis Criteria

Signalized intersections where Proposed Project-related traffic causes the intersection LOS to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F were assessed to determine if there are feasible improvements. Intersections that operate at LOS E or F under existing or baseline conditions were also assessed, depending upon the magnitude of the Proposed Project's contribution to the worsening of the average delay per vehicle.

7.3.2 Unsignalized Intersection Analysis Criteria

Unsignalized intersections where Proposed Project-related traffic meets one of the following three criteria were assessed to determine if there are feasible improvements:

- Would cause the LOS at the worst approach to deteriorate from LOS D or better to LOS E or F and Caltrans peak hour traffic volume signal warrants would be met;
- Would cause Caltrans signal warrants to be met when the worst approach is already operating at LOS E or F;
- Or would contribute more than 5 percent to the worst approach in the case that the worst approach is already operating at LOS E or F and Caltrans signal warrants are already being met in the existing condition.

7.3.3 Freeway Analysis Criteria

With respect to the freeway merge/diverge/weave segment analysis, Caltrans' policy is to maintain freeway mainline and ramp operations at the LOS C/D threshold based on the Guide for the Preparation of Traffic Impact Studies (Caltrans, December 2002). However, Caltrans acknowledges that this may not always be feasible and if an existing facility is operating at less than the appropriate target LOS, the existing service

level should be maintained. For purposes of this study, the City of San Francisco criteria have been applied; specifically, where project-related traffic causes the facility level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F, those locations were assessed to determine if there are feasible improvements. In addition, locations at which the Project would contribute substantially (5 percent or more) to freeway segment or ramp congestion operating LOS E or LOS F were assessed to determine if there are feasible improvements.

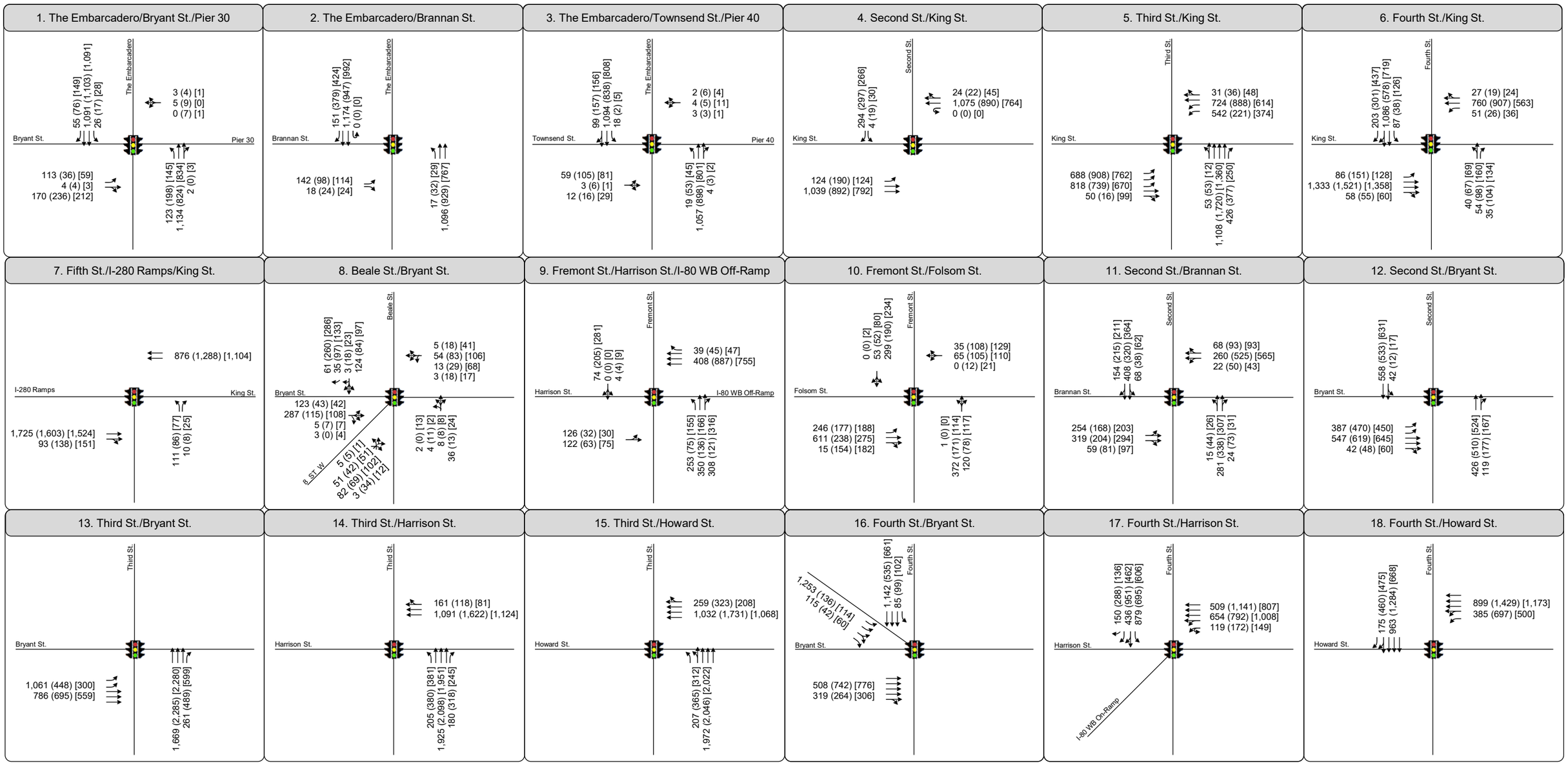
7.3.4 Intersection Analysis

The Proposed Project under the Maximum Commercial scenario would generate 991 inbound and 458 outbound net new vehicle-trips (for a total of 1,449 net new vehicle trips) during the weekday AM peak hour (**Table 17**) and 708 inbound and 1,047 outbound net new vehicle-trips (for a total of 1,755 net new vehicle trips) during the weekday PM peak hour (**Table 18**).

The Proposed Project under the Maximum Residential scenario would generate 859 inbound and 536 outbound net new vehicle-trips (for a total of 1,396 net new vehicle trips) during the weekday AM peak hour (**Table 17**) and 801 inbound and 954 outbound net new vehicle-trips (for a total of 1,758 net new vehicle trips) during the weekday PM peak hour (**Table 18**).

All project-generated vehicle trips were assigned to and from the Proposed Project driveways (see **Figure 13** for directional distribution of vehicle trips). The resulting Baseline Plus Project traffic volumes for the study intersections under the Maximum Commercial Scenario are presented in **Figure 20**. The resulting Baseline Plus Project traffic volumes for the study intersections under the Maximum Residential Scenario are presented in **Figure 21**.

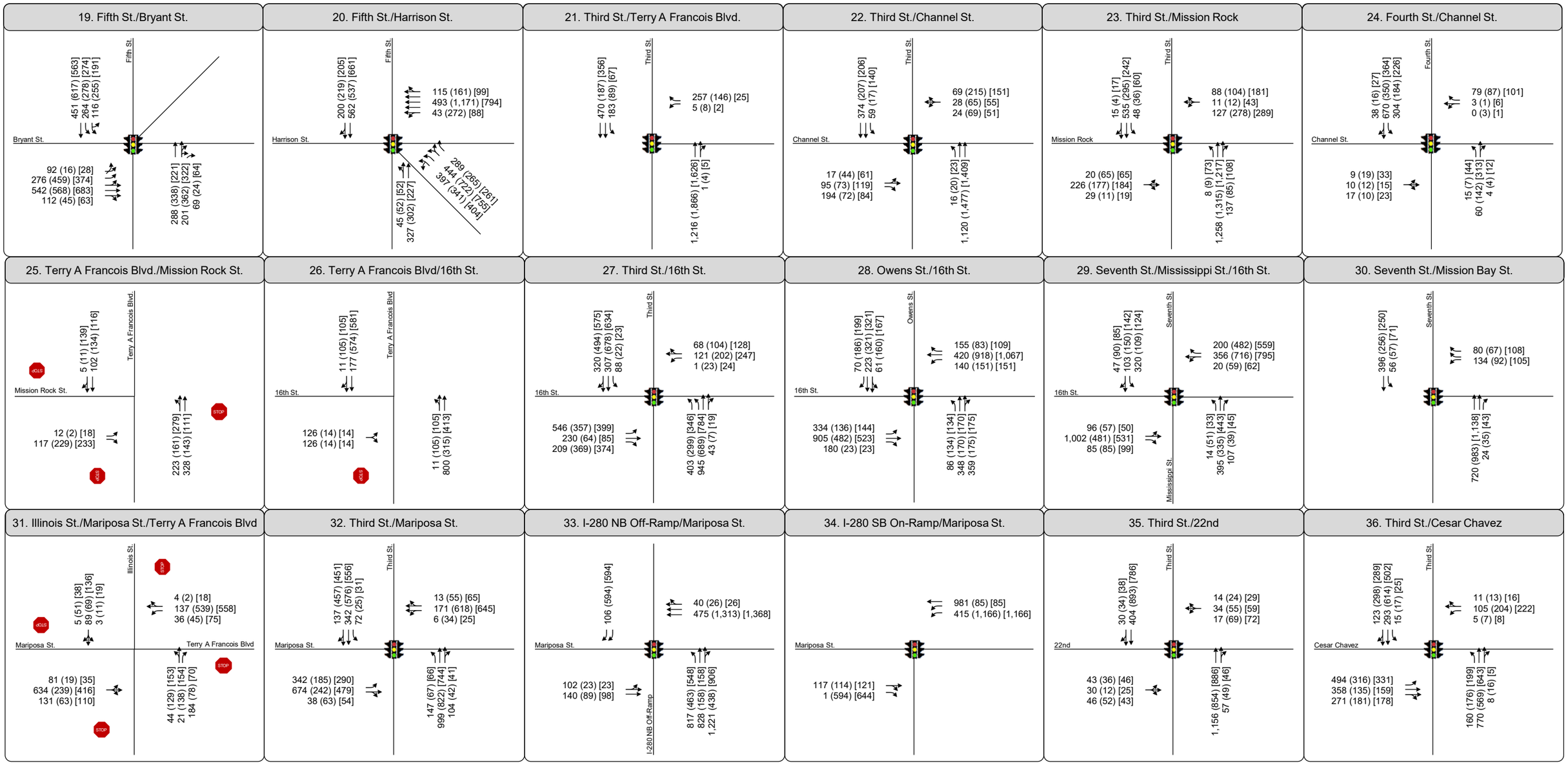
Table 51, Table 52, and **Table 53** present the Baseline Plus Project intersection levels of service for the weekday AM peak hour, PM peak hour, and PM peak hour with Giants game conditions for the Maximum Commercial Scenario. **Table 54, Table 55,** and **Table 56** present the Baseline Plus Project intersection levels of service for the weekday AM peak hour, PM peak hour, and PM peak hour with Giants game conditions for the Maximum Residential Scenario. **Appendix H** includes tables showing the Proposed Project's contribution to LOS E or LOS F critical movements at intersections operating at LOS E or LOS F under Baseline Plus Project conditions for both project scenarios.



BASELINE PLUS PROJECT PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES - MAXIMUM COMMERCIAL SCENARIO

FEHR PEERS

FIGURE 20-A



Turn Lane

Traffic Signal

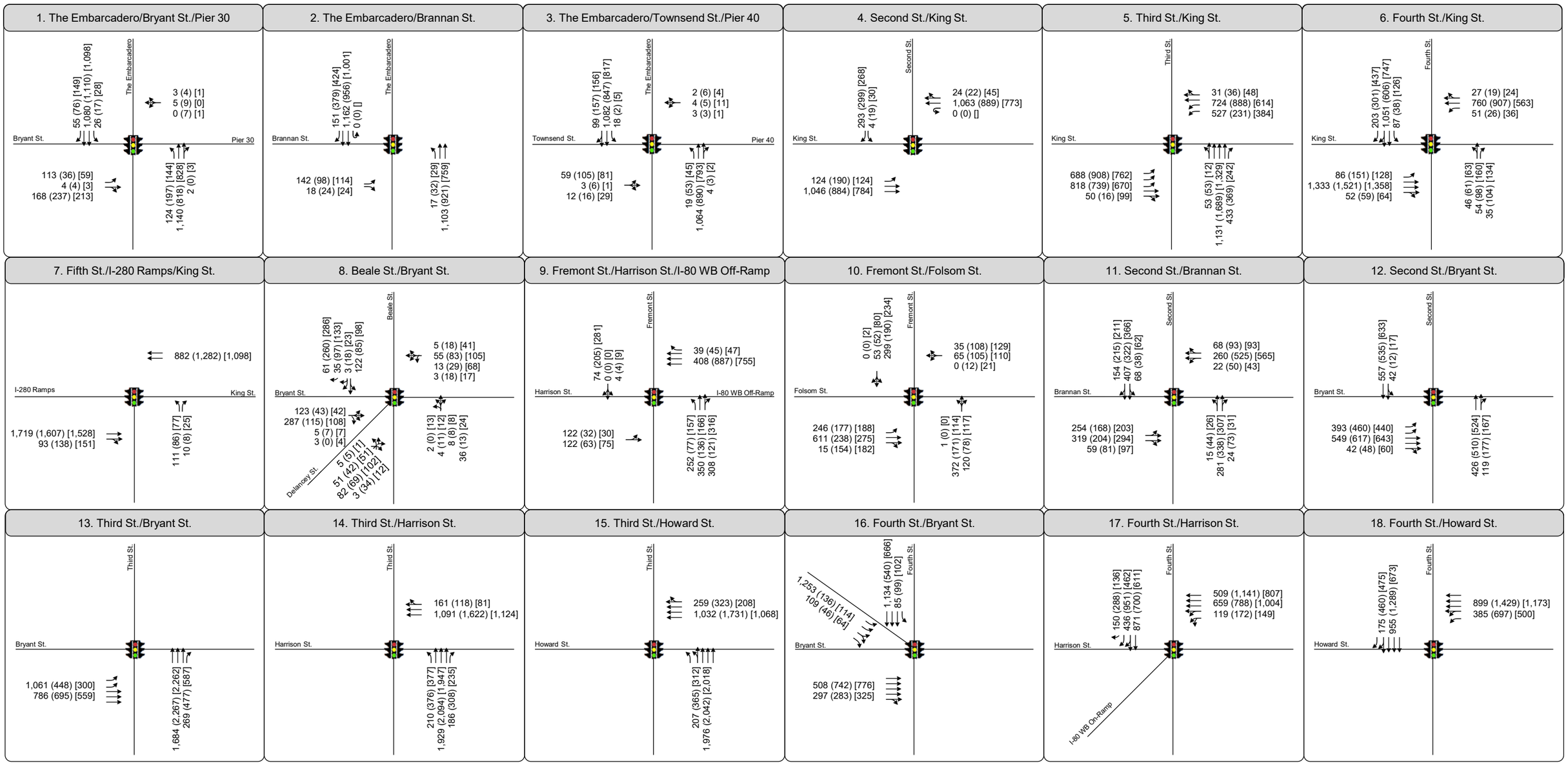
AM (PM)
[PM w/ Ballgame]
Peak Hour Traffic Volume

Stop Sign

BASELINE PLUS PROJECT PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES - MAXIMUM COMMERICIAL SCENARIO

FEHR PEERS

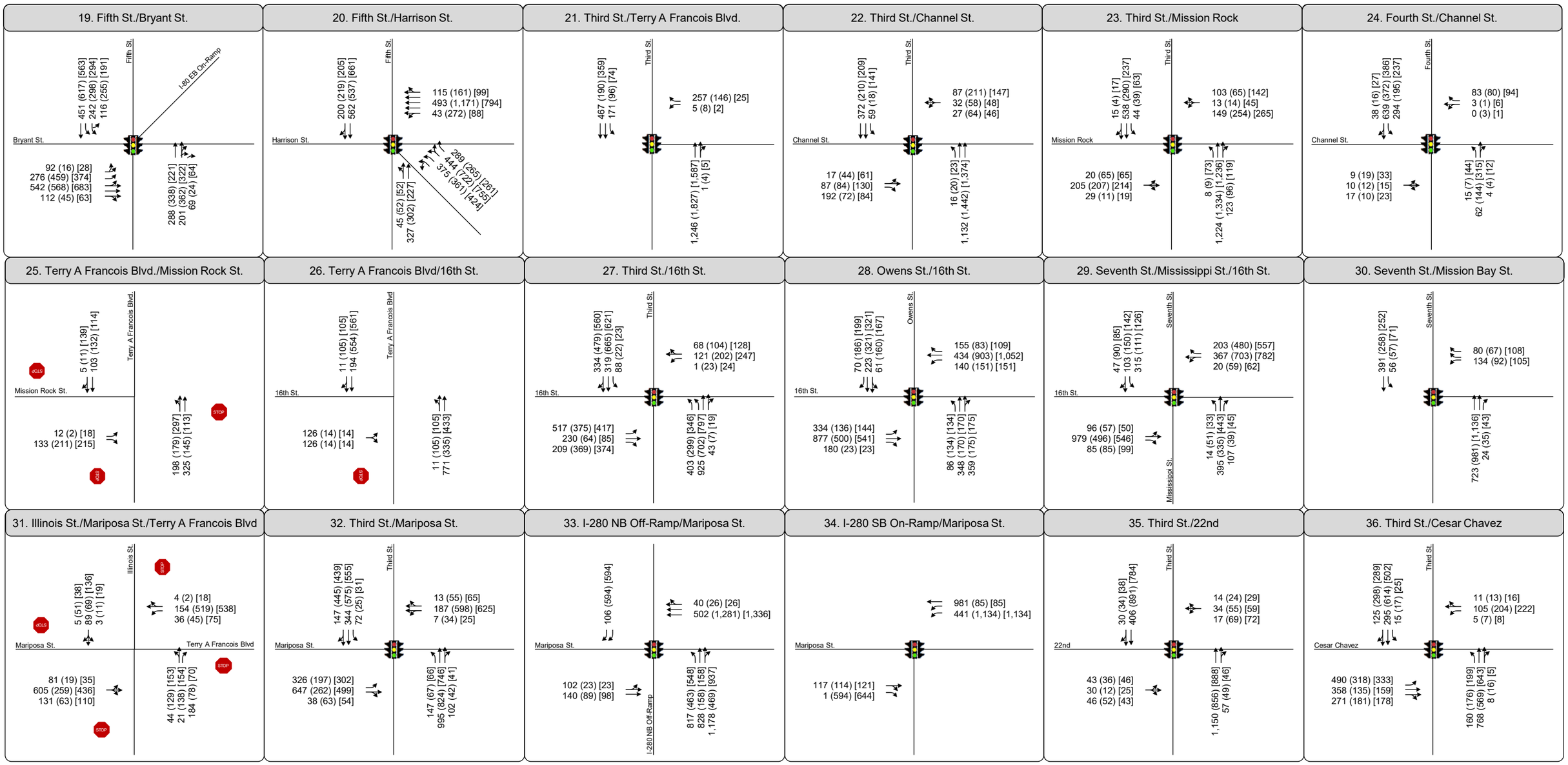
FIGURE 20-B



BASELINE PLUS PROJECT PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES - MAXIMUM RESIDENTIAL SCENARIO

FEHR PEERS

FIGURE 21-A



Turn Lane

Traffic Signal

AM (PM)
[PM w/ Ballgame]
Peak Hour Traffic Volume

Stop Sign

BASELINE PLUS PROJECT PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES - MAXIMUM RESIDENTIAL SCENARIO

FEHR PEERS

FIGURE 21-B

TABLE 51: WEEKDAY AM PEAK HOUR INTERSECTION LEVELS OF SERVICE – BASELINE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline		Baseline Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	50	D	**70**	**E**
3. Embarcadero / Townsend Street	Signal	**>80**	**F**	**>80**	**F**
4. King Street / Second Street	Signal	52	D	**74**	**E**
5. King Street / Third Street	Signal	42	D	**65**	**E**
6. King Street / Fourth Street	Signal	**58**	**E**	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	**58**	**E**	**65**	**E**
8. Beale Street / Bryant Street	Signal	39	D	39	D
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	45	D	45	D
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	44	D	48	D
11. Second Street / Brannan Street	Signal	17	B	18	B
12. Second Street / Bryant Street	Signal	10	A	10	A
13. Third Street / Bryant Street	Signal	31	C	41	D
14. Third Street / Harrison Street	Signal	35	C	37	D
15. Third Street / Howard Street	Signal	**61**	**E**	**64**	**E**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**60**	**E**	**67**	**E**
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	41	D	44	D
18. Fourth Street / Howard Street	Signal	28	C	28	C
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	28	C	28	C
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	42	D	49	D
21. Third Street / Terry A. Francois Boulevard	Signal	15	B	27	C
22. Third Street / Channel Street	Signal	**60**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	52	D	**>80**	**F**
24. Fourth Street / Channel Street	Signal	7	A	9	A
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	12 (EB)	B
26. 16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	23 (EB)	C
27. 16th Street / Third Street	Signal	38	D	**>80**	**F**
28. 16th Street / Owens Street	Signal	**64**	**E**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	16	B	16	B

TABLE 51: WEEKDAY AM PEAK HOUR INTERSECTION LEVELS OF SERVICE – BASELINE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline		Baseline Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	**76**	**F**	**>80**	**F**
32. Mariposa Street / Third Street	Signal	36	D	**77**	**E**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	29	C	41	D
34. Mariposa Street / I-280 SB On-Ramp	Signal	22	C	**>80**	**F**
35. Third Street / 22nd Street	Signal	9	A	9	A
36. Third Street / Cesar Chavez Street	Signal	46	D	52	D

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 52: WEEKDAY PM PEAK HOUR INTERSECTION LEVELS OF SERVICE – BASELINE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

	Intersection	Traffic Control	Baseline		Baseline Plus Project	
			Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1.	Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2.	Embarcadero / Brannan Street	Signal	28	C	30	C
3.	Embarcadero / Townsend Street	Signal	**80**	**E**	**>80**	**F**
4.	King Street / Second Street	Signal	37	D	48	D
5.	King Street / Third Street	Signal	**>80**	**F**	**79**	**E**
6.	King Street / Fourth Street	Signal	49	D	**72**	**E**
7.	King Street / Fifth Street / I-280 Ramps	Signal	37	D	40	D
8.	Beale Street / Bryant Street	Signal	33	C	33	C
9.	Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	41	D	41	D
10.	Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	23	C	25	C
11.	Second Street / Brannan Street	Signal	17	B	17	B
12.	Second Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
13.	Third Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
14.	Third Street / Harrison Street	Signal	38	D	42	D
15.	Third Street / Howard Street	Signal	**>80**	**F**	**>80**	**F**
16.	Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**58**	**E**	**68**	**E**
17.	Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	50	D	55	D
18.	Fourth Street / Howard Street	Signal	**63**	**E**	**66**	**E**
19.	Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	**>80**	**F**	**>80**	**F**
20.	Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	54	D	**68**	**E**
21.	Third Street / Terry A. Francois Boulevard	Signal	15	B	46	D
22.	Third Street / Channel Street	Signal	**77**	**E**	**>80**	**F**
23.	Third Street / Mission Rock Street	Signal	**71**	**E**	**>80**	**F**
24.	Fourth Street / Channel Street	Signal	9	A	9	A
25.	Terry A. Francois Boulevard / Mission Rock Street	AWSC	7 (NB)	A	11 (NB)	B
26.	16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	23 (EB)	C
27.	16th Street / Third Street	Signal	35	C	**>80**	**F**
28.	16th Street / Owens Street	Signal	**>80**	**F**	**>80**	**F**
29.	16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**

TABLE 52: WEEKDAY PM PEAK HOUR INTERSECTION LEVELS OF SERVICE – BASELINE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

	Intersection	Traffic Control	Baseline		Baseline Plus Project	
			Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
30.	Seventh Street / Mission Bay Drive	Signal	**>80**	**F**	>80	F
31.	Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	16	C	**>50**	**F**
32.	Mariposa Street / Third Street	Signal	27	C	**60**	**E**
33.	Mariposa Street / I-280 NB Off-Ramp	Signal	39	D	39	D
34.	Mariposa Street / I-280 SB On-Ramp	Signal	15	B	18	B
35.	Third Street / 22nd Street	Signal	16	B	16	B
36.	Third Street / Cesar Chavez Street	Signal	**>80**	**F**	**>80**	**F**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 53: WEEKDAY PM PEAK HOUR WITH GIANTS GAME INTERSECTION LEVELS OF SERVICE – BASELINE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline		Baseline Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	32	C	38	D
3. Embarcadero / Townsend Street	Signal	**68**	**E**	**>80**	**F**
4. King Street / Second Street	Signal	37	D	51	D
5. King Street / Third Street	Signal	**77**	**E**	**>80**	**F**
6. King Street / Fourth Street	Signal	53	D	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	40	D	44	D
8. Beale Street / Bryant Street	Signal	43	D	45	D
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	30	C	31	C
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	40	D	41	D
11. Second Street / Brannan Street	Signal	20	B	20	B
12. Second Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
13. Third Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
14. Third Street / Harrison Street	Signal	16	B	18	B
15. Third Street / Howard Street	Signal	**>80**	**F**	**>80**	**F**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**>80**	**F**	**>80**	**F**
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	31	C	32	C
18. Fourth Street / Howard Street	Signal	40	D	40	D
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	**>80**	**F**	**>80**	**F**
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	**63**	**E**	**69**	**E**
21. Third Street / Terry A. Francois Boulevard	Signal	10	B	20	C
22. Third Street / Channel Street	Signal	**69**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	42	D	**>80**	**F**
24. Fourth Street / Channel Street	Signal	13	B	13	B
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	20 (NB)	C
26. 16th Street / Terry A. Francois Boulevard	SSSC	16 (EB)	C	23 (EB)	C
27. 16th Street / Third Street	Signal	**60**	**E**	**>80**	**F**
28. 16th Street / Owens Street	Signal	**>80**	**F**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	**>80**	**F**	**>80**	**F**

TABLE 53: WEEKDAY PM PEAK HOUR WITH GIANTS GAME INTERSECTION LEVELS OF SERVICE – BASELINE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline		Baseline Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	**46**	**E**	**>80**	**F**
32. Mariposa Street / Third Street	Signal	43	D	**>80**	**F**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	**55**	**E**	54	D
34. Mariposa Street / I-280 SB On-Ramp	Signal	16	B	19	B
35. Third Street / 22nd Street	Signal	12	B	11	B
36. Third Street / Cesar Chavez Street	Signal	**>80**	**F**	**>80**	**F**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 54: WEEKDAY AM PEAK HOUR INTERSECTION LEVELS OF SERVICE - BASELINE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline		Baseline Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	50	D	**68**	**E**
3. Embarcadero / Townsend Street	Signal	**>80**	**F**	**>80**	**F**
4. King Street / Second Street	Signal	52	D	**71**	**E**
5. King Street / Third Street	Signal	42	D	**62**	**E**
6. King Street / Fourth Street	Signal	**58**	**E**	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	**58**	**E**	**63**	**E**
8. Beale Street / Bryant Street	Signal	39	D	39	D
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	45	D	48	D
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	44	D	44	D
11. Second Street / Brannan Street	Signal	17	B	18	B
12. Second Street / Bryant Street	Signal	10	A	10	A
13. Third Street / Bryant Street	Signal	31	C	42	D
14. Third Street / Harrison Street	Signal	35	C	38	D
15. Third Street / Howard Street	Signal	**61**	**E**	**65**	**E**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**60**	**E**	**66**	**E**
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	41	D	44	D
18. Fourth Street / Howard Street	Signal	28	C	28	C
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	28	C	28	C
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	42	D	48	D
21. Third Street / Terry A. Francois Boulevard	Signal	15	B	26	C
22. Third Street / Channel Street	Signal	**60**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	52	D	**>80**	**F**
24. Fourth Street / Channel Street	Signal	7	A	9	A
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	12 (NB)	B
26. 16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	24 (EB)	C
27. 16th Street / Third Street	Signal	38	D	**>80**	**F**
28. 16th Street / Owens Street	Signal	**64**	**E**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	16	B	16	B
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	**76**	**F**	**>80**	**F**

TABLE 54: WEEKDAY AM PEAK HOUR INTERSECTION LEVELS OF SERVICE - BASELINE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline		Baseline Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
32. Mariposa Street / Third Street	Signal	36	D	**70**	**E**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	29	C	37	D
34. Mariposa Street / I-280 SB On-Ramp	Signal	22	C	**>80**	**F**
35. Third Street / 22nd Street	Signal	9	A	9	A
36. Third Street / Cesar Chavez Street	Signal	46	D	51	D

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 55: WEEKDAY PM PEAK HOUR INTERSECTION LEVELS OF SERVICE - BASELINE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

	Intersection	Traffic Control	Baseline		Baseline Plus Project	
			Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1.	Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2.	Embarcadero / Brannan Street	Signal	28	C	31	C
3.	Embarcadero / Townsend Street	Signal	**80**	**E**	**>80**	**F**
4.	King Street / Second Street	Signal	37	D	50	D
5.	King Street / Third Street	Signal	**>80**	**F**	**79**	**E**
6.	King Street / Fourth Street	Signal	49	D	**73**	**E**
7.	King Street / Fifth Street / I-280 Ramps	Signal	37	D	41	D
8.	Beale Street / Bryant Street	Signal	33	C	33	C
9.	Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	41	D	41	D
10.	Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	23	C	25	C
11.	Second Street / Brannan Street	Signal	17	B	17	B
12.	Second Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
13.	Third Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
14.	Third Street / Harrison Street	Signal	38	D	42	D
15.	Third Street / Howard Street	Signal	**>80**	**F**	**>80**	**F**
16.	Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**58**	**E**	**70**	**E**
17.	Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	50	D	**55**	**E**
18.	Fourth Street / Howard Street	Signal	**63**	**E**	**67**	**E**
19.	Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	**>80**	**F**	**>80**	**F**
20.	Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	54	D	**70**	**E**
21.	Third Street / Terry A. Francois Boulevard	Signal	15	B	46	D
22.	Third Street / Channel Street	Signal	**77**	**E**	**>80**	**F**
23.	Third Street / Mission Rock Street	Signal	**71**	**E**	**>80**	**F**
24.	Fourth Street / Channel Street	Signal	9	A	9	A
25.	Terry A. Francois Boulevard / Mission Rock Street	AWSC	7 (NB)	A	11 (NB)	B

TABLE 55: WEEKDAY PM PEAK HOUR INTERSECTION LEVELS OF SERVICE - BASELINE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

	Intersection	Traffic Control	Baseline		Baseline Plus Project	
			Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
26.	16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	22 (EB)	C
27.	16th Street / Third Street	Signal	35	C	**>80**	**F**
28.	16th Street / Owens Street	Signal	**>80**	**F**	**>80**	**F**
29.	16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30.	Seventh Street / Mission Bay Drive	Signal	**>80**	**F**	**>80**	**F**
31.	Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	16	C	**70**	**F**
32.	Mariposa Street / Third Street	Signal	27	C	**61**	**E**
33.	Mariposa Street / I-280 NB Off-Ramp	Signal	39	D	40	D
34.	Mariposa Street / I-280 SB On-Ramp	Signal	15	B	17	B
35.	Third Street / 22nd Street	Signal	16	B	16	B
36.	Third Street / Cesar Chavez Street	Signal	**>80**	**F**	**>80**	**F**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 56: WEEKDAY PM PEAK HOUR WITH GIANTS GAME INTERSECTION LEVELS OF SERVICE - BASELINE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline		Baseline Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	32	C	40	D
3. Embarcadero / Townsend Street	Signal	**68**	**E**	**>80**	**F**
4. King Street / Second Street	Signal	37	D	53	D
5. King Street / Third Street	Signal	**77**	**E**	**>80**	**F**
6. King Street / Fourth Street	Signal	53	D	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	40	D	44	D
8. Beale Street / Bryant Street	Signal	43	D	45	D
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	30	C	31	C
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	40	D	41	D
11. Second Street / Brannan Street	Signal	20	B	20	B
12. Second Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
13. Third Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
14. Third Street / Harrison Street	Signal	16	B	18	B
15. Third Street / Howard Street	Signal	**>80**	**F**	**>80**	**F**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**>80**	**F**	**>80**	**F**
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	31	C	32	C
18. Fourth Street / Howard Street	Signal	40	D	40	D
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	**>80**	**F**	**>80**	**F**
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	**63**	**E**	**70**	**E**
21. Third Street / Terry A. Francois Boulevard	Signal	10	B	19	B
22. Third Street / Channel Street	Signal	**69**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	42	D	**>80**	**F**
24. Fourth Street / Channel Street	Signal	13	B	13	B
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	21 (NB)	C
26. 16th Street / Terry A. Francois Boulevard	SSSC	16 (EB)	C	23 (EB)	C
27. 16th Street / Third Street	Signal	**60**	**E**	**>80**	**F**
28. 16th Street / Owens Street	Signal	**>80**	**F**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	**>80**	**F**	**>80**	**F**

TABLE 56: WEEKDAY PM PEAK HOUR WITH GIANTS GAME INTERSECTION LEVELS OF SERVICE - BASELINE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline		Baseline Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	**46**	**E**	**>80**	**F**
32. Mariposa Street / Third Street	Signal	43	D	**>80**	**F**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	**55**	**E**	55	D
34. Mariposa Street / I-280 SB On-Ramp	Signal	16	B	18	B
35. Third Street / 22nd Street	Signal	12	B	11	B
36. Third Street / Cesar Chavez Street	Signal	**>80**	**F**	**>80**	**F**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

7.3.4.1 Baseline Plus Maximum Commercial Scenario Intersection Analysis

1. Embarcadero / Bryant Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Embarcadero / Bryant Street operates at LOS F during the AM peak hour. The intersection would continue to operate unacceptably at LOS F during the AM peak hour. The Proposed Project would add 81 vehicle trips to the southbound through movement (an 8 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

To mitigate poor operating conditions at the intersection Embarcadero / Bryant Street, the project sponsor shall pay their fair share of the cost to design and implement an increase the signal cycle length, with associated adjustments to green time splits. If these timing changes were implemented, the intersection would improve to acceptable conditions.

Potential Measure Feasibility

The existing signal phasing at Embarcadero / Bryant Street is not a desirable candidate for a longer cycle length. This signal is coordinated with other signals along King Street and Embarcadero, which means a broader study of corridor-wide signal timing would need to be conducted prior to implementation. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, the cycle length increase would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

2. Embarcadero / Brannan Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Embarcadero / Brannan Street operates at LOS D during the AM peak hour. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the AM peak hour with the Proposed Project.

Potential Measure

With a change to the currently allotted green times (and no adjustments to the signal cycle length), the intersection would operate acceptably under the Baseline Plus Project Maximum Commercial Scenario during the peak hours. The improvement would require a reallocation of green time from the southbound U-turn phase to the northbound through phase and green time from the northbound left-turn phase to the southbound through phase. These changes would improve the intersection to LOS D conditions in the AM peak hour. This signal is coordinated with other signals along King Street and the Embarcadero, so any changes in timing would be made comprehensively by MTA staff as part of ongoing signal timing activities to reflect changed traffic conditions.

Potential Measure Feasibility

This measure is not considered a desirable candidate because it would likely increase delay for pedestrians.

3. Embarcadero / Townsend Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Embarcadero / Townsend Street operates at LOS F during the AM peak hour. The intersection would continue to operate unacceptably at LOS F during the AM peak hour with the Proposed Project. During the AM peak hour, the Proposed Project would add 93 vehicle trips to the southbound through and right movement (a 9 percent contribution), which is a critical movement under conditions without the Proposed Project. Under Baseline Conditions, the signalized intersection of Embarcadero / Townsend Street operates at LOS E during the PM peak hour and PM peak hour with Giants game. The intersection would degrade to unacceptable conditions (LOS F) during the PM peak hour and PM peak hour with Giants game with the Proposed Project.

Potential Measure

To mitigate poor operating conditions at the intersection of Embarcadero / Townsend Street, the project sponsor shall pay their fair share of the cost to design and implement an increase the signal cycle length, with associated adjustments to green time splits. If these timing changes were implemented, the intersection would improve to acceptable conditions.

Potential Measure Feasibility

The existing signal phasing at Embarcadero / Townsend Street is not a desirable candidate for a longer cycle length. This signal is coordinated with other signals along King Street and Embarcadero, which means a broader study of corridor-wide signal timing would need to be conducted prior to implementation. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, the cycle length increase would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

4. King Street / Second Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of King Street / Second Street operates at LOS D during the AM peak hour. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the AM peak hour with the Proposed Project.

Potential Measure

With a change to the currently allotted green times (and no adjustments to the signal cycle length), the intersection would operate acceptably under the Baseline Plus Project Maximum Commercial Scenario during the peak hours. The improvement would require a reallocation of green time from the westbound U-turn phase to the eastbound through phase and green time from the eastbound left-turn phase to the westbound through phase. These changes would improve the intersection to LOS D conditions in the AM peak hour. This signal is coordinated with other signals along King Street and the Embarcadero, , so any

changes in timing would be made comprehensively by MTA staff as part of ongoing signal timing activities to reflect changed traffic conditions.

Potential Measure Feasibility

This measure is not considered a desirable candidate because it would likely increase delay for pedestrians.

5. King Street / Third Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of King Street / Third Street operates at LOS D during the AM peak hour. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the AM peak hour with the Proposed Project. Under Baseline Conditions, the signalized intersection of King Street / Third Street operates at LOS E during the PM peak hour with Giants game. The intersection would degrade to unacceptable conditions (LOS F) during the PM peak hour with Giants game.

Potential Measure

To mitigate poor operating conditions at the intersection of King Street / Third Street, the project sponsor shall pay their fair share of the cost to design and implement an increase the signal cycle length, with associated adjustments to green time splits. If these timing changes were implemented, the intersection would improve to acceptable conditions.

Potential Measure Feasibility

The existing signal phasing at King Street / Third Street is not a desirable candidate for a longer cycle length. This signal is coordinated with other signals along King Street and Embarcadero, which means a broader study of corridor-wide signal timing would need to be conducted prior to implementation. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, the cycle length increase would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

6. King Street / Fourth Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of King Street / Fourth Street operates at LOS E during the AM peak hour. The intersection would degrade to unacceptable conditions (LOS F) during the AM peak hour. Under Baseline Conditions, the signalized intersection of King Street / Fourth Street operates acceptably at LOS D during the PM peak hour and PM peak hour with Giants game. The intersection would degrade from acceptable to unacceptable conditions during the PM peak hour (LOS E) and PM peak hour with Giants game (LOS F) with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity

would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

7. King Street / Fifth Street / I-280 Ramps

Operations Analysis

Under Baseline Conditions, the signalized intersection of King Street / Fifth Street / I-280 Ramps operates at LOS E during the AM peak hour. Under the Baseline Plus Maximum Commercial Scenario, the intersection would continue to operate at an unacceptable LOS E during the AM peak hour. The project would not contribute more than 5 percent to a critical movement in the AM peak hour.

8. Beale Street / Bryant Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Beale Street / Bryant Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

9. Fremont Street / Harrison Street / I-80 WB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fremont Street / Harrison Street / I-80 WB Off-Ramp operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

10. Fremont Street / Folsom Street / I-80 WB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fremont Street / Folsom Street / I-80 WB Off-Ramp operates at an acceptable level of service during the AM, PM peak hour, and PM peak hour with Giants game. The intersection would continue to operate acceptably with the Proposed Project.

11. Second Street / Brannan Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Second Street / Brannan Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

12. Second Street / Bryant Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Second Street / Bryant Street operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour, the Proposed Project would add 116 vehicle trips to the eastbound left-turn movement (a 33 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 116 vehicle trips to the eastbound left-turn movement (a 35 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

13. Third Street / Bryant Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Bryant Street operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour, the Proposed Project would add 211 vehicle trips to the northbound through movement (a 10 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 211 vehicle trips to the northbound through movement (a 10 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

14. Third Street / Harrison Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Harrison Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

15. Third Street / Howard Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Howard Street operates at LOS E during the AM peak hour and LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS E during the AM peak hour and LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the AM peak hour, PM peak hour, and PM peak hour with Giants game, the Proposed Project would contribute less than 5 percent to any critical movements operating unacceptably under Baseline Conditions.

16. Fourth Street / Bryant Street / I-80 EB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Bryant Street / I-280 EB Off-Ramp operates at LOS E during the AM peak hour and PM peak hour. The intersection would continue to operate unacceptably at LOS E during the AM peak hour and PM peak hour. During the AM Peak Hour, the Proposed Project would add 54 vehicle trips to the southbound through movement (a 5 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour, the Proposed Project would add 35 vehicle trips to the southbound through movement (a 7 percent contribution), which is a critical movement under conditions without the Proposed Project. Under Baseline Conditions, the signalized intersection of Fourth Street / Bryant Street / I-80 EB Off-Ramp operates at LOS F during the PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour with Giants game with the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 35 vehicle trips to the southbound through movement (a 6 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

To mitigate poor operating conditions at the intersection of Fourth Street / Bryant Street / I-80 EB Off-Ramp, the project sponsor shall pay their fair share of the cost to design and implement an increase the signal cycle length, with associated adjustments to green time splits. If these timing changes were implemented, the intersection would improve to acceptable conditions.

Potential Measure Feasibility

The existing signal phasing at Fourth Street / Bryant Street / I-80 EB Off-Ramp is not a desirable candidate for a longer cycle length. This signal is coordinated with other signals along King Street and Embarcadero, which means a broader study of corridor-wide signal timing would need to be conducted prior to implementation. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, the cycle length increase would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

17. Fourth Street / Harrison Street / I-80 WB On-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Harrison Street / I-80 WB On-Ramp operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

18. Fourth Street / Howard Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Howard Street operates at LOS E during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS E during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour, the Proposed Project would contribute less than 5 percent to any critical movements operating unacceptably under Baseline Conditions. The intersection operates under acceptable conditions in the AM peak hour and PM peak hour with Giants game in both the Baseline and Baseline Plus Maximum Commercial Scenario conditions.

19. Fifth Street / Bryant Street / I-80 EB On-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fifth Street / Bryant Street / I-80 EB On-Ramp operates at LOS F during the PM peak hour. The intersection would continue to operate unacceptably at LOS F during the PM peak hour with the Proposed Project. During the PM peak hour, the Proposed Project would add 149 vehicle trips to the southbound left-turn movement (a 116 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

20. Fifth Street / Harrison Street / I-80 WB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Harrison Street / I-80 WB Off-Ramp operates at LOS D during the PM peak hour. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the PM peak hour with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

21. Third Street / Terry A. Francois Boulevard

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Terry A. Francois Boulevard operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

22. Third Street / Channel Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Channel Street operates at LOS E during the AM peak hour, PM peak hour, and PM peak hour with Giants game. The intersection would

degrade to unacceptable conditions (LOS F) during the AM peak hour, PM peak hour and PM peak hour with Giants game with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

23. Third Street / Mission Rock Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Mission Rock Street operates at LOS E during the PM peak hour. The intersection would degrade to unacceptable conditions (LOS F) during the PM peak hour with the Proposed Project. Under Baseline Conditions, the signalized intersection of Third Street / Mission Rock Street operates at LOS D during the AM peak hour and PM peak hour with Giants game. The intersection would degrade from acceptable to unacceptable (LOS F) conditions during the AM peak hour and PM peak hour with Giants game with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

24. Fourth Street / Channel Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Channel Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

25. Terry A. Francois Boulevard / Mission Rock Street

Operations Analysis

Under Baseline Conditions, the unsignalized intersection of Terry A. Francois Boulevard / Mission Rock Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

26. 16th Street / Terry A. Francois Boulevard (future)

Operations Analysis

Under Baseline Conditions, the unsignalized intersection of 16th Street / Terry A. Francois Boulevard operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

27. 16th Street / Third Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of 16th Street / Third Street operates at LOS D during the AM peak hour and LOS C during the PM peak hour. The intersection would degrade from acceptable to unacceptable (LOS F) conditions during the AM peak hour, PM peak hour, and PM peak hour with Giants Game with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

28. 16th Street / Owens Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of 16th Street / Owens Street operates at LOS E during the AM peak hour. The intersection would degrade to unacceptable conditions (LOS F) during the PM peak hour with the Proposed Project. Under Baseline Conditions, the signalized intersection of 16th Street / Owens Street operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour, the Proposed Project would add 173 vehicle

trips to the westbound through and right-turn movement (a 21 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 173 vehicle trips to the westbound through and right-turn movement (a 17 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

29. 16th Street / Seventh Street / Mississippi Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of 16th Street / Seventh Street / Mississippi Street operates at LOS F during the AM peak hour, PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the AM peak hour, PM peak hour and PM peak hour with Giants game with the Proposed Project. During the AM peak hour, the Proposed Project would add 176 vehicle trips to the eastbound left-turn and through movement (a 19 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour, the Proposed Project would add 148 vehicle trips to the westbound through movement (a 24 percent contribution). During the PM peak hour with Giants game, the Proposed Project would add 148 vehicle trips to the westbound left-turn and through movement (a 21 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

30. Seventh Street / Mission Bay Drive

Operations Analysis

Under Baseline Conditions, the signalized intersection of Seventh Street / Mission Bay Drive operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour and PM peak hour with Giants game, the Proposed Project would contribute less than 5 percent to any critical movements operating unacceptably under Baseline Conditions.

31. Mariposa Street / Terry A. Francois Blvd. / Illinois Street

Operations Analysis

Under Baseline Conditions, the unsignalized intersection of Third Street / Channel Street operates at LOS E during the AM peak hour, PM peak hour, and PM peak hour with Giants game. The intersection would degrade to unacceptable conditions (LOS F) during the AM peak hour, PM peak hour, and PM peak hour with Giants game.

Potential Measure

Install a signal at this intersection. With signalization, this intersection would operate at LOS C in the AM and PM peak hours. It should be noted that this intersection was signalized until recently, when the signals were removed due to deterioration and all-way stop control was installed. This mitigation measure is also proposed as part of the Golden State Warriors Arena Event Center and Mixed-Use Development project EIR and will be implemented as part of the project. If the Golden State Warriors Event Center and Mixed-Use Development project is not built then the Mission Rock would be required to install a signal at the intersection.

Potential Measure Feasibility

To improve poor operating conditions at the intersection of Mariposa Street / Terry A. Francois Boulevard / Illinois Street, the intersection could be signalized. It should be noted that this intersection was signalized until recently, when the signals were removed due to deterioration. This intersection will be signalized as part of the proposed Event Center / Mixed Use Development (Warriors arena).[34]

32. Mariposa Street / Third Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Mariposa Street / Third Street operates at LOS C during the PM peak hour and at LOS D during AM peak hour and the PM peak hour with Giants game. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the AM peak hour and PM peak hour, and to unacceptable (LOS F) conditions during the PM peak hour with Giants game with the Proposed Project.

[34] Mission Bay Blocks 29-32 Draft Subsequent EIR, pg 5.2-47.

Potential Measure

With a change to the currently allotted green times (and no adjustments to the signal cycle length), the intersection would operate acceptably under the Baseline Plus Project Maximum Commercial Scenario during the peak hours. The improvement would require a reallocation of green time from the northbound and southbound left-turn phases to the eastbound and westbound phases. If these timing changes were implemented, the intersection would improve to LOS D conditions in the PM peak hour with a Giants game. This signal is coordinated with other signals along the Third Street corridor, so any changes in timing would be made comprehensively by MTA staff as part of ongoing signal timing activities to reflect changed traffic conditions.

Potential Measure Feasibility

This measure is not considered a desirable candidate because it would likely increase delay for pedestrians.

33. Mariposa Street / I-280 NB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Mariposa Street / I-280 NB Off-Ramp operates at LOS E during the PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS E during the PM peak hour with Giants game with the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 236 vehicle trips to the northbound through and right-turn movement (a 29 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

The improvement would require a reallocation of green time from the eastbound and westbound through phases to the northbound (off-ramp) phase. These changes would improve the intersection to LOS D conditions in the PM peak hour with a Giants game. These changes would not affect pedestrian crossing times or cycle lengths. However, this intersection is at a freeway ramp that is operated by Caltrans.

Potential Measure Feasibility

This intersection is at a freeway ramp that is operated by Caltrans and could not be altered without their consent. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, it would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

34. Mariposa Street / I-280 SB On-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Mariposa Street / I-280 SB On-Ramp operates at LOS C during the AM peak hour. The intersection would degrade from acceptable to unacceptable (LOS F) conditions during the AM peak hour with the Proposed Project.

Potential Measure

With a change to the currently allotted green times (and no adjustments to the signal cycle length), the intersection would operate acceptably under the Baseline Plus Project Maximum Commercial Scenario during the peak hours. The improvement would require a reallocation of green time from the westbound left-turn phase to the eastbound through phase. These changes would improve the intersection to LOS B conditions in the AM peak hour. These changes would not affect pedestrian crossing times or cycle lengths. However, this intersection is at a freeway ramp that is operated by Caltrans.

Potential Measure Feasibility

This intersection is at a freeway ramp that is operated by Caltrans and could not be altered without their consent. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, it would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

35. Third Street / 22nd Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / 22nd Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Commercial Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

36. Third Street / Cesar Chavez Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Cesar Chavez Street operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour and PM peak hour with Giants game, the Proposed Project would contribute less than 5 percent to any critical movements operating unacceptably under Baseline Conditions. The intersection operates under acceptable conditions in the AM peak hour in both the Baseline and Baseline Plus Maximum Commercial Scenario conditions.

7.3.4.2 Baseline Plus Maximum Residential Scenario Intersection Analysis

1. Embarcadero / Bryant Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Embarcadero / Bryant Street operates at LOS F during the AM peak hour, PM peak hour, and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the AM peak hour, PM peak hour, and PM peak hour with Giants game with the Proposed Project. During the AM peak hour, the Proposed Project would add 70 vehicle trips to the southbound through movement (a 7 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour, the Proposed Project would add

59 vehicle trips to the southbound through movement (a 6 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 59 vehicle trips to the southbound through movement (a 6 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

With a change to the currently allotted green times (and no adjustments to the signal cycle length), the intersection would operate acceptably under the Maximum Residential Scenario during the peak hours. The improvement would require a reallocation of green time from the southbound left-turn phase to the northbound through phase and green time from the northbound left-turn phase to the southbound through phase. These changes would improve the intersection to LOS D conditions in the AM peak hour and LOS E conditions in the PM peak hour both with and without a Giants game. This signal is coordinated with other signals along King Street and the Embarcadero, so any changes in timing would be made comprehensively by MTA staff as part of ongoing signal timing activities to reflect changed traffic conditions.

Potential Measure Feasibility

This measure is not considered a desirable candidate because it would likely increase delay for pedestrians.

2. Embarcadero / Brannan Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Embarcadero / Brannan Street operates at LOS D during the AM peak hour. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the AM peak hour with the Proposed Project.

Potential Measure

With a change to the currently allotted green times (and no adjustments to the signal cycle length), the intersection would operate acceptably under the Maximum Residential Scenario during the peak hours. The improvement would require a reallocation of green time from the westbound U-turn phase to the eastbound through phase and green time from the eastbound left-turn phase to the westbound through phase. These changes would improve the intersection to LOS D conditions in the AM peak hour. This signal is coordinated with other signals along King Street and the Embarcadero, so any changes in timing would be made comprehensively by MTA staff as part of ongoing signal timing activities to reflect changed traffic conditions.

Potential Measure Feasibility

This measure is not considered a desirable candidate because it would likely increase delay for pedestrians.

3. Embarcadero / Townsend Street

Operations Analysis

During the AM peak hour, the intersection operates unacceptably in both the Baseline Conditions (LOS F) and Baseline Plus Maximum Residential Scenario Conditions, (LOS F). During the AM peak hour, the

Proposed Project would add 81 vehicle trips to the southbound through/right movement (an 8 percent contribution), which is a critical movement under conditions without the Proposed Project.

Under Baseline Conditions, the signalized intersection of Embarcadero / Townsend Street operates at LOS E during the PM peak hour and PM peak hour with Giants game. The intersection would degrade to unacceptable conditions (LOS F) during the PM peak hour and PM peak hour with Giants game.

Potential Measure

To mitigate poor operating conditions at the intersection of Embarcadero / Townsend Street, the project sponsor shall pay their fair share of the cost to design and implement an increase the signal cycle length, with associated adjustments to green time splits. If these timing changes were implemented, the intersection would improve to acceptable conditions.

Potential Measure Feasibility

The existing signal phasing at Embarcadero / Townsend Street is not a desirable candidate for a longer cycle length. This signal is coordinated with other signals along King Street and Embarcadero, which means a broader study of corridor-wide signal timing would need to be conducted prior to implementation. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, the cycle length increase would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

4. King Street / Second Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of King Street / Second Street operates at LOS D during the AM peak hour. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the AM peak hour with the Proposed Project.

Potential Measure

With a change to the currently allotted green times (and no adjustments to the signal cycle length), the intersection would operate acceptably under the Maximum Residential Scenario during the peak hours. The improvement would require a reallocation of green time from the westbound U-turn phase to the eastbound through phase and green time from the eastbound left-turn phase to the westbound through phase. These changes would improve the intersection to LOS D conditions in the AM peak hour. This signal is coordinated with other signals along King Street and the Embarcadero, so any changes in timing would be made comprehensively by MTA staff as part of ongoing signal timing activities to reflect changed traffic conditions.

Potential Measure Feasibility

This measure is not considered a desirable candidate because it would likely increase delay for pedestrians.

5. King Street / Third Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of King Street / Third Street operates at LOS D during the AM peak hour. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the AM peak hour with the Proposed Project. Under Baseline Conditions, the intersection operates at LOS E during the PM peak hour with Giants game. The intersection would degrade to unacceptable conditions (LOS F) during the PM peak hour with Giants game.

Potential Measure

To mitigate poor operating conditions at the intersection of King Street / Third Street, the project sponsor shall pay their fair share of the cost to design and implement an increase the signal cycle length, with associated adjustments to green time splits. If these timing changes were implemented, the intersection would improve to acceptable conditions.

Potential Measure Feasibility

The existing signal phasing at King Street / Third Street is not a desirable candidate for a longer cycle length. This signal is coordinated with other signals along King Street and Embarcadero, which means a broader study of corridor-wide signal timing would need to be conducted prior to implementation. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, the cycle length increase would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

6. King Street / Fourth Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of King Street / Fourth Street operates at LOS E during the AM peak hour. The intersection would degrade to unacceptable conditions (LOS F) during the AM peak hour. Under Baseline Conditions, the intersection of operates at LOS D during the PM peak hour and PM peak hour with Giants game. The intersection would degrade from acceptable to unacceptable conditions during the PM peak hour (LOS E) and PM peak hour with Giants game (LOS F) with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

7. King Street / Fifth Street / I-280 Ramps

Operations Analysis

Under Baseline Conditions, the signalized intersection of King Street / Fifth Street / I-280 Ramps operates at LOS E during the AM peak hour. The intersection would continue to operate at an unacceptable LOS E during the AM peak hour. The Baseline Plus Max Residential scenario would not contribute more than five percent to any current critical movement operating at unacceptable conditions.

8. Beale Street / Bryant Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Beale Street / Bryant Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

9. Fremont Street / Harrison Street / I-80 WB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fremont Street / Harrison Street / I-80 WB Off-Ramp operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

10. Fremont Street / Folsom Street / I-80 WB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fremont Street / Folsom Street / I-80 WB Off-Ramp operates at an acceptable level of service during the AM, PM peak hour, and PM peak hour with Giants game. The intersection would continue to operate acceptably with the Proposed Project.

11. Second Street / Brannan Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Second Street / Brannan Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

12. Second Street / Bryant Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Second Street / Bryant Street operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed

Project. During the PM peak hour, the Proposed Project would add 106 vehicle trips to the eastbound left-turn movement (a 30 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 106 vehicle trips to the eastbound left-turn movement (a 32 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

13. Third Street / Bryant Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Bryant Street operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour, the Proposed Project would add 193 vehicle trips to the northbound through movement (a 9 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 193 vehicle trips to the northbound through movement (a 9 percent contribution).

Potential Measure

To mitigate poor operating conditions at the intersection of Third Street / Bryant Street, the project sponsor shall pay their fair share of the cost to design and implement an increase the signal cycle length, with associated adjustments to green time splits. If these timing changes were implemented, the intersection would improve to acceptable conditions.

Potential Measure Feasibility

The existing signal phasing at Third Street / Bryant Street is not a desirable candidate for a longer cycle length. This signal is coordinated with other signals along Third Street, which means a broader study of corridor-wide signal timing would need to be conducted prior to implementation. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, the cycle length increase would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

14. Third Street / Harrison Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Harrison Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

15. Third Street / Howard Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Howard Street operates at LOS E during the AM peak hour and operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS E during the AM peak hour and LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the AM peak hour, PM peak hour, and PM peak hour with Giants game, the Proposed Project would contribute less than 5 percent to any critical movements operating unacceptably under Baseline Conditions.

16. Fourth Street / Bryant Street / I-80 EB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Bryant Street / I-80 EB Off-Ramp operates at LOS E during the AM peak hour and PM peak hour and operates at LOS F during the PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS E during the AM peak hour the PM peak hour and LOS F during the PM peak hour with Giants game with the Proposed Project. During the AM peak hour, the Proposed Project would not add more than five percent to a critical movement operating unacceptably. During the PM peak hour, the Proposed Project would add 40 vehicle trips to the southbound through movement (an 8 percent contribution), which is a critical movement. During the PM peak hour with Giants game, the Proposed Project would add 40 vehicle trips to the southbound through movement (a 6 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

17. Fourth Street / Harrison Street / I-80 WB On-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Harrison Street / I-80 WB On-Ramp operates at LOS D during the PM peak hour. The intersection would degrade from acceptable to unacceptable (LOS E) conditions during the PM peak hour with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

18. Fourth Street / Howard Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Howard Street operates at LOS E during the PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS E during the PM peak hour with Giants game with the Proposed Project. During the PM peak hour, the Proposed Project would contribute less than 5 percent to any critical movements operating unacceptably under Baseline Conditions. As a result, the Proposed Project's contribution to unacceptable operating conditions at the intersection of Fourth Street / Howard Street during the PM peak hour. The intersection operates under acceptable conditions in the AM peak hour and PM peak hour in both the Baseline and Baseline Plus Maximum Residential Scenario conditions.

19. Fifth Street / Bryant Street / I-80 EB On-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fifth Street / Bryant Street / I-80 EB On-Ramp operates at LOS F during the PM peak hour. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour, the Proposed Project would add 169 vehicle trips to the southbound left-turn movement (a 131 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

Generally, to mitigate poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity

would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

20. Fifth Street / Harrison Street / I-80 WB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fifth Street / Harrison Street / I-280 WB Off-Ramp operates at LOS D during the PM peak hour. The intersection would degrade to unacceptable conditions (LOS E) during the PM peak hour with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

21. Third Street / Terry A. Francois Boulevard

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Terry A. Francois Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

22. Third Street / Channel Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Channel Street operates at LOS E during the AM peak hour, PM peak hour, and PM peak hour with Giants game. The intersection would degrade to unacceptable conditions (LOS F) during the AM peak hour, PM peak hour, and PM peak hour with Giants game with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

23. Third Street / Mission Rock Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Mission Rock Street operates at LOS D during the AM peak hour and PM peak hour with Giants game and at LOS E during the PM peak hour. The intersection would degrade to unacceptable conditions (LOS F) during the AM peak hour, PM peak hour, and PM peak hour with Giants game with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

24. Fourth Street / Channel Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Fourth Street / Channel Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

25. Terry A. Francois Boulevard / Mission Rock Street

Operations Analysis

Under Baseline Conditions, the unsignalized intersection of Terry A. Francois Boulevard / Mission Rock Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

26. 16th Street / Terry A. Francois Boulevard

Operations Analysis

Under Baseline Conditions, the unsignalized intersection of 16th Street / Terry A. Francois Boulevard operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

27. 16th Street / Third Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Channel Street operates at LOS D during the AM peak hour, LOS C during the PM peak hour, and LOS E during the PM peak hour with Giants game. The intersection would degrade to unacceptable conditions (LOS F) during the AM peak hour, PM peak hour, and PM peak hour with Giants game with the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

28. 16th Street / Owens Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of 16th Street / Owens Street operates at LOS E during the AM peak hour. The intersection would degrade to unacceptable conditions (LOS F) during the AM peak hour. Under Baseline Conditions, the signalized intersection of 16th Street / Owens Street operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour, the Proposed Project would add 158 vehicle trips to the westbound

through movement (a 21 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 158 vehicle trips to the westbound through movement (an 18 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

29. 16th Street / Seventh Street / Mississippi Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of 16th Street / Seventh Street / Mississippi Street operates at LOS F during the AM peak hour, PM peak hour, and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the AM peak hour, PM peak hour, and PM peak hour with Giants game with the Proposed Project.

During the AM peak hour, the Proposed Project would add 69 vehicle trips to the eastbound left-turn and through movement (a 6 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour, the Proposed Project would add 153 vehicle trips to the eastbound left-turn and through movement (a 17 percent contribution). During the PM peak hour with Giants game, the Proposed Project would add 135 vehicle trips to the westbound left-turn and through movement (a 22 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

30. Seventh Street / Mission Bay Drive

Operations Analysis

Under Baseline Conditions, the signalized intersection of Seventh Street / Mission Bay Drive operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour and PM peak hour with Giants game, the Proposed Project would contribute less than 5 percent to any critical movements operating unacceptably under Baseline Conditions. The intersection operates under acceptable conditions in the AM peak hour in both the Baseline and Baseline Plus Maximum Residential Scenario conditions.

31. Mariposa Street / Terry A. Francois Blvd. / Illinois Street

Operations Analysis

Under Baseline Conditions, the unsignalized intersection of Mariposa Street / Terry A. Francois Blvd. / Illinois Street operates at LOS F during the AM peak hour, LOS C during the PM Peak Hour, and LOS E during the PM peak hour with Giants game. The intersection would degrade to unacceptable conditions (LOS F) during theAM peak hour, PM peak hour, and PM peak hour with Giants game.

Potential Measure

Install a signal at this intersection. With signalization, this intersection would operate at LOS C in the AM and PM peak hours. It should be noted that this intersection was signalized until recently, when the signals were removed due to deterioration and all-way stop control was installed. This mitigation measure is also proposed as part of the Golden State Warriors Arena project EIR and will be implemented by others.

Potential Measure Feasibility

To improve poor operating conditions at the intersection of Mariposa Street / Terry A. Francois Boulevard / Illinois Street, the intersection could be signalized. It should be noted that this intersection was signalized until recently, when the signals were removed due to deterioration. This intersection will be signalized as part of the proposed Event Center / Mixed Use Development (Warriors arena).[35]

32. Mariposa Street / Third Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Mariposa Street / Third Street operates at LOS D during the AM peak hour and PM peak hour with Giants game and at LOS C during the PM peak hour. The intersection would degrade from acceptable to unacceptable (LOS F) conditions during the AM peak hour, PM peak hour and PM peak hour with Giants game with the Proposed Project.

[35] Mission Bay Blocks 29-32 Draft Subsequent EIR, pg 5.2-47. **[Cite actual title of the document, provide publication date, etc.]**

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

33. Mariposa Street / I-280 NB Off-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Mariposa Street / I-280 NB Off-Ramp operates at LOS E during the PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS E during the PM peak hour with Giants game with the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 267 vehicle trips to the northbound through and right-turn movement (a 28 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

The improvement would require a reallocation of green time from the eastbound and westbound through phases to the northbound (off-ramp) phase. These changes would improve the intersection to LOS D conditions in the PM peak hour with Giants game. These changes would not affect pedestrian crossing times or cycle lengths. However, this intersection is at a freeway ramp that is operated by Caltrans.

Potential Measure Feasibility

This intersection is at a freeway ramp that is operated by Caltrans and could not be altered without their consent. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, it would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

34. Mariposa Street / I-280 SB On-Ramp

Operations Analysis

Under Baseline Conditions, the signalized intersection of Mariposa Street / I-280 SB On-Ramp operates at LOS C during the AM peak hour. The intersection would degrade from acceptable to unacceptable (LOS F) conditions during the AM peak hour with the Proposed Project.

Potential Measure

With a change to the currently allotted green times (and no adjustments to the signal cycle length), the intersection would operate acceptably under the Maximum Residential Scenario during the peak hours. The improvement would require a reallocation of green time from the westbound left-turn phase to the eastbound through phase. These changes would improve the intersection to LOS B conditions in the AM peak hour. These changes would not affect pedestrian crossing times or cycle lengths. However, this intersection is at a freeway ramp that is operated by Caltrans.

Potential Measure Feasibility

This intersection is at a freeway ramp that is operated by Caltrans and could not be altered without their consent. In addition, implementation of this mitigation measure would likely increase delay for pedestrians; however, it would not result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

35. Third Street / 22nd Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / 22nd Street operates at an acceptable level of service during both the AM, PM peak hour, and PM peak hour with Giants game. Under the Baseline Plus Maximum Residential Scenario, the intersection continues to operate acceptably during both the AM, PM peak hour, and PM peak hour with Giants game.

36. Third Street / Cesar Chavez Street

Operations Analysis

Under Baseline Conditions, the signalized intersection of Third Street / Cesar Chavez Street operates at LOS F during the PM peak hour and PM peak hour with Giants game. The intersection would continue to operate unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game with the Proposed Project. During the PM peak hour and PM peak hour with Giants game, the Proposed Project would contribute less than 5 percent to any critical movements operating unacceptably under Baseline Conditions. The intersection operates under acceptable conditions in the AM peak hour in both the Baseline and Baseline Plus Maximum Residential Scenario conditions.

Improvement Measure TR-4: Transportation Demand Management

As an improvement measure to encourage use of transit and non-motorized modes and reduce the unmet parking demand for the maximum residential scenario, the Proposed Project could increase the scope of their Transportation Demand Management (TDM) Plan designed to reduce use of single-occupant vehicles and to increase the use of rideshare, transit, bicycle, and walk modes for trips to and from the Proposed Project.

The TDM Plan could include such measures as the following to reduce single occupancy vehicles and encourage transit and non-motorized modes of travel:

- Transit pass subsidies for employees purchasing transit passes could be provided.

- High-speed internet connections could be provided in employee homes to facilitate telecommuting.
- Alternative work schedules could be provided by employers, which could include staggered start times, flexible work hours, and/or compressed work week programs.
- Bicycle and pedestrian cash incentives, or a parking "cash out" program where employees are offered a monetary incentive not to drive their car to the site, could be provided by employers.
- TDM training for property managers and the on-site transportation coordinator.
- Free or subsidized carshare and bikeshare (should bikeshare be established on the site) membership to all tenants and residents.
- Other technology and/or practice innovations as they develop over time.
- Use of satellite parking lots to handle peak demand.

The City of San Francisco is currently evaluating the effectiveness of various TDM measures with respect to private automobile generation reduction. The goal of the evaluation is to provide data to support reductions to trip generation in future transportation analyses. As of this writing, the results are not available for inclusion in this analysis.

Table 57 shows a summary of the intersection analysis results for the Maximum Commercial Scenario. **Table 58** shows a summary of the intersection analysis results for the Maximum Residential Scenario.

TABLE 57: BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY (MAXIMUM COMMERCIAL SCENARIO)

Intersection	AM Peak Hour	PM Peak Hour	PM Peak Hour with Giants Game
1. Embarcadero / Bryant Street	X	X	X
2. Embarcadero / Brannan Street	X		
3. Embarcadero / Townsend Street	X	X	X
4. King Street / Second Street	X		
5. King Street / Third Street	X		X
6. King Street / Fourth Street	X	X	X
7. King Street / Fifth Street / I-280 Ramps			
8. Beale Street / Bryant Street			
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp			
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp			
11. Second Street / Brannan Street			

TABLE 57: BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY
(MAXIMUM COMMERCIAL SCENARIO)

Intersection	AM Peak Hour	PM Peak Hour	PM Peak Hour with Giants Game
12. Second Street / Bryant Street		X	X
13. Third Street / Bryant Street		X	X
14. Third Street / Harrison Street			
15. Third Street / Howard Street			
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp		X	X
17. Fourth Street / Harrison Street / I-80 WB On-Ramp			
18. Fourth Street / Howard Street			
19. Fifth Street / Bryant Street / I-80 EB On-Ramp		X	
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp		X	
21. Third Street / Terry A. Francois Boulevard			
22. Third Street / Channel Street	X	X	X
23. Third Street / Mission Rock Street	X	X	X
24. Fourth Street / Channel Street			
25. Terry A. Francois Boulevard / Mission Rock Street			
26. 16th Street / Terry A. Francois Boulevard			
27. 16th Street / Third Street	X	X	X
28. 16th Street / Owens Street	X	X	X
29. 16th Street / Seventh Street / Mississippi Street	X	X	X
30. Seventh Street / Mission Bay Drive			
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.		X	X
32. Mariposa Street / Third Street	X	X	X
33. Mariposa Street / I-280 NB Off-Ramp			
34. Mariposa Street / I-280 SB On-Ramp	X		
35. Third Street / 22nd Street			
36. Third Street / Cesar Chavez Street			

Notes: X indicates intersection with no feasible improvement measure. Blank cell indicates that no improvement measures were necessary. TR-X indicates improvement measures were found and improve operations to desirable levels. TR-X indicates improvement measures were found and did not improve operations to desirable levels.
Baseline condition is a modified existing condition.
Source: Fehr & Peers, 2017.

TABLE 58: BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY
(MAXIMUM RESIDENTIAL SCENARIO)

Intersection	AM Peak Hour	PM Peak Hour	PM Peak Hour with Giants Game
1. Embarcadero / Bryant Street	X	X	
2. Embarcadero / Brannan Street	X		
3. Embarcadero / Townsend Street		X	X
4. King Street / Second Street	X		
5. King Street / Third Street	X		X
6. King Street / Fourth Street	X	X	X
7. King Street / Fifth Street / I-280 Ramps			
8. Beale Street / Bryant Street			
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp			
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp			
11. Second Street / Brannan Street			
12. Second Street / Bryant Street			
13. Third Street / Bryant Street			
14. Third Street / Harrison Street			
15. Third Street / Howard Street			
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp		X	X
17. Fourth Street / Harrison Street / I-80 WB On-Ramp		X	
18. Fourth Street / Howard Street			
19. Fifth Street / Bryant Street / I-80 EB On-Ramp			
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp		X	
21. Third Street / Terry A. Francois Boulevard			
22. Third Street / Channel Street	X	X	X
23. Third Street / Mission Rock Street	X	X	X
24. Fourth Street / Channel Street			
25. Terry A. Francois Boulevard / Mission Rock Street			
26. 16th Street / Terry A. Francois Boulevard			
27. 16th Street / Third Street	X	X	X
28. 16th Street / Owens Street	X	X	X

TABLE 58: BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY
(MAXIMUM RESIDENTIAL SCENARIO)

Intersection	AM Peak Hour	PM Peak Hour	PM Peak Hour with Giants Game
29. 16th Street / Seventh Street / Mississippi Street	X	X	X
30. Seventh Street / Mission Bay Drive			
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.		X	X
32. Mariposa Street / Third Street	X	X	X
33. Mariposa Street / I-280 NB Off-Ramp			
34. Mariposa Street / I-280 SB On-Ramp	X		
35. Third Street / 22nd Street			
36. Third Street / Cesar Chavez Street			

Notes: X indicates intersection with no feasible improvement measure. Blank cell indicates that no improvement measures were necessary. TR-X indicates improvement measures were found and improve operations to desirable levels. TR-X indicates improvement measures were found and did not improve operations to desirable levels.
Baseline condition is a modified existing condition.
Source: Fehr & Peers, 2017.

7.3.5 Freeway Analysis

7.3.5.1 Baseline Plus Maximum Commercial Scenario Freeway Analysis

Similar to intersections, Proposed Project trips would be added to baseline traffic volumes at study freeway segments to create Baseline Plus Project traffic volumes. **Table 59** compares the LOS under Baseline and Baseline Plus Project Maximum Commercial Scenario conditions in the AM peak hour, **Table 60** compares the LOS under Baseline and Baseline Plus Project Maximum Commercial Scenario conditions in the PM peak hour without a Giants game, and **Table 61** compares the LOS under Baseline and Baseline Plus Project Maximum Commercial Scenario conditions in the PM peak hour with a Giants game. Detailed analysis results are presented in **Appendix I**.

Several freeway segments operate at LOS E and F under Baseline Conditions; however the additional Project-generated trips under the Maximum Commercial Scenario do not contribute a considerable amount of traffic to that congestion. Further, the Proposed Project's Maximum Commercial Scenario would not cause any segments that are operating at acceptable levels to degrade to unacceptable levels under Baseline Plus Project conditions.

The Proposed Project's Maximum Commercial Scenario contribution to traffic on other freeway facilities beyond the study area would be minor and result in a one to three percent traffic increase during the peak hours, which would not be perceptible based on typical day-to-day fluctuations in traffic volumes.

7.3.5.2 Baseline Plus Maximum Residential Scenario Freeway Analysis

Table 62 compares the LOS under Baseline and Baseline Plus Project Maximum Residential Scenario conditions in the AM peak hour, **Table 63** compares the LOS under Baseline and Baseline Plus Project Maximum Residential Scenario conditions in the PM peak hour without a Giants game, and **Table 64** compares the LOS under Baseline and Baseline Plus Project Maximum Residential Scenario conditions in the PM peak hour with a Giants game. Detailed analysis results are presented in **Appendix I**.

Several freeway segments operate at LOS E and F under Baseline Conditions; however the additional Project-generated trips under the Maximum Residential Scenario do not contribute a considerable amount of traffic to that congestion. Further, the Proposed Project's Maximum Residential Scenario would not cause any segments that are operating at acceptable levels to degrade to unacceptable levels under Baseline Plus Project conditions.

The Proposed Project's Maximum Residential Scenario contribution to traffic on other freeway facilities beyond the study area would be minor and result in a one to three percent traffic increase during the peak hours, which would not be perceptible based on typical day-to-day fluctuations in traffic volumes.

TABLE 59: AM PEAK HOUR FREEWAY LEVELS OF SERVICE – BASELINE PLUS PROJECT CONDITIONS (MAXIMUM COMMERCIAL SCENARIO)

Freeway Segment	Facility Type	Baseline		Baseline Plus Project	
		Density [1]	**LOS[2]**	***Density*** [1]	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	**40**	**E**	**41**	**E**
Fremont off-ramp	Ramp Diverge	**35**	**E**	**36**	**E**
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	29	D	31	D
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**1,921**	**F**	**1,925**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	13	B	13	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	**>45**	**F**	**>45**	**F**
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	17	B	18	B

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 60: PM PEAK HOUR FREEWAY LEVELS OF SERVICE – BASELINE PLUS PROJECT CONDITIONS (MAXIMUM COMMERCIAL SCENARIO)

Freeway Segment	Facility Type	Baseline		Baseline Plus Project	
		Density [1]	**LOS** [2]	***Density*** [1]	**LOS** [2]
Westbound I-80					
Harrison off-ramp	Ramp Diverge	32	D	33	D
Fremont off-ramp	Ramp Diverge	30	D	31	D
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	30	D	32	D
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**2,100**	**F**	**2,096**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	11	B	12	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	26	C	28	C
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	29	D	33	D

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 61: PM PEAK HOUR WITH GIANTS GAME FREEWAY LEVELS OF SERVICE – BASELINE PLUS PROJECT CONDITIONS (MAXIMUM COMMERCIAL SCENARIO)

Freeway Segment	Facility Type	Baseline		Baseline Plus Project	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	**37**	**E**	**38**	**E**
Fremont off-ramp	Ramp Diverge	34	D	35	D
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	32	D	34	D
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**2,056**	**F**	**2,061**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	11	B	12	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	31	D	33	D
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	30	D	33	D

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 62: AM PEAK HOUR FREEWAY LEVELS OF SERVICE – BASELINE PLUS PROJECT CONDITIONS (MAXIMUM RESIDENTIAL SCENARIO)

Freeway Segment	Facility Type	Baseline		Baseline Plus Project	
		Density [1]	**LOS** [2]	***Density*** [1]	**LOS** [2]
Westbound I-80					
Harrison off-ramp	Ramp Diverge	**40**	**E**	**41**	**E**
Fremont off-ramp	Ramp Diverge	**35**	**E**	**36**	**E**
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	29	D	31	D
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**1,921**	**F**	**1,926**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	13	B	13	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	**>45**	**F**	**>45**	**F**
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	17	B	19	B

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 63: PM PEAK HOUR FREEWAY LEVELS OF SERVICE – BASELINE PLUS PROJECT CONDITIONS (MAXIMUM RESIDENTIAL SCENARIO)

Freeway Segment	Facility Type	Baseline		Baseline Plus Project – Scenario B	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	32	D	33	D
Fremont off-ramp	Ramp Diverge	30	D	31	D
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	30	D	33	D
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**2,100**	**F**	**2,097**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	11	B	12	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	26	C	28	C
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	29	D	33	D

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 64: PM PEAK HOUR WITH GIANTS GAME FREEWAY LEVELS OF SERVICE – BASELINE PLUS PROJECT CONDITIONS (MAXIMUM RESIDENTIAL SCENARIO)

Freeway Segment	Facility Type	Baseline		Baseline Plus Project	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	**37**	**E**	**38**	**E**
Fremont off-ramp	Ramp Diverge	34	D	35	D
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	32	D	34	D
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**2,056**	**F**	**2,060**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	11	B	12	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	31	D	34	D
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	30	D	33	D

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

7.3.6 Cumulative Traffic Analysis

Future year 2040 Cumulative traffic volumes were developed in order to assess the long-term cumulative effects of the Proposed Project in combination with projected development within San Francisco and the rest of the Bay Area, as well as implementation of planned transportation infrastructure projects. For the future year, Cumulative intersection traffic volumes were derived from outputs from the San Francisco County Transportation Authority's travel demand forecasting model (SF-CHAMP Model).

The SF-CHAMP model is an activity based travel demand model that has been validated to represent existing and future transportation conditions in San Francisco. The model predicts all person travels for a full day based on total and locations of population, housing units and employment, which are then allocated to different periods throughout the day, using time of day sub-models. The SF-CHAMP model predicts person travel by mode for auto, transit, walk and bicycle trips. The SF-CHAMP model also provides forecasts of vehicular traffic on regional freeways, major arterials and on the study area local roadway network considering the available roadway capacity, origin-destination demand and travel speeds when assigning the future travel demand to the roadway network.

SF-CHAMP divides San Francisco into 981 geographic areas, known as Traffic Analysis Zones (TAZs). It also includes zones outside of San Francisco, for which it uses the same traffic analysis zones as the current Metropolitan Transportation Commission (MTC) Model: "Travel Model One". For each TAZ, the model estimates the travel demand based on TAZ population and employment assumptions developed by the Association of Bay Area Governments (ABAG). Within San Francisco, the San Francisco Planning Department is responsible for allocating ABAG's countywide growth forecast to each TAZ for the future cumulative year model, based upon existing zoning and approved plans, using an area's potential zoning capacity, and the anticipated extent of redevelopment of existing uses. The 2040 cumulative future year has been used consistently for recent large development and infrastructure project transportation studies in San Francisco.

Regional travel demand models such as SF-CHAMP are designed to be able to represent city-wide and regional trends and do not represent an intersection level of analysis commensurate with projecting specific turning movements. Instead, the SF-CHAMP model provides traffic volume outputs that can then be adjusted using professional judgment and methodology and then modeled in other traffic modeling software (such as Synchro), to represent intersection and turning movement operations. In addition to the application of a standard methodology, creating forecasts from model output involves engineering judgment, past experience, and knowledge of the transportation characteristics of the study area. The processing of raw SF-CHAMP model output to determine turning movement volumes for the Cumulative scenario was performed using the Furness methodology, which is consistent with methodologies defined in National Cooperative Highway Research Program (NCHRP Report 255), Highway Traffic Data for Urbanized Area Project Planning and Design, Pedersen, N.J. and Samdahl, D.R., Transportation Research Board, 1982 - specifically, those outlined in Chapter Eight, Turning Movement Procedures.

The Furness method takes the growth between the base and future year model outputs and distributes the growth proportionately to the existing counts. Adjustments were made to account for future transportation infrastructure changes, including an extension of Owens Street south to the intersection of Mariposa Street/I-280 Off-Ramp, as well as the extension of 16th Street to Terry A. Francois Boulevard. Minor adjustments were also made to the project trip assignment to account for the future roadway network. Future proposed transit changes included in the TEP to nearby transit routes were included in the SF-CHAMP model forecasts.

The SF-CHAMP model was used to develop forecasts for cumulative conditions without the project. The project vehicle trips shown in the two rightmost columns in Table 65 were manually added to create Cumulative 2040 Plus Project forecasts. This process was followed, rather than relying on the SF-CHAMP model for both sets of cumulative forecasts, because the SF-CHAMP model predicts considerably fewer vehicle trips from the project than identified in the more detailed travel demand analysis documented in Chapter 4 of this study. A comparison of the number of vehicle trips predicted by the SF-CHAMP model and the travel demand analysis in Chapter 4 is provided in **Table 65.** The Cumulative 2040 Plus Project intersection turning movement volumes are shown in **Figure 22** (Maximum Commercial Scenario) and **Figure 23** (Maximum Residential Scenario).

TABLE 65: CUMULATIVE VEHICLE TRIP GENERATION COMPARISON

TAZ[1]	Location	2040 CHAMP Output		Project Trips[2]	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
655	Seawall Lot 337 & Pier 48	567	658	1,449	1,755

Notes:

1. Traffic analysis zone in SF-CHAMP travel demand model maintained by the SFCTA.
2. Proposed Project Maximum Commercial Scenario, "*Mission Rock (Seawall Lot 337/Pier 48) Project Estimation of Project Travel Demand.*"

Source: SFCTA; Adavant Consulting; Fehr & Peers, 2015

Table 66, Table 67, and **Table 68** present the Cumulative 2040 Plus Project (Maximum Commercial Scenario) intersection levels of service for the weekday AM peak hour, PM peak hour without Giants game, and PM peak hour with Giants game conditions. **Table 69, Table 70,** and **Table 71** present the Cumulative 2040 Plus Project (Maximum Residential Scenario) intersection levels of service for the weekday AM peak hour, PM peak hour without Giants game, and PM peak hour with Giants game conditions. **Appendix H** includes tables showing the Proposed Project's contribution to LOS E or LOS F critical movements at intersections operating at LOS E or LOS F under Cumulative 2040 Plus Project conditions for both project scenarios.

TABLE 66: WEEKDAY AM PEAK HOUR INTERSECTION LEVELS OF SERVICE - CUMULATIVE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	50	D	**67**	**E**
3. Embarcadero / Townsend Street	Signal	**>80**	**F**	**74**	**E**
4. King Street / Second Street	Signal	52	D	**>80**	**F**
5. King Street / Third Street	Signal	42	D	**>80**	**F**
6. King Street / Fourth Street	Signal	**58**	**E**	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	**58**	**E**	**77**	**E**
8. Beale Street / Bryant Street	Signal	39	D	**>80**	**F**
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	45	D	21	C
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	44	D	**>80**	**F**
11. Second Street / Brannan Street	Signal	17	B	23	C
12. Second Street / Bryant Street	Signal	10	A	20	B
13. Third Street / Bryant Street	Signal	31	C	**>80**	**F**
14. Third Street / Harrison Street	Signal	35	C	**>80**	**F**
15. Third Street / Howard Street	Signal	**61**	**E**	**>80**	**F**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**60**	**E**	**63**	**E**
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	41	D	28	C
18. Fourth Street / Howard Street	Signal	28	C	28	C
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	28	C	**>80**	**F**
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	42	D	**>80**	**F**
21. Third Street / Terry A. Francois Boulevard	Signal	15	B	37	D
22. Third Street / Channel Street	Signal	**60**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	52	D	**>80**	**F**
24. Fourth Street / Channel Street	Signal	7	A	17	B
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	12 (NB)	B
26. 16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	28 (EB)	D
27. 16th Street / Third Street	Signal	38	D	**>80**	**F**
28. 16th Street / Owens Street	Signal	**64**	**E**	**>80**	**F**

TABLE 66: WEEKDAY AM PEAK HOUR INTERSECTION LEVELS OF SERVICE - CUMULATIVE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	16	B	35	C
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	**>50 (EB)**	**F**	**>50**	**F**
32. Mariposa Street / Third Street	Signal	36	D	**>80**	**F**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	29	C	33	C
34. Mariposa Street / I-280 SB On-Ramp	Signal	22	C	7	A
35. Third Street / 22nd Street	Signal	9	A	14	B
36. Third Street / Cesar Chavez Street	Signal	46	D	**68**	**E**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2015

TABLE 67: WEEKDAY PM PEAK HOUR INTERSECTION LEVELS OF SERVICE – CUMULATIVE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	28	C	30	C
3. Embarcadero / Townsend Street	Signal	**80**	**E**	53	D
4. King Street / Second Street	Signal	37	D	**>80**	**F**
5. King Street / Third Street	Signal	**>80**	**F**	**>80**	**F**
6. King Street / Fourth Street	Signal	49	D	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	37	D	**>80**	**F**
8. Beale Street / Bryant Street	Signal	33	C	**>80**	**F**
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	41	D	28	C
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	23	C	**>80**	**F**
11. Second Street / Brannan Street	Signal	17	B	44	D
12. Second Street / Bryant Street	Signal	**>80**	**F**	30	C
13. Third Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
14. Third Street / Harrison Street	Signal	38	D	**>80**	**F**
15. Third Street / Howard Street	Signal	**>80**	**F**	**>80**	**F**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**58**	**E**	48	D
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	50	D	**>80**	**F**
18. Fourth Street / Howard Street	Signal	**63**	**E**	**>80**	**F**
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	**>80**	**F**	**>80**	**F**
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	54	D	**>80**	**F**
21. Third Street / Terry A. Francois Boulevard	Signal	15	B	37	D
22. Third Street / Channel Street	Signal	**77**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	**71**	**E**	**>80**	**F**
24. Fourth Street / Channel Street	Signal	9	A	51	D
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	7 (NB)	A	11 (NB)	B
26. 16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	16 (EB)	C
27. 16th Street / Third Street	Signal	35	C	**>80**	**F**
28. 16th Street / Owens Street	Signal	**>80**	**F**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	**>80**	**F**	**62**	**E**
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	16 (WB)	C	**>50**	**F**

TABLE 67: WEEKDAY PM PEAK HOUR INTERSECTION LEVELS OF SERVICE – CUMULATIVE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
32. Mariposa Street / Third Street	Signal	27	C	**>80**	**F**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	39	D	24	C
34. Mariposa Street / I-280 SB On-Ramp	Signal	15	B	**55**	**E**
35. Third Street / 22nd Street	Signal	16	B	10	A
36. Third Street / Cesar Chavez Street	Signal	**>80**	**F**	**>80**	**F**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 68: WEEKDAY PM PEAK HOUR WITH GIANTS GAME INTERSECTION LEVELS OF SERVICE – CUMULATIVE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	32	C	36	D
3. Embarcadero / Townsend Street	Signal	**68**	**E**	51	D
4. King Street / Second Street	Signal	37	D	**>80**	**F**
5. King Street / Third Street	Signal	**77**	**E**	**>80**	**F**
6. King Street / Fourth Street	Signal	53	D	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	40	D	**>80**	**F**
8. Beale Street / Bryant Street	Signal	43	D	**>80**	**F**
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	30	C	28	C
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	40	D	**>80**	**F**
11. Second Street / Brannan Street	Signal	20	B	**>80**	**F**
12. Second Street / Bryant Street	Signal	**>80**	**F**	45	D
13. Third Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
14. Third Street / Harrison Street	Signal	16	B	**>80**	**F**
15. Third Street / Howard Street	Signal	**>80**	**F**	**>80**	**F**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**>80**	**F**	**62**	**E**
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	31	C	**>80**	**F**
18. Fourth Street / Howard Street	Signal	40	D	**>80**	**F**
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	**>80**	**F**	**>80**	**F**
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	**63**	**E**	**>80**	**F**
21. Third Street / Terry A. Francois Boulevard	Signal	10	B	42	D
22. Third Street / Channel Street	Signal	**69**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	42	D	**>80**	**F**
24. Fourth Street / Channel Street	Signal	13	B	**>80**	**F**
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	16 (NB)	C
26. 16th Street / Terry A. Francois Boulevard	SSSC	16 (EB)	C	17 (EB)	C
27. 16th Street / Third Street	Signal	**60**	**E**	**>80**	**F**
28. 16th Street / Owens Street	Signal	**>80**	**F**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	**>80**	**F**	**>80**	**F**
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	**46 (EB)**	**E**	**>50**	**F**

TABLE 68: WEEKDAY PM PEAK HOUR WITH GIANTS GAME INTERSECTION LEVELS OF SERVICE – CUMULATIVE PLUS PROJECT (MAXIMUM COMMERCIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
32. Mariposa Street / Third Street	Signal	43	D	**>80**	**F**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	**55**	**E**	27	C
34. Mariposa Street / I-280 SB On-Ramp	Signal	16	B	**57**	**E**
35. Third Street / 22nd Street	Signal	12	B	11	B
36. Third Street / Cesar Chavez Street	Signal	**>80**	**F**	**>80**	**F**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 69: WEEKDAY AM PEAK HOUR INTERSECTION LEVELS OF SERVICE - CUMULATIVE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	50	D	**65**	**E**
3. Embarcadero / Townsend Street	Signal	**>80**	**F**	**71**	**E**
4. King Street / Second Street	Signal	52	D	**78**	**E**
5. King Street / Third Street	Signal	42	D	**80**	**E**
6. King Street / Fourth Street	Signal	**58**	**E**	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	**58**	**E**	**76**	**E**
8. Beale Street / Bryant Street	Signal	39	D	**>80**	**F**
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	45	D	21	C
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	44	D	**>80**	**F**
11. Second Street / Brannan Street	Signal	17	B	23	C
12. Second Street / Bryant Street	Signal	10	A	20	B
13. Third Street / Bryant Street	Signal	31	C	**>80**	**F**
14. Third Street / Harrison Street	Signal	35	C	**>80**	**F**
15. Third Street / Howard Street	Signal	**61**	**E**	**>80**	**F**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**60**	**E**	**61**	**E**
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	41	D	27	C
18. Fourth Street / Howard Street	Signal	28	C	28	C
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	28	C	**>80**	**F**
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	42	D	**>80**	**F**
21. Third Street / Terry A. Francois Boulevard	Signal	15	B	36	D
22. Third Street / Channel Street	Signal	**60**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	52	D	**>80**	**F**
24. Fourth Street / Channel Street	Signal	7	A	16	B
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	12 (NB)	B
26. 16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	28 (EB)	D
27. 16th Street / Third Street	Signal	38	D	**>80**	**F**
28. 16th Street / Owens Street	Signal	**64**	**E**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	16	B	35	D
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	**>50 (EB)**	**F**	**>50**	**F**

TABLE 69: WEEKDAY AM PEAK HOUR INTERSECTION LEVELS OF SERVICE - CUMULATIVE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
32. Mariposa Street / Third Street	Signal	36	D	**>80**	**F**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	29	C	32	C
34. Mariposa Street / I-280 SB On-Ramp	Signal	22	C	7	A
35. Third Street / 22nd Street	Signal	9	A	14	B
36. Third Street / Cesar Chavez Street	Signal	46	D	**68**	**E**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 70: WEEKDAY PM PEAK HOUR INTERSECTION LEVELS OF SERVICE – CUMULATIVE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	28	C	31	C
3. Embarcadero / Townsend Street	Signal	**80**	**E**	54	D
4. King Street / Second Street	Signal	37	D	**>80**	**F**
5. King Street / Third Street	Signal	**>80**	**F**	**>80**	**F**
6. King Street / Fourth Street	Signal	49	D	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	37	D	**>80**	**F**
8. Beale Street / Bryant Street	Signal	33	C	**>80**	**F**
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	41	D	28	C
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	23	C	**>80**	**F**
11. Second Street / Brannan Street	Signal	17	B	44	D
12. Second Street / Bryant Street	Signal	**>80**	**F**	30	C
13. Third Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
14. Third Street / Harrison Street	Signal	38	D	**>80**	**F**
15. Third Street / Howard Street	Signal	**>80**	**F**	**>80**	**F**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**58**	**E**	49	D
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	50	D	**>80**	**F**
18. Fourth Street / Howard Street	Signal	**63**	**E**	**>80**	**F**
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	**>80**	**F**	**>80**	**F**
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	54	D	**>80**	**F**
21. Third Street / Terry A. Francois Boulevard	Signal	15	B	34	C
22. Third Street / Channel Street	Signal	**77**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	**71**	**E**	**>80**	**F**
24. Fourth Street / Channel Street	Signal	9	A	**56**	**E**
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	7 (NB)	A	10	A
26. 16th Street / Terry A. Francois Boulevard	SSSC	15 (EB)	C	16 (EB)	C
27. 16th Street / Third Street	Signal	35	C	**>80**	**F**
28. 16th Street / Owens Street	Signal	**>80**	**F**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	**>80**	**F**	**62**	**E**
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	16 (WB)	C	**>50**	**F**

TABLE 70: WEEKDAY PM PEAK HOUR INTERSECTION LEVELS OF SERVICE – CUMULATIVE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
32. Mariposa Street / Third Street	Signal	27	C	**>80**	**F**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	39	D	23	C
34. Mariposa Street / I-280 SB On-Ramp	Signal	15	B	50	D
35. Third Street / 22nd Street	Signal	16	B	10	A
36. Third Street / Cesar Chavez Street	Signal	**>80**	**F**	**>80**	**F**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

TABLE 71: WEEKDAY PM PEAK HOUR WITH GIANTS GAME INTERSECTION LEVELS OF SERVICE – CUMULATIVE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1. Embarcadero / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
2. Embarcadero / Brannan Street	Signal	32	C	37	D
3. Embarcadero / Townsend Street	Signal	**68**	**E**	53	D
4. King Street / Second Street	Signal	37	D	**>80**	**F**
5. King Street / Third Street	Signal	**77**	**E**	**>80**	**F**
6. King Street / Fourth Street	Signal	53	D	**>80**	**F**
7. King Street / Fifth Street / I-280 Ramps	Signal	40	D	**>80**	**F**
8. Beale Street / Bryant Street	Signal	43	D	**>80**	**F**
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp	Signal	30	C	28	C
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	Signal	40	D	**>80**	**F**
11. Second Street / Brannan Street	Signal	20	B	**>80**	**F**
12. Second Street / Bryant Street	Signal	**>80**	**F**	45	D
13. Third Street / Bryant Street	Signal	**>80**	**F**	**>80**	**F**
14. Third Street / Harrison Street	Signal	16	B	**>80**	**F**
15. Third Street / Howard Street	Signal	**>80**	**F**	**>80**	**F**
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	Signal	**>80**	**F**	**63**	**E**
17. Fourth Street / Harrison Street / I-80 WB On-Ramp	Signal	31	C	**>80**	**F**
18. Fourth Street / Howard Street	Signal	40	D	**>80**	**F**
19. Fifth Street / Bryant Street / I-80 EB On-Ramp	Signal	**>80**	**F**	**>80**	**F**
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp	Signal	**63**	**E**	**>80**	**F**
21. Third Street / Terry A. Francois Boulevard	Signal	10	B	39	D
22. Third Street / Channel Street	Signal	**69**	**E**	**>80**	**F**
23. Third Street / Mission Rock Street	Signal	42	D	**>80**	**F**
24. Fourth Street / Channel Street	Signal	13	B	**>80**	**F**
25. Terry A. Francois Boulevard / Mission Rock Street	AWSC	8 (NB)	A	17 (NB)	C
26. 16th Street / Terry A. Francois Boulevard	SSSC	16 (EB)	C	17 (EB)	C
27. 16th Street / Third Street	Signal	**60**	**E**	**>80**	**F**
28. 16th Street / Owens Street	Signal	**>80**	**F**	**>80**	**F**
29. 16th Street / Seventh Street / Mississippi Street	Signal	**>80**	**F**	**>80**	**F**
30. Seventh Street / Mission Bay Drive	Signal	**>80**	**F**	**>80**	**F**
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	AWSC	**46 (EB)**	**E**	**>50**	**F**

TABLE 71: WEEKDAY PM PEAK HOUR WITH GIANTS GAME INTERSECTION LEVELS OF SERVICE – CUMULATIVE PLUS PROJECT (MAXIMUM RESIDENTIAL SCENARIO)

Intersection	Traffic Control	Baseline Conditions		Cumulative Plus Project	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
32. Mariposa Street / Third Street	Signal	43	D	**>80**	**F**
33. Mariposa Street / I-280 NB Off-Ramp	Signal	**55**	**E**	27	C
34. Mariposa Street / I-280 SB On-Ramp	Signal	16	B	52	D
35. Third Street / 22nd Street	Signal	12	B	11	B
36. Third Street / Cesar Chavez Street	Signal	**>80**	**F**	**>80**	**F**

Notes:
1. Delay reported as seconds per vehicle.
2. LOS = Level of Service. For signalized intersections, LOS based on average intersection delay, based on the methodology in the *Highway Capacity Manual*, 2000.

Source: Fehr & Peers, 2017

7.3.6.1 Cumulative Plus Maximum Commercial Scenario

The Cumulative Conditions analysis was reviewed to determine locations at which to study if additional improvement measures were necessary throughout the study area. In the Maximum Commercial Scenario, the following were examined for potential improvement measures. This section only includes combinations of location and peak hours that were not examined for improvement measures in Baseline Conditions.

4. King Street / Second Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of King Street / Second Street operates unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game. During the PM peak hour, the Proposed Project would add 63 vehicle trips to the westbound through and right-turn movement (a 7 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 63 vehicle trips to the westbound through and right-turn movement (a 7 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

7. King Street / Fifth Street / I-280 Ramps

Operations Analysis

Under Cumulative Conditions, the signalized intersection of King Street / Fifth Street / I-280 Ramps operates unacceptably at LOS F during the PM peak hour. During the PM peak hour, the Proposed Project would not add more than five percent to existing critical movements operating at unacceptable levels of delay.

8. Beale Street / Bryant Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Beale Street / Bryant Street operates unacceptably at LOS F during the PM peak hour with Giants game. During the PM peak hour with Giants game, the Proposed Project would add 13 vehicle trips to the westbound through and right-turn movement (a 7 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

13. Third Street / Bryant Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Third Street / Bryant Street operates unacceptably at LOS F during the AM peak hour. During the AM peak hour, the Proposed Project would add 90 vehicle trips to the northbound through movement (a 7 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

14. Third Street / Harrison Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Third Street / Harrison Street operates unacceptably at LOS F during the AM peak hour, PM peak hour, and PM peak hour with Giants game. The Proposed Project would not contribute more than 5 percent to any critical movements.

15. Third Street / Howard Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Third Street / Bryant Street operates unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game. The Proposed Project would not contribute more than 5 percent to any critical movements.

19. Fifth Street / Bryant Street / I-80 EB On-Ramp

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Fifth Street / Bryant Street / I-80 EB On-Ramp operates unacceptably at LOS F during the AM peak hour and PM peak hour with Giants game. During the AM peak hour, the Proposed Project would add 149 vehicle trips to the southbound through movement (a 50 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

24. Fourth Street / Channel Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Fourth Street / Channel Street operates unacceptably at LOS F during the PM peak hour with Giants game. During the PM peak hour with Giants game, the Proposed Project would add 72 vehicle trips to the southbound left-turn movement (a 21 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

32. Mariposa Street / Third Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Seventh Street / Mission Bay Drive operates unacceptably at LOS F during the AM peak hour, PM peak hour and PM peak hour with Giants game. During the AM peak hour, the Proposed Project would add 118 vehicle trips to the eastbound left-turn movement (an 18 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour, the Proposed Project would add 85 vehicle trips to the eastbound left-turn movement (a 60 percent contribution). During the PM peak hour with a Giants game, the Proposed Project would add 85 vehicle trips to the eastbound left-turn movement (a 70% contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

36. Third Street / Cesar Chavez Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Third Street / Cesar Chavez Street operates unacceptably at during the AM peak hour (LOS E). During the AM peak hour, the Proposed Project would add 28 vehicle trips to the eastbound left-turn movement (a 5 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

7.3.6.2 Cumulative Plus Maximum Residential Scenario

The Cumulative Conditions analysis was reviewed to determine locations at which to study if additional improvement measures were necessary throughout the study area. In the Maximum Residential Scenario, the following locations were examined for potential improvement measures. This section only includes combinations of location and peak hours that were not examined for improvement measures in Baseline Conditions.

4. King Street / Second Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of King Street / Second Street operates unacceptably during the PM peak hour (LOS F) and PM peak hour with Giants game (LOS F). During the PM peak hour, the Proposed Project would add 72 vehicle trips to the westbound through movement (an 8 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 72 vehicle trips to the westbound through movement (an 8 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

8. Beale Street / Bryant Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Beale Street / Bryant Street operates unacceptably at LOS F during the PM peak hour. The Proposed Project would not contribute more than 5 percent to any critical movements.

13. Third Street / Bryant Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Third Street / Brannan Street operates unacceptably during the AM peak hour (LOS F). During the AM peak hour, the Proposed Project would add 105 vehicle trips to the northbound through movement (an 8 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

14. Third Street / Harrison Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Third Street / Harrison Street operates unacceptably at LOS F during the PM peak hour, and PM peak hour with Giants game. During the PM peak hour, the Proposed Project would add 124 vehicle trips to the northbound through movement (a 7 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour with Giants game, the Proposed Project would add 124 vehicle trips to the northbound through movement (a 7 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

15. Third Street / Howard Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Third Street / Howard Street operates unacceptably at LOS F during the PM peak hour and PM peak hour with Giants game. The Proposed Project would not contribute more than 5 percent to any critical movements.

19. Fifth Street / Bryant Street / I-80 EB On-Ramp

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Fifth Street / Bryant Street / I-80 EB On-Ramp operates unacceptably during the PM peak hour with Giants game (LOS F). During the PM peak hour with Giants game, the Proposed Project would add 169 vehicle trips to the southbound left-turn movement (a 53 percent contribution), which is a critical movement under conditions without the Proposed Project.

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

24. Fourth Street / Channel Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of F Fourth Street / Channel Street operates unacceptably at LOS E during the PM peak hour and at LOS F during and PM peak hour with Giants game. During the PM peak hour, the Proposed Project would add 83 vehicle trips to the southbound left-turn movement (a 28 percent contribution). During the PM peak hour with Giants game, the Proposed Project would add 83 vehicle trips to the southbound left-turn movement (a 24 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

32. Mariposa Street / Third Street

Operations Analysis

Under Cumulative Conditions, the signalized intersection of Mariposa Street / Third Street operates unacceptably at LOS E during the AM peak hour and PM peak hour. During the AM peak hour, the Proposed Project would add 102 vehicle trips to the eastbound left-turn movement (a 17 percent contribution), which is a critical movement under conditions without the Proposed Project. During the PM peak hour, the Proposed Project would add 97 vehicle trips to the southbound left-turn movement (a 58 percent contribution).

Potential Measure

Generally, to improve poor operating conditions of study intersections, additional travel lane capacity would be needed on one or more approaches to the intersection. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of on-street parking, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes.

Potential Measure Feasibility

These would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy by removing space dedicated to pedestrians, bicycles, and/or transit and increasing the distances required for pedestrians to cross streets. Therefore, these types of improvements were not considered at this intersection.

Table 72 shows a summary of the intersection analysis results for the Maximum Commercial Scenario. **Table 73** shows a summary of the intersection analysis results for the Maximum Residential Scenario.

TABLE 72: BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY
(MAXIMUM COMMERCIAL SCENARIO)

Intersection	AM Peak Hour	PM Peak Hour	PM Peak Hour with Giants Game
1. Embarcadero / Bryant Street	B	B	B
2. Embarcadero / Brannan Street	B		
3. Embarcadero / Townsend Street	B	B	B
4. King Street / Second Street	B	C	C
5. King Street / Third Street	B		B
6. King Street / Fourth Street	B	B	B
7. King Street / Fifth Street / I-280 Ramps			
8. Beale Street / Bryant Street			C
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp			
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	C	C	C
11. Second Street / Brannan Street			
12. Second Street / Bryant Street		B	B
13. Third Street / Bryant Street	C	B	B
14. Third Street / Harrison Street			
15. Third Street / Howard Street			
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	C	B	B
17. Fourth Street / Harrison Street / I-80 WB On-Ramp			
18. Fourth Street / Howard Street			
19. Fifth Street / Bryant Street / I-80 EB On-Ramp		B	C
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp		B	
21. Third Street / Terry A. Francois Boulevard			
22. Third Street / Channel Street	B	B	B
23. Third Street / Mission Rock Street	B	B	B
24. Fourth Street / Channel Street			C
25. Terry A. Francois Boulevard / Mission Rock Street			
26. 16th Street / Terry A. Francois Boulevard			
27. 16th Street / Third Street	B	B	B
28. 16th Street / Owens Street	B	B	B
29. 16th Street / Seventh Street / Mississippi Street	B	B	B
30. Seventh Street / Mission Bay Drive			

TABLE 72: BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY
(MAXIMUM COMMERCIAL SCENARIO)

Intersection	AM Peak Hour	PM Peak Hour	PM Peak Hour with Giants Game
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	C	B	B
32. Mariposa Street / Third Street	B	B	B
33. Mariposa Street / I-280 NB Off-Ramp			
34. Mariposa Street / I-280 SB On-Ramp	B	C	C
35. Third Street / 22nd Street			
36. Third Street / Cesar Chavez Street	C		

Notes: B indicates intersection/peak hour combination that was examined for improvement measures in the Baseline Plus Project Conditions. Blank cell indicates no need to look for improvement measures. **C** indicates locations that were examined as part of Cumulative Conditions analysis. Source: Fehr & Peers, 2017

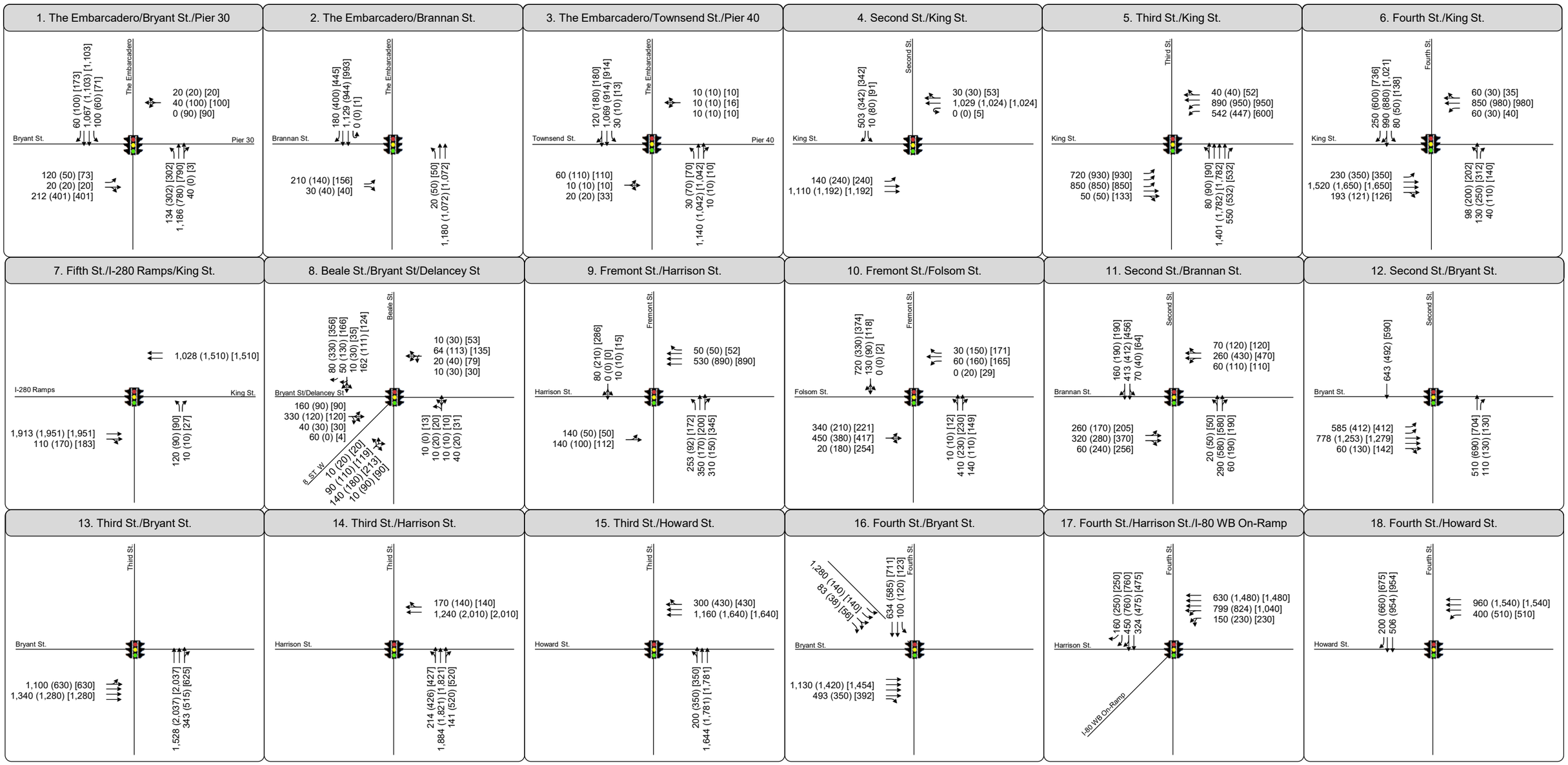
TABLE 73: BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY
(MAXIMUM RESIDENTIAL SCENARIO)

Intersection	AM Peak Hour	PM Peak Hour	PM Peak Hour with Giants Game
1. Embarcadero / Bryant Street	B	B	C
2. Embarcadero / Brannan Street	B		
3. Embarcadero / Townsend Street	C	B	B
4. King Street / Second Street	B	C	C
5. King Street / Third Street	B		B
6. King Street / Fourth Street	B	B	B
7. King Street / Fifth Street / I-280 Ramps			
8. Beale Street / Bryant Street			
9. Fremont Street / Harrison Street / I-80 WB Off-Ramp			
10. Fremont Street / Folsom Street / I-80 WB Off-Ramp	C	C	C
11. Second Street / Brannan Street			
12. Second Street / Bryant Street			
13. Third Street / Bryant Street		C	
14. Third Street / Harrison Street			
15. Third Street / Howard Street			
16. Fourth Street / Bryant Street / I-80 EB Off-Ramp	C	B	B
17. Fourth Street / Harrison Street / I-80 WB On-Ramp		B	
18. Fourth Street / Howard Street			
19. Fifth Street / Bryant Street / I-80 EB On-Ramp		C	C
20. Fifth Street / Harrison Street / I-80 WB Off-Ramp		B	
21. Third Street / Terry A. Francois Boulevard			
22. Third Street / Channel Street	B	B	B
23. Third Street / Mission Rock Street	B	B	B
24. Fourth Street / Channel Street		C	C
25. Terry A. Francois Boulevard / Mission Rock Street			
26. 16th Street / Terry A. Francois Boulevard			
27. 16th Street / Third Street	B	B	B
28. 16th Street / Owens Street	B	B	B
29. 16th Street / Seventh Street / Mississippi Street	B	B	B
30. Seventh Street / Mission Bay Drive			

TABLE 73: BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE SUMMARY
(MAXIMUM RESIDENTIAL SCENARIO)

Intersection	AM Peak Hour	PM Peak Hour	PM Peak Hour with Giants Game
31. Mariposa Street / Terry A. Francois Boulevard / Illinois St.	C	B	B
32. Mariposa Street / Third Street	B	B	B
33. Mariposa Street / I-280 NB Off-Ramp			
34. Mariposa Street / I-280 SB On-Ramp	B		
35. Third Street / 22nd Street			
36. Third Street / Cesar Chavez Street			

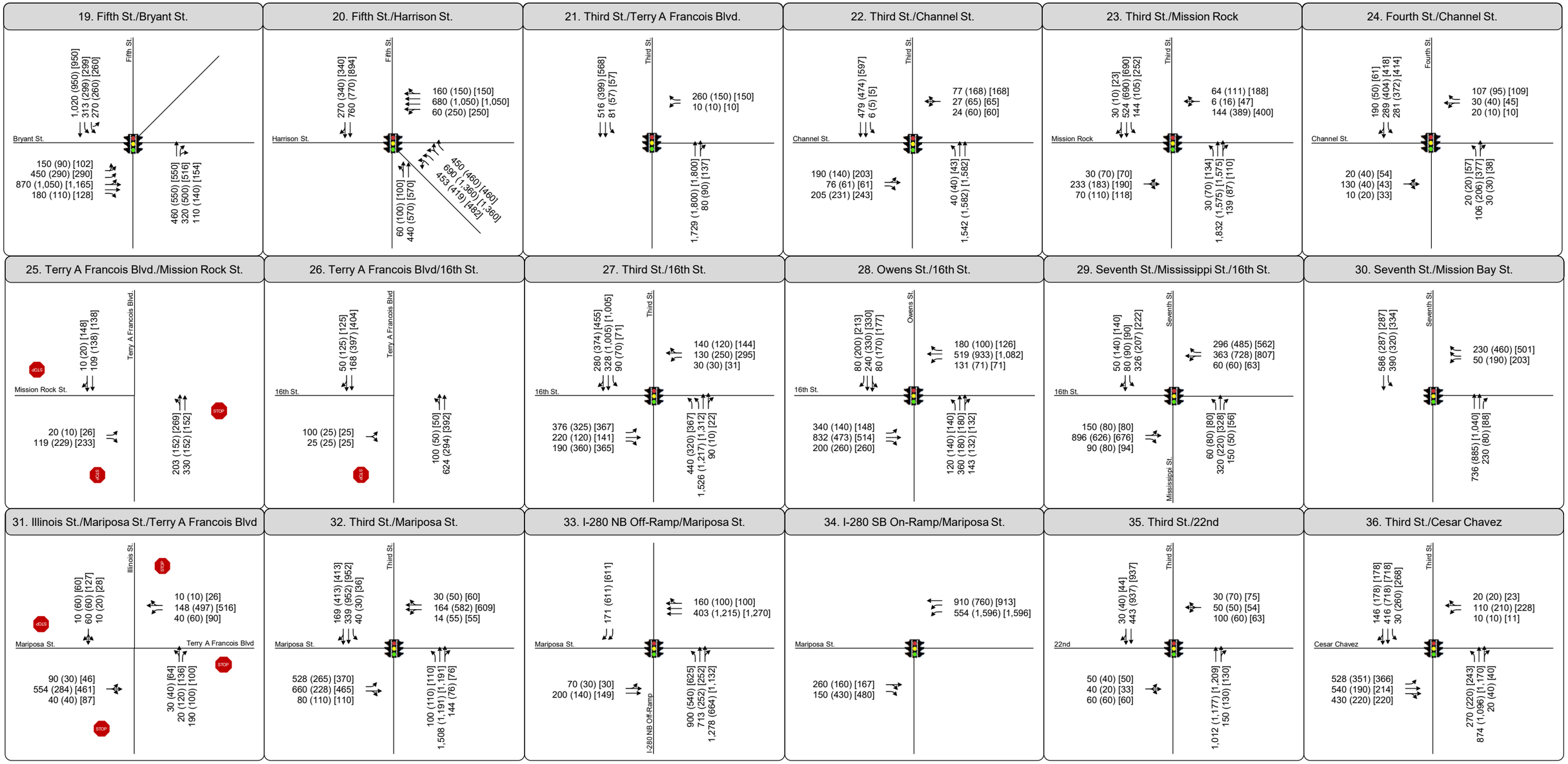
Notes: B indicates intersection/peak hour combination that was examined for improvement measures in the Baseline Plus Project Conditions. Blank cell indicates no need to look for improvement measures. **C** indicates locations that were examined as part of Cumulative Conditions analysis. Source: Fehr & Peers, 2017



CUMULATIVE PLUS PROJECT PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES - MAXIMUM COMMERCIAL SCENARIO

FEHR PEERS

FIGURE 22-A



Turn Lane

Traffic Signal

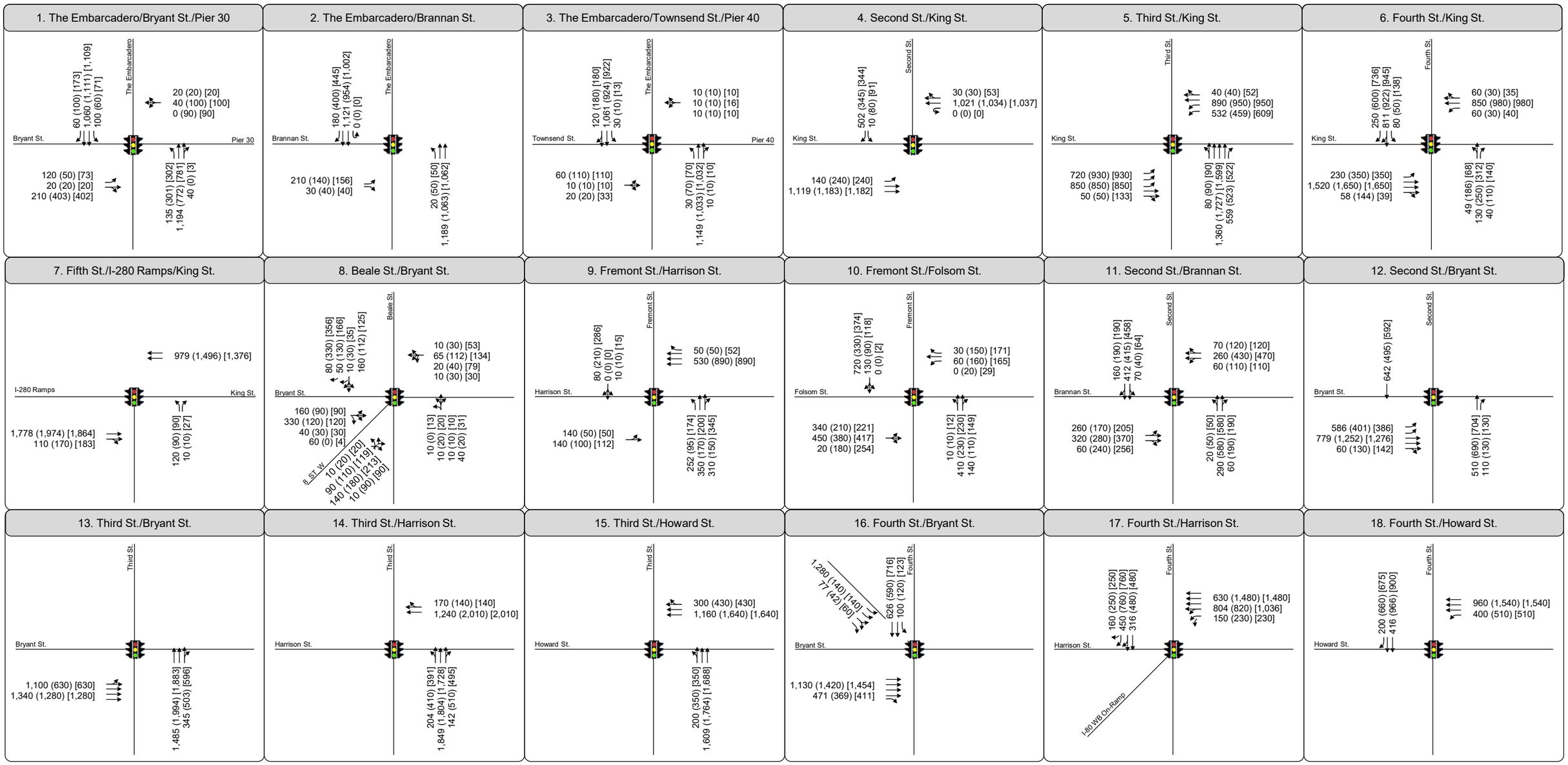
AM (PM)
[PM w/ Ballgame]
Peak Hour Traffic Volume

Stop Sign

CUMULATIVE PLUS PROJECT PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES - MAXIMUM COMMERCIAL SCENARIO

FEHR PEERS

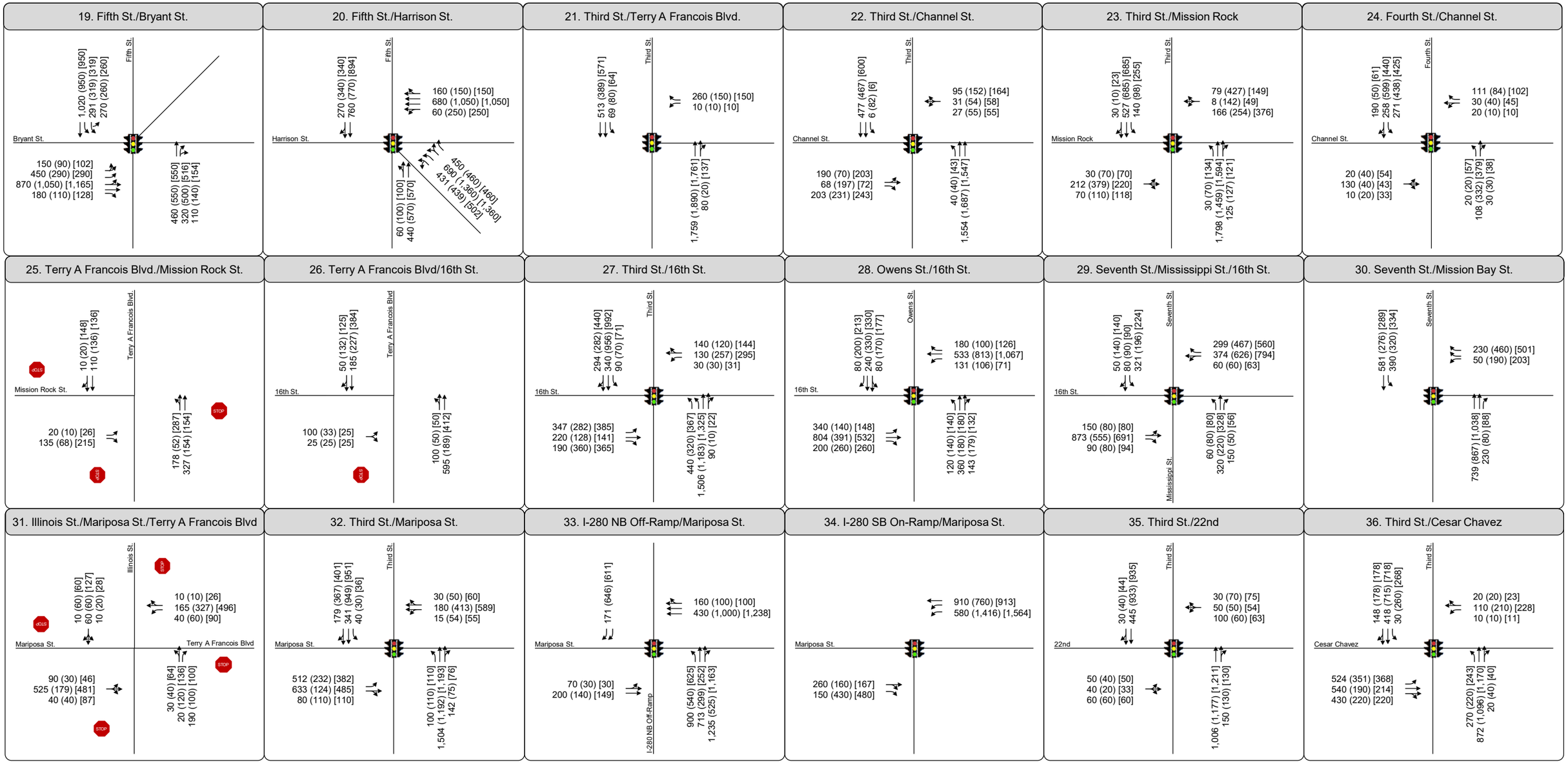
FIGURE 22-B



CUMULATIVE PLUS PROJECT PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES - MAXIMUM RESIDENTIAL SCENARIO

FEHR PEERS

FIGURE 23-A



Turn Lane

Traffic Signal

AM (PM)
[PM w/ Ballgame]
Peak Hour Traffic Volume

Stop Sign

CUMULATIVE PLUS PROJECT PEAK HOUR LANE CONFIGURATIONS, TRAFFIC CONTROL AND VOLUMES - MAXIMUM RESIDENTIAL SCENARIO

FEHR PEERS

FIGURE 23-B

7.3.7 Cumulative Freeway Analysis

Cumulative freeway traffic volumes from SF CHAMP, consistent with those recently used in the Central SoMa Plan EIR, were used to develop the Cumulative 2040 freeway analysis.

7.3.7.1 Maximum Commercial Scenario Freeway Analysis

Tables 74, 75, and **76,** compare the LOS under Baseline and Cumulative (Maximum Commercial Scenario) conditions in the AM peak hour, PM peak hour without a Giants game, and PM peak hour with a Giants game.

Several freeway segments operate at LOS E and F under Cumulative No Project conditions; however the additional Project-generated trips do not contribute a considerable amount of traffic to that congestion. The Proposed Project's Maximum Commercial Scenario contribution to traffic on other freeway facilities beyond the study area would be minor and result in a one to three percent traffic increase during the peak hours, which would not be perceptible based on typical day-to-day fluctuations in traffic volumes.

7.3.7.2 Maximum Residential Scenario Freeway Analysis

Tables 77, 78, and **79** compare the LOS under Baseline and Cumulative (Maximum Residential Scenario) conditions in the AM peak hour, PM peak hour without a Giants game, and PM peak hour with a Giants game.

Several freeway segments operate at LOS E and F; however the additional Project-generated trips do not contribute a considerable amount of traffic to that congestion. The Proposed Project's Maximum Residential Scenario contribution to traffic on other freeway facilities beyond the study area would be minor and result in a one to three percent traffic increase during the peak hours, which would not be perceptible based on typical day-to-day fluctuations in traffic volumes.

Implementation of **Improvement Measure TR-15 (RES/COM): Transportation Demand Management** would discourage use of single-occupant vehicles in order to reduce VMT and overall vehicle trips generated by development projects.

TABLE 74: AM PEAK HOUR FREEWAY LEVELS OF SERVICE – CUMULATIVE CONDITIONS (MAXIMUM COMMERCIAL SCENARIO)

Freeway Segment	Facility Type	Baseline Conditions		Cumulative	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	**40**	**E**	**>45**	**F**
Fremont off-ramp	Ramp Diverge	**35**	**E**	**>45**	**F**
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	29	D	**39**	**E**
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**1,921**	**F**	**1,903**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	13	B	14	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	**>45**	**F**	**>45**	**F**
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	17	B	25	C

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 75: PM PEAK HOUR FREEWAY LEVELS OF SERVICE – CUMULATIVE CONDITIONS (MAXIMUM COMMERCIAL SCENARIO)

Freeway Segment	Facility Type	Baseline Conditions		Cumulative	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	32	D	**39**	**E**
Fremont off-ramp	Ramp Diverge	30	D	**39**	**E**
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	30	D	**>45**	**F**
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**2,100**	**F**	**1,999**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	11	B	13	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	26	C	23	C
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	29	D	**>45**	**F**

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 76: PM PEAK HOUR WITH GIANTS GAME FREEWAY LEVELS OF SERVICE – CUMULATIVE CONDITIONS (MAXIMUM COMMERCIAL SCENARIO)

Freeway Segment	Facility Type	Baseline Conditions		Cumulative	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	**37**	**E**	**>45**	**F**
Fremont off-ramp	Ramp Diverge	34	D	**40**	**E**
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	32	D	**>45**	**F**
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**2,056**	**F**	**2,124**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	11	B	17	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	31	D	**>45**	**F**
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	30	D	**>45**	**F**

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 77: AM PEAK HOUR FREEWAY LEVELS OF SERVICE – CUMULATIVE CONDITIONS (MAXIMUM RESIDENTIAL SCENARIO)

Freeway Segment	Facility Type	Baseline Conditions		Cumulative	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	**40**	**E**	**>45**	**F**
Fremont off-ramp	Ramp Diverge	**35**	**E**	**>45**	**F**
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	29	D	**39**	**E**
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**1,921**	**F**	**1,903**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	13	B	14	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	**>45**	**F**	**>45**	**F**
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	17	B	25	C

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 78: PM PEAK HOUR FREEWAY LEVELS OF SERVICE – CUMULATIVE CONDITIONS (MAXIMUM RESIDENTIAL SCENARIO)

Freeway Segment	Facility Type	Baseline Conditions		Cumulative	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	32	D	**39**	**E**
Fremont off-ramp	Ramp Diverge	30	D	**39**	**E**
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	30	D	**>45**	**F**
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**2,100**	**F**	**1,998**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	11	B	13	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	26	C	23	C
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	29	D	**>45**	**F**

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

TABLE 79: PM PEAK HOUR WITH GIANTS GAME FREEWAY LEVELS OF SERVICE – CUMULATIVE CONDITIONS (MAXIMUM RESIDENTIAL SCENARIO)

Freeway Segment	Facility Type	Baseline Conditions		Cumulative	
		***Density*[1]**	**LOS[2]**	***Density*[1]**	**LOS[2]**
Westbound I-80					
Harrison off-ramp	Ramp Diverge	**37**	**E**	**>45**	**F**
Fremont off-ramp	Ramp Diverge	34	D	**40**	**E**
Fifth Street off-ramp (at Harrison Street)	Ramp Diverge	32	D	**>45**	**F**
Fourth Street on-ramp (at Harrison Street) to Eighth Street off-ramp	Weave	**2,056**	**F**	**2,125**	**F**
Eastbound I-80					
Fifth Street on-ramp (at Bryant Street)	Ramp Merge	**>45**	**F**	**>45**	**F**
Fourth Street off-ramp (at Bryant Street)	Ramp Diverge	11	B	17	B
Northbound I-280					
Mariposa Street off-ramp	Ramp Diverge	31	D	**>45**	**F**
Southbound I-280					
Mariposa Street on-ramp	Ramp Merge	30	D	**>45**	**F**

Notes:

1. Density of vehicles per segment. Measured in passenger cars per mile per lane (pc/mi/ln). Service volume shown for weaving segment.
2. Segments operating at LOS E or LOS F conditions highlighted in **bold.**

Source: Fehr & Peers, 2017

8 MITIGATION AND IMPROVEMENT MEASURES

This chapter presents the transportation mitigation measures that would be required to reduce the significant impacts of the Proposed Project. In some cases, no significant impact was identified; however, an improvement measure was noted that would improve conditions.

A. CONSTRUCTION

No significant environmental impacts have been identified. No mitigation required, however an improvement measure was identified.

Improvement Measure I-TR-1: Construction Management Plan

Traffic Control Plan for Construction – To reduce potential conflicts between construction activities and pedestrians, bicyclists, transit and autos during construction activities, the project sponsor should require construction contractor(s) to prepare a traffic control plan for major phases of construction (e.g. demolition and grading, construction, or renovation of individual buildings). The project sponsor and their construction contractor(s) should meet with relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction. This includes coordinating project construction activities with nearby City construction projects, such as the Third Street Rehabilitation Project. For any work within the public right-of-way, the contractor would be required to comply with the San Francisco's Regulations for Working in San Francisco Streets, which establishes rules and permit requirements so that construction activities can be conducted safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic. Additionally, restrict truck movements and deliveries to the maximum feasible extent during peak hours (generally 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m., or other times, as determined by SFMTA and the TASC).

In the event that the construction timeframes of the major phases and other development projects adjacent to the project site overlap, the project sponsor should coordinate with City agencies through the TASC and the adjacent developers to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. The project sponsor, in conjunction with the adjacent developer(s), should propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as coordinated material drop-offs, collective worker parking and transit to job site and other measures.

Reduce Single-Occupant Vehicle Mode Share for Construction Workers – To minimize parking demand and vehicle trips associated with construction workers, the project sponsor should require the construction contractor to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the project construction sites by construction workers in the coordinated plan.

Project Construction Updates for Adjacent Residents and Businesses – To minimize construction impacts on access for nearby residences, institutions, and businesses, the project sponsor should provide nearby residences and adjacent businesses with regularly updated information regarding construction, including

construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

B. TRAFFIC

One significant environmental impact was identified. The following mitigation measure was identified.

Mitigation Measure M-TR-3.1: Parking Garage and Intersection Queue Impacts

The easternmost driveway on Long Bridge Street (i.e., closest to Bridgeview Street) shall be restricted to right-in, right-out access during all times. Restricted access could be accomplished by placing signage as well as delineators of a sufficient length in the middle of Long Bridge Street to block left-turn access to the driveway.

C. TRANSIT

Three significant environmental impacts were identified. The following mitigation measures were identified.

Mitigation Measure M-TR-4.1: Provide Fair-Share Contribution to Improve 10 Townsend Line Capacity

Upon completion and occupancy of Phase 1 of the proposed project and upon completion and occupancy of each subsequent phase as defined in the Development Agreement the project sponsor shall obtain from SFMTA the current ridership on the 10 Townsend and conduct an assessment of the capacity utilization at the screenline's Maximum Load Point (MLP) for weekday AM and PM peak hour conditions.

If the capacity utilization exceeds 85 percent, a fair share contribution payment shall be made to SFMTA by the project sponsor, calculated as further provided in a Transit Mitigation Agreement described below, and attached to or incorporated into the Development Agreement. Such payment shall be adjusted, as appropriate, to the extent, if any, that the proposed project reflects either the High Residential Assumption or High Commercial Assumption based upon all phases of the proposed project that have been completed up to such date. Accordingly, the fair share contributions by phase may differ by scenario because the number of transit riders varies due to different mixes of land use.

If the capacity utilization based on SFMTA's ridership data is less than 85 percent, then the project sponsor's fair share payment for that phase shall be $0 and the process will repeat at the next subsequent phase. Each subsequent fair share calculation shall take account of amounts paid for prior phases, to ensure that payments are not duplicative for the same transit rider impacts.

The project sponsor shall enter into a Transit Mitigation Agreement with the SFMTA pursuant to which r the project sponsor will make a fair share contribution to the cost of providing additional bus service or otherwise improving service on the 10 Townsend. The fair share contribution as documented in the Transportation Impact Study for the proposed project shall not exceed the following amounts, in total across all phases:

a. $991,230 for High Commercial Assumption

b. $782,706 for High Residential Assumption

SFMTA will determine whether adding bus(es) or at other measures are more desirable to increase capacity along the route and will use the funds provided by the project sponsor to implement the most desirable measure, which may include but is not limited to the following measures:

1.Convert to using higher-capacity vehicles on the 10 Townsend route. In this case, the project sponsors fair share contribution may be utilized to convert the route to articulated buses. Some bus stops along the route may not currently be configured to accommodate the longer articulated buses. Some bus zones could be extended by removing one or more parking spaces at locations where appropriate space is available.

2.Instead of adding more buses to a congested route, increase travel speeds along the route which would allow for buses to move faster thus increasing efficiency and reliability. In this case, the project sponsor's fair share contribution may be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase travel speeds enough to increase capacity along the bus route. Such improvements could include transit only lanes, transit signal priority, and transit boarding improvements.

3.Increase capacity along the corridor by adding a new Muni service route in this area. If this option is selected, the project sponsor's fair share contribution may fund the purchase of the new vehicles

Mitigation Measure M-TR-4.2: Provide Fair-Share Contribution to Improve 30 Stockton Line Capacity

Upon completion and occupancy of Phase 1 of the proposed project and upon completion and occupancy of each subsequent phase as defined in the Development Agreement, the project sponsor shall obtain from SFMTA the current ridership on the 30 Stockton and conduct an assessment of the capacity utilization at the Maximum Load Point (MLP) on the route between the proposed project and Market Street for weekday PM peak hour conditions.

If the capacity utilization exceeds 85 percent, a fair share contribution payment shall be made by the project sponsor, calculated as further provided in Transit Mitigation Agreement described below, and attached to or incorporated into the Development Agreement. Such payment shall be adjusted, as appropriate, to the extent, if any, that the proposed project reflects either the High Commercial Assumption or the High Residential Assumption, the latter of which does not require any fair share contribution. The fair share contributions differ by scenario because the number of transit riders varies due to different mixes of land use. If the capacity utilization based on SFMTA's ridership data is less than 85 percent, then the project sponsor's fair share payment for that phase shall be $0 and the process will repeat at the next subsequent phase. Each subsequent fair share calculation shall take account of amounts paid for prior phases, to ensure that payments are not duplicative for the same transit rider impacts.

The project sponsor shall enter into a Transit Mitigation Agreement with the SFMTA pursuant to which the project sponsor will make a fair share contribution to the cost of providing additional bus service or otherwise improving service on the 30 Stockton. The fair share contribution as

documented in the Transportation Impact Study for the proposed project shall not exceed the following amounts, in total across all phases:

a. $417,691 for High Commercial Assumption

b. $0 for High Residential Assumption

SFMTA will determine whether adding bus(es) or other measures are more desirable to increase capacity along the route and will use the funds provided by the project sponsor to implement the most desirable measure, which may include but is not limited to the following measures:

1.Convert to using higher-capacity vehicles on the 30 Stockton route. In this case, the project sponsors fair share contribution may be utilized to convert the route to articulated buses. Some bus stops along the route may not currently be configured to accommodate the longer articulated buses. Some bus zones could be extended by removing one or more parking spaces at locations where appropriate space is available.

2.Instead of adding more buses to a congested route, increase travel speeds along the route which would allow for buses to move faster thus increasing efficiency and reliability. In this case, the project sponsor's fair share contribution may be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase travel speeds enough to increase capacity along the bus route. Such improvements could include transit only lanes, transit signal priority, and transit boarding improvements.

3.Increase capacity along the corridor by adding a new Muni service route in this area. If this option is selected, the project sponsor's fair share contribution may fund the purchase of the new vehicles.

Mitigation Measure M-TR-6.1: Parking Garage and Intersection Queue Impacts on Transit Delay

A.The westernmost driveway on Mission Rock Street (i.e., closest to Third Street) shall be restricted to right-in, right-out access and closed during large AT&T Park events. Restricted access could be accomplished by placing signage as well as delineators of a sufficient length between the westbound through and left-turn lanes on Mission Rock Street to block left-turn access to the driveway.

B.A "keep clear" zone shall be provided in front of the easternmost driveway on Mission Rock Street (i.e., closest to Bridgeview Street) to prevent westbound queues at the Third Street/Mission Rock traffic signal from blocking inbound access to the driveway.

C.The southbound left-turn lane at the Third Street/Mission Rock Street intersection shall be restriped to extend the length of the left-turn lane to 350 feet. Advance traffic signal detection equipment shall be installed at the end of the newly striped left-turn pocket to detect when queues fill up the left-turn pocket and extend north to the end of the pocket near the Third Street/Channel Street intersection, allowing additional green time to be allocated to the southbound left-turn movement at the Third Street/Mission Rock Street traffic signal.

D.Wayfinding signs including Static and Variable Message Signs will be installed to provide directions to the parking garages and to provide traffic alerts, messages, and alternate driving routes for drivers traveling to the Block D2 aboveground garage, to destinations in the vicinity, or

through the area. Four High Visibility Static Signs will be installed, three on the approaches to the Third Street/Mission Rock Street intersections (for southbound, eastbound and northbound directions) and one for northbound drivers on Terry A. Francois Boulevard, south of Mission Rock Street. One permanent Variable Message Sign shall be installed for southbound drivers on Third Street, between King Street and Berry Street.

E.The project sponsor shall enter into an Event Mitigation Agreement with the SFMTA that provides for Parking Control Officers (PCOs) to manage traffic within the project site and adjacent to the proposed project's parking garages and Exposition Street (between Third Street and the Shared Public Way) during all AT&T Park events and on-site events with 15,000 or more attendees.

F.The site's TDM coordinator shall be a member of the Mission Bay Ballpark Transportation Coordination Committee and provide notification prior to the start of any on-site event that would overlap with an event at AT&T Park or the Warriors arena.

G.Traffic destined for the proposed project's parking garages will be monitored by the owner/operator during all AT&T Park events and on-site events with 15,000 or more attendees, and periodically during weekday a.m. and p.m. peak hours, to ensure that garage access queues do not affect operations of the T Third transit line. Action will be taken by the Mission Rock Transportation Coordinator, onsite transportation staff, parking garage management staff, event staff, and/or PCOs assigned to event traffic management to implement real-time traffic management strategies (i.e., alternative traffic routing, temporal parking pricing, enhanced garage driveway controls, etc.) to reduce vehicle garage access queues so they do not affect operations of the T Third line.

H.If the SFMTA Director, or his or her designee, receives information that a recurring queue that could affect the operation of the T Third line is imminent or present, SFMTA shall notify the property owner in writing. Upon request, the owner/operator shall hire a qualified transportation consultant to evaluate the conditions at the site for no less than 7 days. The consultant shall prepare a monitoring report to be submitted to SFMTA for review. If SFMTA determines that a recurring queue does exist, the facility owner/operator shall have 45 days from the date of the written determination to abate the excessive recurring queue. Approaches to queue abatement could include but are not limited to: changing parking access and revenue collection system (PARCS) technology to process vehicles more rapidly, adjusting the layout of the garage's ground floor to accommodate more queuing vehicles within the garage, implementing peak-period surge pricing to encourage garage access and egress outside of times with recurrent excessive queues; installing additional variable message signage further upstream from the site to direct drivers to garage access routes away from affected intersections; and/or closing, limiting or controlling Mission Rock Street access from Third Street during times with excessive recurrent queuing and redirecting garage-bound traffic to Terry A. Francois Boulevard.

D. PEDESTRIAN

One significant environmental impact was identified. The following mitigation measure and improvement measure were identified.

Improvement Measure I-TR-7.1: Garage Access – Pedestrian Design Features

During the final design process for the parking facilities and the pedestrian realm of adjacent streets, improvements should be designed for the safe interface of vehicles and pedestrians at parking facility driveways. This design should include adequate sight distance, signing, striping, warning devices, and lighting.

Mitigation Measure M-TR-9.1: Install Traffic Signals and Related Intersection Improvements at Unsignalized Intersections on Fourth Street at Mission Rock Street and Long Bridge Street

Prior to issuance of approval of the third building site permit, but in no event later than the site permit for the Block D2 parking garage, the project sponsor shall provide funding to SFMTA, for a maximum amount of $1 million for SFMTA to design and construct (1) a traffic signal at the intersection of Fourth Street/Long Bridge Street and (2) a traffic signal at the intersection of Fourth Street/Mission Rock Street. These improvements should be constructed by SFMTA prior to opening of the Block D2 parking garage.

E. BICYCLE

One significant environmental impact was identified. The following mitigation measure and improvement measure were identified.

Mitigation Measure M-TR-10.1: Bicycle Truck Interface at Pier 48

The project shall construct a highly visible crossing treatment across the driveway as well as bollards and detectable warning pavers that satisfy ADA requirements at the Pier 48 driveway's beginning and end locations along the Blue Greenway path to warn cyclists and pedestrians of the upcoming driveway crossing.

The project shall provide a traffic control staff at the junction of the Blue Greenway and the driveway to the Pier 48 valley during deliveries to manage bicycle and truck traffic. A flagger shall be provided to manage bicycle and pedestrian travel along the Blue Greenway at the Pier 48 valley driveway whenever trucks back into Pier 48.

Improvement Measure I-TR-10.1: Garage Access – Bicycle-Vehicle Design Features

During the final design process for Long Bridge Street, adequate sight distance should be provided through a combination of signing, striping, and lighting improvements, which should be designed for the safe interface of vehicles and cyclists at the two Block D2 parking facility driveways.

F. LOADING

One significant environmental impact was identified. The following mitigation measures were identified.

Mitigation Measure M-TR-11.1: Commercial Loading Supply – Monitor Loading Activity and Implement Additional Loading Management Strategies as Needed

After completion (of the first phase of the proposed project and prior to approval of each subsequent phase, the project sponsor shall conduct a study of utilization of commercial loading spaces. The methodology for the study shall be reviewed and approved by the Planning

Department prior to completion. If the result of the study indicates that fewer than 15 percent of the commercial loading spaces are available during the peak loading period, the project sponsor shall implement additional loading management strategies and/or provide additional or expanded off-street loading supply in subsequent phases of the project in either the garages or in off-street parking in individual buildings, consistent with the proposed project's design intent sufficient to meet the loading demand. Additional loading strategies could include (but are not limited to): expanding efforts to coordinate with parcel delivery companies to schedule deliveries to the site during hours outside the peak hour of loading, installing parcel lock boxes that allow parcel delivery personnel unsupervised access to enable off-hour deliveries, coordinating delivery services across buildings to enable the delivery of several buildings' packages to a single location, and/or encouraging deliveries to the retail and restaurant components of the projects to happen during early morning or late evening hours. The project sponsor may also address a shortfall by reserving parking spaces for smaller delivery vehicles such as autos or vans, which comprise approximately two-thirds of the vehicle types for freight delivery service, on the ground floor of the Block D2 garage during peak or appropriate business hours for small-vehicle deliveries and, in connection therewith, providing hand trucks, bicycles, or electric wheeled carts for distribution of packages to buildings throughout the site.

If plans for individual buildings include a driveway to off-street loading or parking (maximum 10 off-street spaces) along a frontage that has a designated on-street loading zone, an equivalent amount or level of off-street loading space shall be provided to effectively replace the lost on-street loading area.

Mitigation Measure M-TR-11.2: Coordinate Deliveries and Tenant Moving Activities

The project's transportation coordinator and in-building concierges shall coordinate with building tenants and delivery services to minimize deliveries and moving activities during peak periods, and endeavor to spread deliveries across the full day and moving activities to time periods after regular working hours, thereby reducing activity during the peak hour for loading.

Although many deliveries cannot be limited to specific hours, the transportation coordinator and in-building concierges shall work with tenants to find opportunities to consolidate deliveries and reduce the need for peak-period deliveries, wherever possible.

G. EMERGENCY ACCESS

One significant environmental impact was identified. The following mitigation measure and improvement measure were identified.

M-TR-12.1: Coordinate Final Design of the "keep clear" zone on Mission Rock Street (in front of the Public Safety Building) with Police and Fire Departments.

Prior to finalizing the design and dimensions of the "keep clear" zone on Mission Rock Street in front of the police and fire truck access point (in front of the Public Safety Building), the project sponsor shall coordinate this design with the Police and Fire Departments.

Improvement Measure I-TR-12.1: Strategies to Enhance Transportation Conditions during Events

The project's Transportation Coordinator should participate as a member of the Mission Bay Ballpark Transportation Coordination Committee and provide at least 1-month notification to the Committee prior to the start of any event that would overlap with an event at AT&T Park.

H. PARKING DISCUSSION

San Francisco does not consider parking supply as part of the permanent physical environment and therefore, does not consider changes in parking conditions to be environmental impacts as defined by CEQA. Therefore, no significant environmental impacts have been identified and no mitigation is required.

I. CUMULATIVE CONDITIONS

Vehicle Miles Traveled (VMT)

No mitigation is required.

Traffic

No mitigation is required.

Transit

Two significant environmental impacts are identified. The following mitigation measures were identified.

Mitigation Measure M-C-TR-4: Provide Fair-Share Contribution to Improve 10 Townsend Line Capacity

Upon completion and occupancy of Phase 1 and upon completion and occupancy of each subsequent phase of the proposed project as defined in the Disposition and Development Agreement, the project sponsor shall fund a transit capacity study to be reviewed and approved by the SFMTA. The project sponsor shall obtain from SFMTA the current ridership on the 10 Townsend and conduct an assessment of the capacity utilization at the screenline's Maximum Load Point (MLP) for weekday AM and PM peak hour conditions.

If the capacity utilization exceeds 85 percent, a fair share payment shall be made to SFMTA by the project sponsor, calculated as further provided in a Transit Mitigation Agreement. Such payment shall be calculated in light of the project's progress towards one or the other of the development scenario (i.e. High Commercial or High Residential) as reflected by all phases of the project that have been completed up to such date. The fair share contributions by phase differ by scenario because the number of transit riders varies due to different mixes of land use.

If the capacity utilization based on SFMTA's ridership data is less than 85 percent, then the project sponsor's fair share payment for that phase shall be $0 and the process will repeat at the next

subsequent phase. Each subsequent fair share calculation shall take account of amounts paid for prior phases, to ensure that payments are not duplicative for the same transit rider impacts.

The project sponsor shall enter into a Transit Mitigation Agreement with the SFMTA under which the agreement shall provide for the project sponsor to make a fair share contribution to the cost of providing additional bus service or improving service on the 10 Townsend by paying a fee. The fair share contribution as documented in the Transportation Impact Study from the proposed project shall not exceed the following amounts, in total across all phases:

a. $391,179 for High Commercial

b. $324,595 for High Residential

SFMTA may determine that other measures to increase capacity along the route would be more desirable than adding buses and may use the funds provided by the project sponsor to implement these other measures, which include but are not limited to the following measures:

1. Convert to using higher-capacity vehicles on the 10 Townsend route. In this case, the project sponsor's fair share contribution may be utilized to convert the route to articulated buses. Some bus stops along the route may not currently be configured to accommodate the longer articulated buses. Some bus zones could be extended by removing one or more parking spaces at locations where appropriate space is available.

2. Instead of adding more buses to a congested route, it would be more desirable to increase travel speeds along the route which would allow for buses to move faster thus increasing efficiency and reliability. In this case, the project sponsor's fair share contribution may be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase travel speeds enough to increase capacity along the bus route. Such improvements could include transit only lanes, transit signal priority, and transit boarding improvements.

3. Another option to increase capacity along the corridor is to add a new Muni service route in this area. If this option is selected, the project sponsor's fair share contribution may fund the purchase of the new vehicles.

M-TR-9.1: Install Traffic Signal Improvements at Unsignalized Intersections on Fourth Street at Mission Street and Long Bridge Street

Prior to issuance of approval of the third building site permit, but in no event later than the site permit for the Block D2 parking garage, the project sponsor shall provide funding to SFMTA, for a maximum amount of $1 million for SFMTA to design and construct (1) a traffic signal at the intersection of Fourth Street/Long Bridge Street and (2) a traffic signal at the intersection of Fourth Street/Mission Rock Street. These improvements should be constructed by SFMTA prior to opening of the Block D2 parking garage.

Pedestrians

No mitigation is required.

Bicycles

No mitigation is required.

Loading

No mitigation is required.

Emergency Access

No mitigation is required.

Parking

No mitigation is required.

J. IMPROVEMENT MEASURES FROM LEVEL OF SERVICE ANALYSIS

No significant environmental impacts or feasible improvement measures were identified.

APPENDICES

Appendix A: Approved Scope of Work

Appendix B: Roadway Network Classifications (From SF General Plan)

Appendix C: Transit Line Capacity calculations

Appendix D: Pedestrian Level of Service Description and CAlculations

Appendix E: Traffic Volume and Intersection Turning Movement Counts

Appendix F: Parking Supply and Occupancy Demand

Appendix G: Project Travel Demand Memorandum

Appendix H: Intersection Level of Service Calculations and Proposed Project Contribution

Appendix I: Freeway Level of Service Calculations

Appendix J: Queue Analysis

APPENDIX A: APPROVED SCOPE OF WORK

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TRANSPORTATION STUDY
SCOPE OF WORK
ACKNOWLEDGEMENT AND APPROVAL

Date: September 25, 2013

Transmittal To: Fehr & Peers, Transportation Consultants

The proposed scope of work for the Mission Rock (Seawall Lot 337/Pier 48), Case No. 2013.0208!, dated September 2013 is hereby

☒ Approved as submitted

☐ Approved as revised and resubmitted

☐ Approved subject to comments below

☐ Not approved, pending modifications specified below and resubmitted

Signed: _____ _____
Transportation Planner Environmental Review Planner

Note: A copy of this approval and the final scope of work are to be appended to the transportation study. The Department advises consultants and project sponsors that review of the draft transportation report may identify issues or concerns of other City agencies not addressed in the scope of work hereby approved, and that the scope of work may need to be modified to accommodate such additional issues.

SCOPE OF WORK

TASK 1 – PROJECT DESCRIPTION

Fehr & Peers will describe the proposed project in the Project Description section of the transportation impact study report. This section will include a brief description of the proposed project, including the location, type of land uses proposed, the size of the project by land use, vehicular, transit, pedestrian, bicycle, loading and parking access and circulation, transportation improvements proposed as part of the project (e.g., new streets, sidewalks, and bicycle facilities), other programmed transportation improvements proposed in the area, and proposed on-site parking and loading facilities. We will provide a figure showing the existing site layout as well as a plan of the proposed project site that clearly describes on-site circulation, road classifications, and proposed land uses by type and size.

TASK 2 – PROJECT SCOPING

The Planning Department requires that the scope of work for the transportation analysis be reviewed and approved by the designated transportation planner and environmental staff coordinator prior to commencement of any work by the transportation consultants. The transportation consultants will meet and consult with Environmental Planning staff, Port of San Francisco (Port), other city agencies, and the project sponsor team, as determined by Environmental Planning, to review, discuss and modify the draft scope of work and define the required level of detail for the transportation analysis. The discussion will focus on items such as:

- Project definition and components, including two study scenarios;
- Data collection (traffic counts, locations, day of week, and time of day);
- Assumptions (study area, land use types, cumulative growth, etc.);
- Analysis scenarios – future years, development and transportation network and transit service assumptions;
- Methodology (trip generation methodology and citations to appropriate sources for this methodology, travel forecasts, etc.);
- Proposed project relationship to the nearby projects and transportation planning efforts and other relevant transportation studies recently conducted in the area;
- Extent of analysis for proposed project variants, if any;
- Extent of analysis of alternatives to the proposed project; and
- Transportation section schedule and deliverables.

TASK 3 – DATA COLLECTION

Following approval of the scope of work, Fehr & Peers will collect the following data.

Traffic: Fehr & Peers will calculate intersection and ramp junction LOS for the weekday AM and PM peak hour for the study locations. The LOS will be calculated for the following scenarios:

- Existing (No Giants Home Game)
- Existing (Evening Giants Home Game)
- Existing plus Project (with maximum residential uses in the flex space), No Giants Home Game
- Existing plus Project (with maximum residential uses in the flex space), Evening Giants Home Game
- Existing plus Project (with maximum commercial uses in the flex space), No Giants Home Game
- Existing plus Project (with maximum commercial uses in the flex space), Evening Giants Home Game
- Future Year 2040 Cumulative (both study scenarios, under conditions with No Giants Home Game). Future Year 2040 Cumulative conditions with an Evening Giants Home Game scenario will be discussed qualitatively based on the quantitative analysis of near-term conditions.

Where possible, Fehr & Peers will use relevant existing weekday AM (7:00 to 9:00 AM) and PM (4:00 to 6:00) peak period intersection turning movement counts collected from other studies, such as the Central Corridor EIR and the Pier 30-32/Seawall Lot 330 EIR, both of which are currently underway. Fehr & Peers will collect new counts at all other intersections. We will evaluate the following study intersections:

1) The Embarcadero / Folsom Street
2) The Embarcadero / Harrison Street
3) The Embarcadero / Bryant Street
4) The Embarcadero / Brannan Street
5) The Embarcadero / Townsend Street
6) King Street / Second Street
7) King Street / Third Street
8) King Street / Fourth Street
9) King Street / Fifth Street / I-280 On-/Off-Ramp
10) Beale Street / Bryant Street
11) Fremont Street / Harrison Street / I-80 Westbound Off-Ramp
12) Fremont Street / Folsom Street / I-80 Westbound Off-Ramp
13) Fourth Street / Howard Street

14) Fourth Street / Harrison Street / I-80 Westbound On-Ramp
15) Fourth Street / Bryant Street / I-80 Eastbound Off-Ramp
16) Fifth Street / Harrison Street / I-80 Westbound Off-Ramp
17) Fifth Street / Bryant Street / I-80 Eastbound On-Ramp
18) Second Street / Brannan Street
19) Second Street / Bryant Street
20) Third Street / Howard Street
21) Third Street / Harrison Street
22) Third Street / Bryant Street
23) Third Street / Channel Street
24) Third Street / Terry A. Francois Boulevard
25) Third Street / Mission Rock Street
26) Third Street / 16th Street
27) Third Street / Mariposa Street
28) Fourth Street / Channel Street
29) Terry A. Francois Boulevard / Mission Rock Street
30) Terry A. Francois Boulevard / 16th Street (Future)
31) Terry A. Francois Boulevard / Illinois Street / Mariposa Street
32) Owens Street / 16th Street
33) Seventh Street / Mission Bay Drive
34) Seventh Street / Mississippi Street / 16th Street
35) Mariposa Street / I-280 Southbound On-Ramp
36) Mariposa Street / I-280 Northbound Off-Ramp

We will also collect on- and off-ramp and freeway mainline traffic counts at the following ramp junctions:

1. I-80 Eastbound / Fifth Street On-Ramp Merge Junction
2. I-80 Eastbound / Fourth Street Off-Ramp Diverge Junction
3. I-80 Westbound / Fifth Street Off-Ramp Diverge Junction
4. I-80 Westbound / Fourth Street On-ramp Merge Junction
5. I-80 Westbound / Fremont Street Off-ramp Diverge Junction
6. I-80 Westbound / Harrison Street Off-ramp Diverge Junction
7. I-280 Northbound / Mariposa Street Off-Ramp Diverge Junction
8. I-280 Southbound / Mariposa Street On-Ramp Merge Junction

Transit: Fehr & Peers will compile data on all Muni bus routes and rail lines (including motor coach, trolley coach, cable car, and light rail and historic streetcar service) in the vicinity of the proposed project site. This will include a description of each route's transit route service hours, peak and off-peak period headways and nearest stop to the proposed project site. The Muni transit lines which will be described are:

- T Third Light Rail
- N Judah Light Rail
- 10 Townsend
- 12 Folsom/Pacific
- 22 Fillmore
- 27 Bryant
- 30 Stockton
- 45 Union/Stockton
- 47 Van Ness
- 81X Caltrain Express
- 82X Levi Plaza Express

Fehr & Peers will use Muni weekday AM and PM peak hour ridership and capacity utilization at the maximum load points (MLP) developed for the Transit Effectiveness Project (TEP) EIR, unless more recent data is provided by SFMTA. We will describe peak hour ridership and capacity utilization at the MLP for standard Downtown and regional transit screenlines. We will also evaluate one project-specific transit cordon just north of Townsend Street, between 5th Street and the Embarcadero, inclusive, to capture the level of transit usage and capacity just north of the project site providing direct service into Downtown San Francisco. This cordon includes the following Muni lines:

- 10 Townsend
- 30 Stockton
- 45 Union/Stockton
- 47 Van Ness
- 81X Caltrain Express
- N Judah
- K Ingleside
- T Third

In addition, Fehr & Peers will analyze the following Muni lines on a line-by-line basis:

- 30 Stockton
- 45 Union/Stockton
- N Judah
- K Ingleside
- T Third

For the cumulative scenario, the proposed service planning changes outlined in the TEP will be assumed, including the rerouting of the 22 Fillmore and the proposed rerouting of 10 Townsend and its renaming to the 10 Sansome and the addition of the E Embarcadero historic streetcar line. Fehr & Peers will prepare a map that presents nearby transit stops and routes graphically.

Fehr & Peers will also compile data on regional transit operators (BART, AC Transit, Golden Gate Transit bus and ferry service, SamTrans and Caltrain) including the nearest transit stop location within the study area boundary and the latest scheduled operations on weekdays. Weekday peak hour ridership and capacity utilization for the regional transit screenlines for the analysis periods identified will be obtained from the regional operators.

Existing transit ridership by direction to and from the project site at the MLPs of the lines that comprise the standard Downtown and regional transit screenlines and the project-specific cordon will be presented in a series of tables. The transit section will also include a qualitative discussion of linkages to BART, Caltrain, and other light rail Muni service.

Pedestrian/Bicycle: Fehr & Peers will conduct a qualitative assessment of existing pedestrian and bicycle conditions in the vicinity of the project site. Bicycle conditions will be described as they relate to the proposed project site, including bicycle routes, existing bicycle parking, safety and right-of-way issues, conflicts with traffic and transit, and grade changes. Fehr & Peers will summarize proposed changes in the study area identified in the 2009 San Francisco *Bike Plan*. Pedestrian conditions will be described as they relate to safety and conflict issues at key crossing locations near the Project site, with particular attention to pedestrian routes between the Proposed Project and adjacent transit stops.

Using volumes obtained from the Pier 30-32/Seawall Lot 330 EIR, Fehr & Peers will also perform a quantitative corridor LOS analysis for the Third Street (Lefty O'Doul) and Fourth Street Bridge over Mission Creek. Fehr & Peers will also perform crosswalk LOS for all four legs at the intersection of Fourth Street/King Street (near the Muni platform stop).

Loading: Fehr & Peers will describe the size and location of off-street and on-street loading in the immediate vicinity of the Project site with regard to both commercial and passenger loading, including bus operations on game days. Fehr & Peers will conduct a qualitative assessment of loading activities during AM and PM peak periods.

Parking: Fehr & Peers will conduct counts of existing public on- and off-street street parking occupancy in a parking study area generally bounded by Terry A. Francois Boulevard, 16th Street, Fourth Street, Townsend Street, and Second Street. The study will include a map showing the extents of this area. This study will include the existing parking lot and facilities at Seawall Lot 337/Pier 48 and off-street public parking facilities in Mission Bay. Counts will be collected during the weekday midday period (1:30 to 3:00 PM) and evening period (6:30 to 8:00 PM). Current on-street parking regulations in the immediate vicinity of the Proposed Project (i.e. the parking study area) will be noted. Fehr & Peers will include a brief qualitative discussion of proposed parking changes in the vicinity of the Project, if any.

Emergency Vehicle Access: Fehr & Peers will qualitatively discuss emergency vehicle access to the Project Site and vicinity.

TASK 4 – DOCUMENT EXISTING CONDITIONS

Using the data collected in Task 3, Fehr & Peers will document existing street traffic, circulation, parking, pedestrian, bicycle, loading, emergency access and transit conditions in the vicinity of the project site, including:

- A base map and text for the study area, describing the street designations, street names, number of lanes and traffic flow directions;
- A description of existing uses and vehicular access to the project site;
- An assessment of existing parking activities, including hours of operation, supply and hourly utilization for the midday and evening peak hours;
- Intersection level of service (LOS) conditions during the weekday AM and PM peak hours at the study intersections identified in Task 3 using the 2000 Highway Capacity Manual operations methodology (HCM 2000) and the Synchro traffic analysis software;

- On-ramp and off-ramp merge and diverge LOS conditions during the weekday AM and PM peak hours at the study locations identified in Task 3 using the 2000 HCM methodology and the HCS analysis software;

- Graphics indicating the existing peak hour traffic volumes and lane configuration at the study intersections identified in Task 3;

- A map and discussion of Muni and regional transit services within the transportation study area, including bus routes and nearby bus stop locations for each route in the vicinity of the proposed project. The transit analysis will include weekday AM and PM peak hour capacity utilization analysis for the standard Downtown screenlines, the regional transit screenlines, the project-specific cordon outlined in Task 3, and the Muni line-specific analysis. Changes to Muni service in the area being proposed by the Transit Effectiveness Program (TEP) will also be described. We will also identify operational conflicts between buses or light rail vehicles and other vehicles, including bicycles;

- A qualitative assessment of bicycle and pedestrian conditions (conflicts, safety and operational issues) will be conducted, as well as quantitative crosswalk and corridor pedestrian LOS at the study locations identified in Task 3 using the 2000 HCM methodology;

- A description of changes to the bicycle network on the vicinity of the project site being considered by the San Francisco Bicycle Plan and other City proposals;

- A qualitative assessment of existing weekday commercial and passenger loading conditions within the transportation study area;

- A description of the existing emergency vehicle access routes to the project site and

- A quantitative assessment of off-street parking supply and utilization within the parking study area, and qualitative discussion of on-street parking regulations and utilization.

TASK 5 - DETERMINE PROJECT TRAVEL DEMAND

Adavant Consulting will prepare a travel demand memo that includes project trip generation, trip distribution and mode split for the proposed project for two project study scenarios (one that maximizes residential uses in the flex space and one that maximizes commercial uses in the flex space). Fehr & Peers

will peer review this memorandum and provide comments to Adavant Consulting. Upon receipt of a revised memorandum, Fehr & Peers will submit a draft travel demand memorandum to the Planning Department for review and comment. We will work with Adavant Consulting to incorporate City comments and will revise and resubmit the travel demand memorandum. Upon approval by the Planning Department, Fehr & Peers will incorporate this work into the analysis.

Fehr & Peers will forecast the parking and loading demand for the proposed uses based on the *SF Guidelines* methodology, or another Planning Department-approved methodology that may be better suited for this particular proposal, and describe the quantity and location of the changes to supply associated with the Proposed Project.

TASK 6 – IMPACT ANALYSIS

Fehr & Peers will identify transportation-related impacts associated with the proposed project. The effort will include impacts on the study intersections, transit operations, pedestrian and bicycle circulation, loading conditions, emergency vehicle access, and construction activities. The effects on the safety and delay as it relates to parking demand and supply will be quantified and described as well. The methodology for assessing project impacts is described below.

Traffic: Fehr & Peers will calculate intersection and ramp junction LOS for the weekday AM and PM peak hour for the study locations. The LOS will be calculated for the following scenarios:

- Existing (No Giants Home Game)
- Existing (Evening Giants Home Game)
- Existing plus Project (with maximum residential uses in the flex space), No Giants Home Game
- Existing plus Project (with maximum residential uses in the flex space), Evening Giants Home Game
- Existing plus Project (with maximum commercial uses in the flex space), No Giants Home Game
- Existing plus Project (with maximum commercial uses in the flex space), Giants Home Game
- Future Year 2040 Cumulative (both study scenarios, under conditions with No Giants Home Game). Future Year 2040 Cumulative conditions with an Evening Giants Home Game scenario will be discussed qualitatively based on the quantitative analysis of near-term conditions.

For the Future Year 2040 Cumulative Conditions traffic analysis, we expect that future growth at the study intersections will be based on traffic forecasts from the San Francisco County Transportation Authority (SFCTA) 2040 Model that is currently being finalized. We will confirm this with the Planning Department and SFCTA whether the SFCTA model run included the appropriate land uses associated with this project proposal. If not, we will make adjustments to the forecasts to better reflect cumulative year 2040 conditions with the proposed project, including its two study scenarios, in place. We also expect the year 2040 forecasts will include other major projects either already approved but not yet constructed and those undergoing environmental review, such as the Warriors Arena, Pier 70, Buildout of Mission Bay and the UCSF hospital, the Transit Center District Plan, the Central Subway, the Transit Effectiveness Project, and others.

Fehr & Peers will include a qualitative assessment of the project's proposed street network, including the adequacy of sidewalks, parking, and travel lane dimensions. We will also qualitatively discuss the proposed project's interaction with the adjacent Fire Station.

Transit: Fehr & Peers will forecast the increase in weekday AM and PM peak hour transit ridership for Muni and for regional transit providers as a result of the Proposed Project. Fehr & Peers will conduct a quantitative assessment of the project-related impacts in terms of ridership and capacity utilization to existing and future transit service on the Downtown and regional transit screenlines as well as the project-specific cordon, and on a line-by-line basis for specific lines described earlier, based on the distribution of project-generated transit trips (determined in Task 4).

Pedestrian/Bicycles: Fehr & Peers will qualitatively assess pedestrian and bicycle conditions in the vicinity of the project site. Fehr & Peers will also qualitatively assess potential conflicts between project-generated vehicle traffic and pedestrian and bicycle circulation, including the effect the proposed project will have on pedestrian circulation during special events at AT&T Park, including San Francisco Giants home games. *Planning Code* requirements for bicycle parking and related facilities will be identified and compared to the proposed supply. We will summarize proposed changes to the bicycling network near the project site as described in the San Francisco Bike Plan. Fehr & Peers will qualitatively discuss the adequacy of pedestrian routes from the Project site to the nearest transit stops for each route serving the project site. Fehr & Peers will qualitatively describe potential conflicts between vehicles entering and exiting Project driveways and bicycle traffic along the adjacent streets. A qualitative discussion of the project's compliance with the Better Streets Plan and Waterfront Land Use Plan (as applicable) will also be included. Future year 2040 Cumulative pedestrian and bicycle conditions will be assessed qualitatively.

Fehr & Peers will also conduct a quantitative assessment of the proposed project's effect on corridor LOS on the Third and Fourth Street bridges and a crosswalk LOS at the intersection of Fourth Street / King Street (near the Muni platform stop).

Loading: Fehr & Peers will conduct a loading supply/code/demand analysis for the Proposed Project. The proposed loading supply will be compared to the *Planning Code* requirements, and to the estimated demand generated by the Proposed Project. In addition, to the degree to which they have been identified, Fehr & Peers will assess the proposed passenger and commercial loading facilities in terms of location, operational characteristics, including truck movement, location of trash storage/compactor, move-in/move-out procedures, and removal of garbage.

At the discretion of the Planning Department, Fehr & Peers will assess the ability specific design vehicles to perform necessary maneuvers into and out of loading or parking spaces. Future year 2040 Cumulative loading conditions will be assessed qualitatively. Interactions with the adjacent Fire Station will be assessed qualitatively.

Parking: Fehr & Peers will conduct a parking supply/code/demand analysis for the Proposed Project. The proposed on- and off-street parking supply will be compared to the *Planning Code* requirement for the project. Exceptions to the *Planning Code* will be noted. The proposed parking supply will also be compared to the estimated demand generated by the Proposed Project. ADA-Accessible, car share, and bicycle parking supply and requirements will be described. Deficiencies will be quantified and discussed in relation to the effect on the parking supply in the area surrounding the project. Fehr & Peers will discuss the proposed entry/exit locations for the parking garage and the effects of this placement on circulation in the vicinity of the site. Future year 2040 Cumulative parking conditions will be assessed qualitatively.

Fehr & Peers will assess the operations of the proposed parking structure under both non-gameday and Giants gameday conditions, including a comparison of forecasted vehicle arrival rates with entry capacity to assess the potential for queuing on City streets and the forecasted garage clearance time after a game, which will be based on exiting capacity of the garage itself.

Construction: Fehr & Peers will qualitatively evaluate potential construction impacts that would be generated by the proposed project. Construction impact evaluation will address the staging and duration of construction activity, differences in intensity between various stages of construction, truck routings, estimated daily truck volumes, street and/or sidewalk closures, impacts on Muni operations, and construction worker parking. If there are other on-going or planning construction projects in the study area, such as the build-out of Mission Bay and the UCSF Hospital, we will evaluate temporary impacts that would result from concurrent construction of the proposed project and other projects.

Develop Mitigation/Improvement Measures: Fehr & Peers will work cooperatively with Planning Department staff to develop mitigation measures, if necessary. Mitigation measures to reduce the effect of significant impacts will be proposed, as well as improvement measures aimed at reducing the effects of less than significant impacts.

TASK 7 – DOCUMENTATION

Prepare Administrative Draft Report: Fehr & Peers will prepare an Administrative Draft Transportation Impact Study, incorporating data, analysis, and conclusions from the above tasks. The draft report will be submitted to the Planning Department for review by the Planning Department and other City agencies. Technical appendices including background information used in the analysis (e.g., traffic counts) will be submitted to the Planning Department with the Administrative Draft Report.

Revisions to Draft Report: Fehr & Peers will incorporate comments from the City agencies, and prepare up to two additional draft reports. Comments from the City requiring additional data collection or technical analysis will be completed under an additional scope and fee.

Prepare Final Report: A Final Report will be prepared following the Planning Department EP staff's approval.

Prepare Administrative Draft Transportation section of EIR: Fehr & Peers will prepare an Administrative Draft Transportation section of the EIR; this will be reviewed by the lead environmental consultant (ICF International) in order to ensure consistency with the remainder of the EIR before its transmittal to the Planning Department for review.

Revisions to Administrative Draft Transportation section of EIR: Fehr & Peers will incorporate comments from the City agencies, and prepare up to two additional administrative draft versions and one final draft for public review section of the transportation section.

Prepare Responses to Comments (RTC) on the Transportation section of Draft EIR: We will prepare written responses to comments made by public agencies and members of the public at large related to the transportation section of the Draft EIR; this will be reviewed by the lead environmental consultant (ICF International) in order to ensure consistency with the remainder of the RTC before its transmittal to the Planning Department for review. Up to two administrative drafts of RTC plus a screencheck draft RTC will be prepared by Fehr & Peers before publication of the final RTC.

TASK 8 – MEETINGS

Fehr & Peers will attend up to three scoping meetings with Planning Department staff to review the scope and discuss modifications. At the scoping meetings, Fehr & Peers will confirm the project description, transportation study area, analysis methodologies, analysis scenarios, and background assumptions (e.g., the level of future transit and roadway system improvements to be assumed).

Fehr & Peers will also attend bi-weekly progress meetings for an 18-month period, or approximately 40 meetings, as well as four public hearings. The schedule for the Transportation Impact Analysis Study (TIS) is attached to this Scope of Work.

FEHR & PEERS

Advant

Seawall Lot 337 Transportation Impact Study (TIS) Schedule

Date: September 6, 2013

Task/Milestone	September-13				October				November				December					January-14				February				March					April				May					June				
	7	14	21	28	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30
Task 1 - Project Description			■	■	■	■																																					
Task 2 - Project Scoping	■	■	■	◊																																								
Task 3 - Data Collection		■	■	■	■	■																																					
Task 4 - Document Existing Conditions			■	■	■	■	■	■	■	■	■	■																															
Task 5 - Determine Project Travel Demand	■	■	■	■	■	■	■	◊			◊																																
- First Draft	■	■	■	■																																							
- Initial Review by Fehr & Peers					■	■																																					
- Revision							■																																				
- Final Review and Submittal by Fehr & Peers								◊																																			
- Initial Review by SF Planning																																											
- Revision											◊																																
- Final Review by SF Planning																																											
Task 6 - Impact Analysis													■	■	■	■	■	■	■	■																							
Task 7 - Prepare Transportation Report																																											
Transporation Impact Study													■	■	■	■	■	■	■	■	■	◊								◊						■	■	◊			◊			
- Prepare Administrative Draft Report													■	■	■	■	■	■	■	■	■	◊																					
- Initial Review by SF Planning																																											
- First Revisions to Draft Report																														◊													
- Second Review by SF Planning																																											
- Second Revisions to Draft Report																																					■	■	◊					
- Final Review by SF Planning																																						■	■					
- Prepare Final Report																																								◊			

■ = Consultant Action

■ = City Action

◊ = Deliverable/Milestone

APPENDIX B: ROADWAY NETWORK CLASSIFICATIONS (FROM SF GENERAL PLAN)

MAP APPROVED BY THE BOARD OF SUPERVISORS

The notation below in italics represents a recent amendment to the General Plan that has been approved by the Board of Supervisors after this map was originally adopted. The change will be added to the map during the next map update.

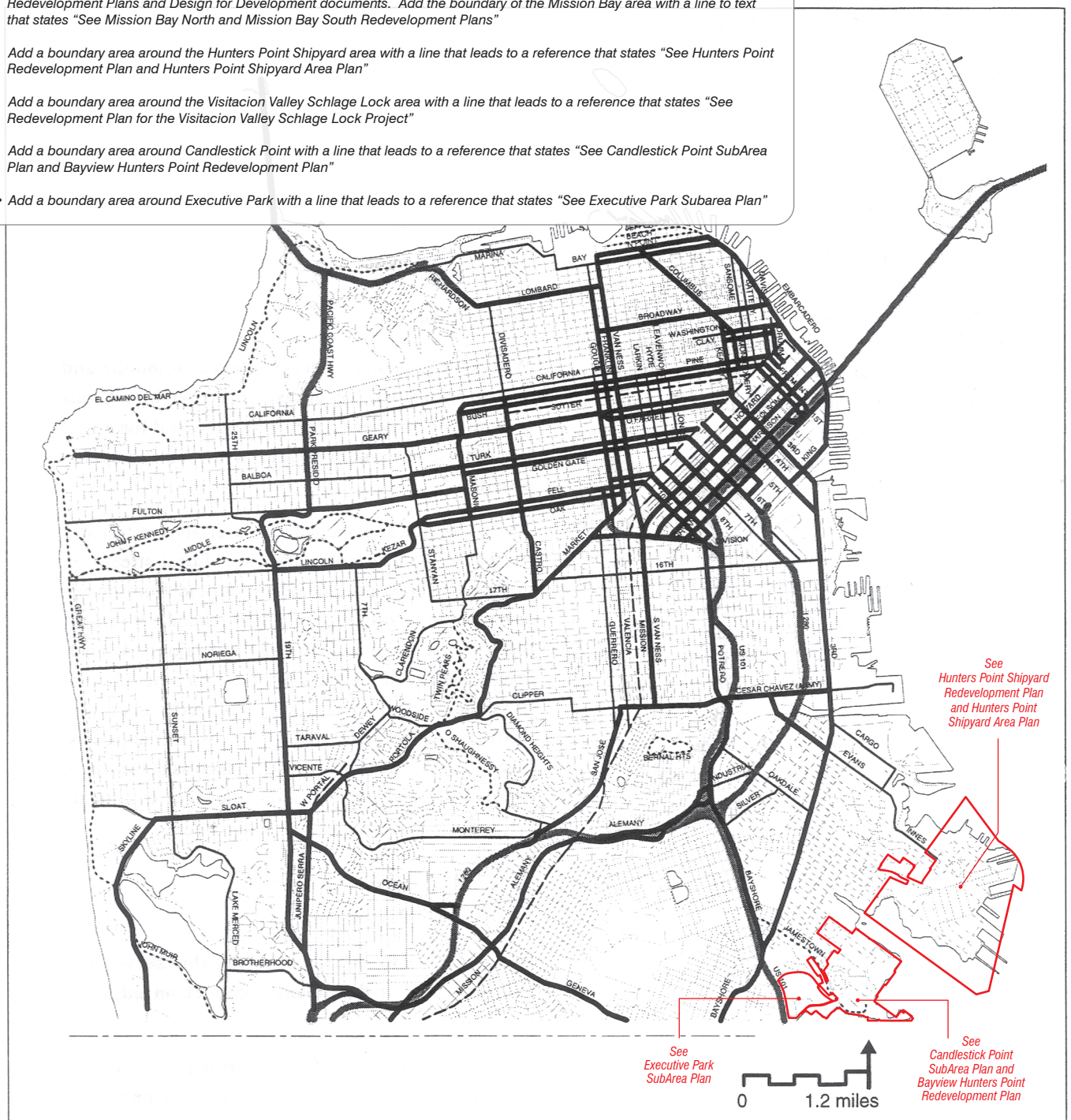
→ *Amend the area for Mission Bay to reflect the street grid and street hierarchy of the Mission Bay North and Mission Bay South Redevelopment Plans and Design for Development documents. Add the boundary of the Mission Bay area with a line to text that states "See Mission Bay North and Mission Bay South Redevelopment Plans"*

→ *Add a boundary area around the Hunters Point Shipyard area with a line that leads to a reference that states "See Hunters Point Redevelopment Plan and Hunters Point Shipyard Area Plan"*

→ *Add a boundary area around the Visitacion Valley Schlage Lock area with a line that leads to a reference that states "See Redevelopment Plan for the Visitacion Valley Schlage Lock Project"*

→ *Add a boundary area around Candlestick Point with a line that leads to a reference that states "See Candlestick Point SubArea Plan and Bayview Hunters Point Redevelopment Plan"*

→ *Add a boundary area around Executive Park with a line that leads to a reference that states "See Executive Park Subarea Plan"*



VEHICULAR STREET MAP

Map 6

CMP Network Streets

- Freeway
- Major Arterial
- Transit Conflict Street

Other Streets

- Secondary Arterial
- Recreational Street

Second Street is a north-south roadway between Market and King Streets. Second Street generally has two northbound and two southbound travel lanes, except between Market and Mission Streets where it has one northbound and two southbound travel lanes. In the *San Francisco General Plan*, Second Street is classified as a Secondary Transit Preferential Street from Howard Street to Harrison Street and is used by the 10 Townsend between Market and King Streets and by the 12 Folsom between Market and Harrison Streets. Currently, Second Street is part of Bicycle Route 11 (Class III) between Market and King Streets. The City of San Francisco is planning to repave Second Street in 2016, at which point, a raised, green cycle-track with bicycle-specific signaling will be installed. Second Street sidewalk widths generally are less than the minimum required by the *Better Streets Plan*.

Third Street is the principal north-south arterial in the southeast part of San Francisco, extending from its interchange with U.S. 101 and Bayshore Boulevard, to its intersection with Market Street. It is the main commercial street in the Bayview/Hunters Point district and also serves as a through street and an access way to the industrial areas north and east of U.S. 101. Third Street generally has two travel lanes in each direction south of Channel Street. Just north of King Street, Third Street operates with four lanes, one-way northbound. In the *San Francisco General Plan*, Third Street is designated as a Major Arterial in the Congestion Management Program network, a Metropolitan Transportation System Street, a Primary Transit Preferential Street (Transit Important Street between Market Street and Townsend Street, and between Mission Rock Street and Bayshore Boulevard), a Citywide Pedestrian Network Street and Trail (between 24th Street and Yosemite Avenue), and a Neighborhood Commercial Pedestrian Street. South of China Basin, the T Third light rail operates in an exclusive center median right-of-way, with the exception of the segment between Kirkwood Avenue and Thomas Avenue, where the light rail runs within a mixed-flow travel lane. North of China Basin, Muni routes 8X/8AX/8BX Bayshore Expresses, 30 Stockton, 45 Union-Stockton, 76 Marin Headlands, and 81X Caltrain Express run on portions of Third Street, generally outfitted with transit only lanes. Third Street between China Basin and Townsend Street is also part of Bicycle Route 536 (Class III).[1] South of Howard Street, Third Street sidewalk widths are less than the minimum required by the *Better Streets Plan*; north of Howard Street, sidewalks widths meet the *Better Streets Plan* minimum but are less than the recommended width.

Fourth Street is a principal north-south arterial between Market Street and Channel Street. Fourth Street runs southbound between Market and Townsend streets, and has four southbound travel lanes. Between Market and Townsend streets, Fourth Street and Third Street operate as a one-way couplet pair. In the *San Francisco General Plan*, Fourth Street is classified as a Congestion Management Network Major Arterial and a part of the Metropolitan Transportation System. Fourth Street is designated as a Primary Transit Important Preferential Street; is a part of the Citywide Pedestrian Network from Market Street to Folsom Street; is part of the Bay Trail between King and Mission Streets; and is designated as a Neighborhood Commercial Pedestrian Street. Muni routes 8X/8AX/BX Bayshore Express, 30 Stockton, and 45 Union-Stockton, and the 76 Marin Headlands run on Fourth Street. Fourth Street has bicycle lanes (Class II) in both directions between Channel and 16th Streets. South of Folsom Street, Fourth Street sidewalk widths are less than the minimum required by the *Better Streets Plan*; north of Folsom Street, sidewalk widths generally meet the *Better Streets Plan* recommended width, with the exception of the east sidewalk between Folsom and Howard Streets adjacent to Moscone South whose width is less than the minimum required by the *Better Streets Plan*.

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[1] Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists. Class II bikeways are bike lanes striped within the paved areas of roadways and established for the preferential use of bicycles, while Class III bikeways are signed bike routes that allow bicycles to share the travel lane with vehicles. See Section 2.7 additional discussion.

Fifth Street is a north-south roadway between Market Street and Townsend Street. It is a two-way roadway with two travel lanes in each direction. In the *San Francisco General Plan*, it is classified as a Congestion Management Network Major Arterial and a part of the Metropolitan Transportation System. Muni route 27 Bryant runs on Fifth Street between Market and Bryant Streets and 47 Van Ness runs on Fifth Street between Harrison and Townsend Streets. Fifth Street is part of Bicycle Route 19 (Class III) between Townsend Street and Market Street. Fifth Street sidewalk widths within the study area generally are less than the minimum required by the *Better Streets Plan*.

Seventh Street is a principal north-south arterial between Market and 16th Streets. Seventh Street has one-way traffic traveling northbound in four travel lanes. In the *San Francisco General Plan*, it is classified as a Congestion Management Network Major Arterial between Market and Bryant Streets, and the section between Howard and 16th Streets is part of the Metropolitan Transportation System. Muni route 19 Polk runs on Seventh Street. Seventh Street has a bicycle lane (Class II) in the northbound direction between Market and 16th Streets, part of Bicycle Route 23. Seventh Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

Sixteenth Street is an east-west roadway from Illinois Street at the eastern edge of the City through Market Street to Corona Heights Park. Sixteenth Street is a two-way roadway with two travel lanes in each direction through the study area. In the *San Francisco General Plan*, it is classified as a Secondary Arterial and a part of the Metropolitan Transportation System, as well as part of the City's bicycle network (Class II bicycle lane) west of the Fourth Street. There are future plans to extend Sixteenth Street past its current terminus at Illinois Street to Terry A. Francois Boulevard, as well as plans to extend the bike network past Fourth Street to Terry A. Francois Boulevard. There are no existing Muni routes on Sixteenth Street. Sixteenth Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

22nd Street is an east-west roadway from Illinois Street and the Pier 70 area at the eastern edge of the City to Grand View Avenue (just before Market Street) in Dolores Heights. In the vicinity of the project, 22nd Street ends at Texas Street just west of I-280 before beginning again on the west side of the Potrero Hill Recreation Center. 22nd Street is a two-way roadway with one travel lane in each direction through the study area. It is not designated as part of the City's bicycle network in the study area. Muni route 48 Potrero Hill runs on 22nd Street in the project area, and a Caltrain station sits beneath I-280 on the section of 22nd Street between Indiana Street and Pennsylvania Avenue. 22nd Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

Beale Street is a north-south roadway that runs between Main Street and The Embarcadero (though it does not connect with The Embarcadero). In the *San Francisco General Plan*, it is classified as part of the City's bicycle network (Class II bicycle lane) west of the Fourth Street. There are no existing Muni routes on Beale Street. Beale Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

Brannan Street is an east-west roadway that runs between The Embarcadero and Tenth Street. It generally operates two-way with two travel lanes in each direction. Muni route 82X Levi Plaza Express runs on Brannan Street between Fourth Street and The Embarcadero. Brannan Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

Bryant Street extends from The Embarcadero in the South of Market area to Precita Avenue in Peralta Heights. Between The Embarcadero and Second Street, Bryant Street operates two-way in the east-west direction with two to three lanes. Bryant Street is designated as a Primary Transit Preferential Street (Transit Important Street between Fourth and Seventh Streets) and a Second Transit Preferential Street

(between Seventh and Eleventh Streets). It is used by the 8X/ 8AX/BX Bayshore Expresses (between Seventh and Third Streets), 27 Bryant (between Division and Fifth Streets), and 47 Van Ness (between Division and Fifth Streets). Bryant Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

Cesar Chavez Street is an east-west roadway from Illinois Street and Pier 80 at the eastern edge of the City to Douglass Street in Noe Valley. Cesar Chavez Street is a two-way roadway with two travel lanes in each direction and numerous left-turn lanes through the study area. In the *San Francisco General Plan*, it is classified as a Major Arterial and a part of the Metropolitan Transportation System, as well as part of Bicycle Route 19 in the City's bicycle network (Class II bicycle lane in the nearest vicinity of the study area, Class I separated bicycle lane just to the west). There are no existing Muni routes on Cesar Chavez Street in the vicinity of the project study area. Cesar Chavez Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

Channel Street is an east-west roadway that runs from Third Street west along Mission Creek before terminating short of the future Owens Street / Mission Bay Drive roundabout. It generally operates two-way with one travel lane in each direction. There are no Muni routes or bicycle designations on Channel Street. Channel Street sidewalk widths within the study area are generally more than the minimum required by the *Better Streets Plan*.

The Embarcadero is a four-lane east-west roadway with an exclusive Muni Metro right-of-way in the center median. It links the I-280 on- and off-ramps at Fifth Street with Fisherman's Wharf and North Beach via King Street. The Embarcadero is designated in the Transportation Element of the *San Francisco General Plan* as a Major Arterial in the CMP Network, a MTS Street, a Primary Transit Preferential Street (Transit Important Street), and a Neighborhood Pedestrian Commercial Street. Muni lines N Judah and T Third operate in the median along The Embarcadero. Bicycle Route 5 (Class II) runs on The Embarcadero, and there is a separated off-street multi-use path parallel to The Embarcadero. Sidewalks widths meet the *Better Streets Plan* minimum but are less than the recommended width.

Folsom Street is an east-west roadway that runs between The Embarcadero and 11th Street in the study area. It operates one-way eastbound, with four travel lanes. In the *San Francisco General Plan*, it is classified as a Congestion Management Network Major Arterial and is part of the MTS network in the study area. Muni route 12 Folsom runs on Folsom Street between Second and 11th Streets and Golden Gate Transit operates service on Folsom Street between Eighth Street and the Temporary Transbay Terminal at Beale Street. Through the study area Folsom Street is part of Bicycle Route 30 (Class II) with bicycle lanes in the eastbound direction. Folsom Street sidewalk widths within the study area generally are less than the minimum required by the *Better Streets Plan*; sidewalk width on the north side of Folsom Street between Third and Fourth Streets adjacent to Moscone South meets the *Better Streets Plan* minimum but is less than the recommended width.

Fremont Street is a north-south roadway that runs between Market and Harrison Streets. It generally operates one-way northbound, with four travel lanes. In the *San Francisco General Plan*, it is a designated Major Arterial in the CMP network and a Primary Transit Important Street between Market Street and Howard Street. Fremont Street begins at Harrison Street at the I-80 westbound off-ramp. Muni route 76 Marin Headlands and Golden Gate Transit run on Fremont Street between Folsom and Market Streets. Fremont Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

Harrison Street runs in the east-west direction between The Embarcadero and 13th/Division Streets, operating one-way westbound between Third and Tenth Streets. Harrison Street runs in the north-south

direction between 13th/Division Streets and Norwich Street. In the downtown area, Harrison Street is a primary route to the I-80 freeway, with on-ramps at the First Street and Essex Street intersections, and to U.S. 101 southbound, with an on-ramp at Fourth Street. In the *San Francisco General Plan*, it is a designated Major Arterial in the CMP network (between The Embarcadero and Division Street), a Primary Transit Preferential Street (Transit Important Street between Fourth Street and Seventh Street), a Secondary Transit Preferential Street (between Seventh Street and 11th Street), and a Neighborhood Commercial Pedestrian Street (between Fourth and 16th Streets). Muni routes 8X/8AX/BX Bayshore Expresses, 12 Folsom, 27 Bryant, and 47 Van Ness operate along portions of Harrison between 11th and Second Streets. Harrison Street sidewalk widths within the study area are less than the minimum required by the *Better Streets Plan*.

Howard Street runs in the east-west direction between The Embarcadero and 13th/Division Streets. From The Embarcadero to Fremont Street it has two travel lanes in each direction, and from Fremont Street to 13th/Division Streets it is three lanes westbound. In the *San Francisco General Plan*, it is a Major Arterial in the CMP network and part of the MTS network. Muni route 76 Marin Headlands runs on Howard Street between First and Eighth Streets, and Golden Gate Transit runs on Howard Street between First and Fourth Streets. Howard Street is part of Bicycle Route 30, with Class II bike lanes between Fremont and 11th Streets and a Class III bike route between The Embarcadero and Fremont Street in the westbound direction. Howard Street sidewalk widths within the study area generally meet the *Better Streets Plan* minimum; sidewalk widths meet the *Better Streets Plan* recommended width between Third and Fifth Streets where they are adjacent to the Moscone Center.

Illinois Street is a north-south roadway that runs between 16th Street and Amador Street / Cargo Way. It generally operates two-way with one travel lane in each direction. Bicycle Route 5 (Class II) runs on Illinois Street, connecting to 16th Street in the north and Third Street in the south. Muni route 48 turns around on Illinois Street between 20th Street and 22nd Street before continuing back west. Sidewalk widths within the study area are generally less than the minimum required by the *Better Streets Plan*.

King Street is a four-lane east-west roadway with an exclusive Muni Metro right-of-way in the center median. It links the I-280 on- and off-ramps at Fifth Street with The Embarcadero. King Street is designated in the Transportation Element of the *San Francisco General Plan* as a Major Arterial in the CMP Network (between Second Street and Fourth Street), a MTS Street (between Second Street and Fourth Street), a Primary Transit Preferential Street (Transit Important Street), and a Neighborhood Pedestrian Network Connection Street. Muni lines N Judah and T Third operate in the median along King Street east of Fourth Street. Bicycle Route 5 (Class II and Class III) runs on King Street east of Third Street, with a bicycle lane (Class II) between The Embarcadero and Fourth Street and on the south side of the street between Fourth and Fifth Streets. Between Third and Fifth Streets, King Street sidewalk widths are less than the minimum required by the *Better Streets Plan*; between Second and Third Streets, sidewalks widths meet the *Better Streets Plan* minimum but are less than the recommended width.

Mariposa Street is an east-west roadway between Illinois Street and Vermont Street to the east of US 101, and San Bruno Avenue and Harrison Street to the west of US 101. It is generally a four-lane roadway within the study area, but curb lanes are used for parking at certain times. Bicycle Routes 7 and 23 (Class III) run on Mariposa Street, connecting to Terry A. Francois Boulevard and Illinois Street in the east and Mississippi Street in the west. Sharrows line the roadway to indicate to drivers that the roadway should be shared with cyclists. There are no Muni routes on Mariposa Street. Sidewalk widths within the study area are generally less than the minimum required by the *Better Streets Plan*.

Mission Bay Drive is an east-west roadway that connects Seventh Street to Berry Street and continues into Owens Street where it will be part of the future Owens Street / Mission Bay Drive roundabout. There are three westbound lanes connecting to Seventh Street and two eastbound lanes into the UCSF Mission Bay campus area. There are no Muni routes or bicycle designations on Mission Bay Drive. Mission Bay Drive sidewalk widths within the study area are generally more than the minimum recommended by the *Better Streets Plan*.

Mission Rock Street is an east-west roadway that runs from Fourth Street to Terry A. Francois Boulevard. It generally operates two-way with one travel lane in each direction, though it expands to six lanes east of the Lot A entrance. At its eastern terminus sits Pier 50. There are no Muni routes or bicycle designations on Mission Rock Street. Mission Rock Street sidewalk widths within the study area are generally more than the minimum required by the *Better Streets Plan*.

Mississippi Street is a north-south roadway that runs from 16th Street to 22nd Street. It operates as a two-way street with one travel lane in each direction. There is a Class II bicycle lane from 16th Street to Mariposa Street. There are no Muni routes on Mississippi Street. Mississippi Street sidewalk widths within the study area are generally less than the minimum required by the *Better Streets Plan*.

Owens Street is a north-south roadway that runs from 16th Street north to a future roundabout, where it continues to the west until it runs into Mission Bay Drive. It operates as a two-way street with one travel lane in each direction. There are no Muni routes or bicycle designations on Owens Street. Owens Street sidewalk widths within the study area are generally more than the minimum required by the *Better Streets Plan,* but are less than the recommended width.

Terry A. Francois Boulevard is a north-south roadway that runs from Third Street in the north near the Lefty O'Doul Bridge to Illinois Street / Mariposa Street in the south. It operates as a two-way street with one travel lane in each direction. Bicycle Route 5 (Class II) runs down the entirety of Terry A. Francois Boulevard. There are no Muni routes on Terry A. Francois Boulevard. Terry A. Francois Boulevard sidewalk widths within the study area are generally less than the minimum required by the *Better Streets Plan*.

Townsend Street runs east-west between The Embarcadero and Division Street. There are between one and two travel lanes in each direction with a two-way left turn lane in some places. Between The Embarcadero and Second Street, bicycles share the lane with vehicle traffic. Muni route 10 Townsend and Bicycle Route 36 (Class II) run on Townsend Street. Other Muni routes, such as the 83X Mid Market Express, operate on portions of Townsend Street, which offers a direct connection to Caltrain service to and from the Peninsula. Townsend Street sidewalk widths within the study area generally are less than the minimum required by the *Better Streets Plan*.

APPENDIX C: TRANSIT LINE CAPACITY CALCULATIONS

AM Peak Hour Transit Trip Assignment - Maximum Commercial Scenario # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	222	0	0	0	0	0	53	0	0	0	0	0	0	0	29	0	18	0	0	0	0	27	0	0	0	27	22	0	7	0	0	40	0	0	0	0	**223**
	SD-2	314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	0	0	0	103	0	0	38	0	13	0	0	88	0	0	0	0	**314**
	SD-3	284	0	0	0	0	0	139	0	0	0	0	0	0	0	0	14	0	0	23	0	23	0	0	57	0	28	0	0	0	0	0	0	0	0	0	0	**284**
	SD-4	185	0	0	0	0	0	0	0	0	0	0	0	93	0	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**186**
	East Bay	355	0	0	0	0	301	0	35	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**354**
	North Bay	67	0	40	0	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**67**
	South Bay	261	0	0	52	0	0	196	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**261**
	Other	141	0	28	14	0	84	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**140**
	TOTAL IN	**1827**	**0**	**68**	**66**	**0**	**385**	**388**	**42**	**0**	**16**	**0**	**49**	**93**	**0**	**29**	**14**	**111**	**0**	**23**	**72**	**23**	**27**	**0**	**160**	**0**	**55**	**60**	**0**	**20**	**0**	**0**	**128**	**0**	**0**	**0**	**0**	**1829**
Out	SD-1	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	8	0	0	12	0	0	0	12	0	0	10	0	3	18	0	10	0	14	0	**100**
	SD-2	138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	46	0	0	0	0	17	0	6	39	0	0	0	0	0	**140**
	SD-3	125	0	0	0	0	61	0	0	0	0	0	0	0	0	6	0	0	0	0	10	0	10	25	0	13	0	0	0	0	0	0	0	0	0	0	0	**125**
	SD-4	82	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**82**
	East Bay	156	0	0	0	0	0	133	0	16	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**157**
	North Bay	29	18	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**30**
	South Bay	115	0	0	0	23	86	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**115**
	Other	62	12	0	0	6	0	37	0	3	0	1	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	**61**
	TOTAL OUT	**807**	**30**	**0**	**0**	**29**	**147**	**170**	**0**	**19**	**0**	**7**	**22**	**0**	**41**	**6**	**13**	**0**	**49**	**32**	**10**	**12**	**10**	**71**	**0**	**25**	**0**	**0**	**27**	**0**	**9**	**57**	**0**	**10**	**0**	**14**	**0**	**810**
	TOTAL TRIPS	**2634**	**30**	**68**	**66**	**29**	**532**	**558**	**42**	**19**	**16**	**7**	**71**	**93**	**41**	**35**	**27**	**111**	**49**	**55**	**82**	**35**	**37**	**71**	**160**	**25**	**55**	**60**	**27**	**20**	**9**	**57**	**128**	**10**	**0**	**14**	**0**	**2639**

PM Peak Hour Transit Trip Assignment - Maximum Commercial Scenario - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit W	AC Transit E	Samtrans N	Samtrans S	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	L IB	L OB	M IB	M OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	**Total**
In	SD-1	99	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	8	0	0	0	0	12	0	0	0	12	10	0	3	0	0	18	0	10	0	14	**100**
	SD-2	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	0	0	0	70	0	0	26	0	9	0	0	60	0	0	0	0	**214**
	SD-3	118	0	0	0	0	0	58	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	9	0	9	0	0	24	0	12	0	0	0	0	0	0	0	0	0	0	**118**
	SD-4	118	0	0	0	0	0	0	0	0	0	0	0	59	0	0	0	0	0	0	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**118**
	East Bay	216	0	0	0	0	184	0	22	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**217**
	North Bay	42	0	25	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**42**
	South Bay	170	0	0	34	0	0	127	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**169**
	Other	145	0	29	14	0	87	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**144**
	TOTAL IN	**1121**	**0**	**54**	**48**	**0**	**271**	**185**	**29**	**0**	**11**	**0**	**32**	**59**	**0**	**13**	**6**	**0**	**0**	**0**	**0**	**67**	**0**	**9**	**49**	**9**	**12**	**0**	**94**	**0**	**24**	**36**	**0**	**12**	**0**	**0**	**78**	**0**	**10**	**0**	**14**	**1122**
Out	SD-1	151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	12	0	0	18	0	0	0	18	0	0	15	0	5	27	0	15	0	21	0	**151**
	SD-2	327	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	0	0	0	108	0	0	0	0	39	0	13	92	0	0	0	0	0	**327**
	SD-3	182	0	0	0	0	89	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	15	0	15	36	0	18	0	0	0	0	0	0	0	0	0	0	0	**182**
	SD-4	181	0	0	0	0	0	0	0	0	0	0	0	0	91	0	0	0	0	0	0	0	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**182**
	East Bay	332	0	0	0	0	0	282	0	33	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**332**
	North Bay	65	39	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**65**
	South Bay	260	0	0	0	52	195	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**260**
	Other	222	44	0	0	22	0	133	0	11	0	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**221**
	TOTAL OUT	**1720**	**83**	**0**	**0**	**74**	**284**	**415**	**0**	**44**	**0**	**17**	**50**	**0**	**91**	**9**	**20**	**0**	**0**	**0**	**0**	**0**	**103**	**75**	**15**	**18**	**15**	**144**	**0**	**36**	**0**	**0**	**54**	**0**	**18**	**119**	**0**	**15**	**0**	**21**	**0**	**1720**
	TOTAL TRIPS	**2841**	**83**	**54**	**48**	**74**	**555**	**600**	**29**	**44**	**11**	**17**	**82**	**59**	**91**	**22**	**26**	**0**	**0**	**0**	**0**	**67**	**103**	**84**	**64**	**27**	**27**	**144**	**94**	**36**	**24**	**36**	**54**	**12**	**18**	**119**	**78**	**15**	**10**	**21**	**14**	**2842**

AM Peak Hour Transit Trip Assignment - Maximum Commercial Scenario Seawall Lot 337 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NI	Samtrans SE	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	**Total**
In	SD-1	217	0	0	0	0	0	52	0	0	0	0	0	0	0	28	0	17	0	0	0	0	26	0	0	0	26	22	0	7	0	0	39	0	0	0	0	**217**
	SD-2	304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	100	0	0	36	0	12	0	0	85	0	0	0	0	**303**
	SD-3	276	0	0	0	0	0	135	0	0	0	0	0	0	0	0	14	0	0	22	0	22	0	0	55	0	28	0	0	0	0	0	0	0	0	0	0	**276**
	SD-4	180	0	0	0	0	0	0	0	0	0	0	0	90	0	0	0	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**180**
	East Bay	343	0	0	0	0	291	0	34	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**342**
	North Bay	64	0	38	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**64**
	South Bay	255	0	0	51	0	0	191	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**255**
	Other	139	0	28	14	0	83	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**139**
	TOTAL IN	**1777**	**0**	**66**	**65**	**0**	**374**	**378**	**41**	**0**	**16**	**0**	**47**	**90**	**0**	**28**	**14**	**107**	**0**	**22**	**70**	**22**	**26**	**0**	**155**	**0**	**54**	**58**	**0**	**19**	**0**	**0**	**124**	**0**	**0**	**0**	**0**	**1776**
Out	SD-1	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	8	0	0	12	0	0	0	12	0	0	10	0	3	18	0	10	0	14	0	**100**
	SD-2	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	45	0	0	0	0	16	0	5	38	0	0	0	0	0	**136**
	SD-3	124	0	0	0	0	61	0	0	0	0	0	0	0	0	6	0	0	0	0	10	0	10	25	0	12	0	0	0	0	0	0	0	0	0	0	0	**124**
	SD-4	81	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**82**
	East Bay	154	0	0	0	0	0	131	0	15	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**154**
	North Bay	29	17	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**29**
	South Bay	115	0	0	0	23	86	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**115**
	Other	62	12	0	0	6	0	37	0	3	0	1	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	**61**
	TOTAL OUT	**801**	**29**	**0**	**0**	**29**	**147**	**168**	**0**	**18**	**0**	**7**	**22**	**0**	**41**	**6**	**13**	**0**	**49**	**32**	**10**	**12**	**10**	**70**	**0**	**24**	**0**	**0**	**26**	**0**	**8**	**56**	**0**	**10**	**0**	**14**	**0**	**801**
	TOTAL TRIPS	**2578**	**29**	**66**	**65**	**29**	**521**	**546**	**41**	**18**	**16**	**7**	**69**	**90**	**41**	**34**	**27**	**107**	**49**	**54**	**80**	**34**	**36**	**70**	**155**	**24**	**54**	**58**	**26**	**19**	**8**	**56**	**124**	**10**	**0**	**14**	**0**	**2577**

PM Peak Hour Transit Trip Assignment - Maximum Commercial Scenario Seawall Lot 337 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit W	AC Transit E	Samtrans NB	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	92	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	7	0	0	0	0	11	0	0	0	11	9	0	3	0	0	17	0	9	0	13	**92**
	SD-2	203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	0	0	0	67	0	0	24	0	8	0	0	57	0	0	0	0	**203**
	SD-3	111	0	0	0	0	0	55	0	0	0	0	0	0	0	0	6	0	0	9	0	9	0	0	22	0	11	0	0	0	0	0	0	0	0	0	0	**112**
	SD-4	113	0	0	0	0	0	0	0	0	0	0	0	56	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**112**
	East Bay	206	0	0	0	0	175	0	21	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**206**
	North Bay	40	0	24	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**40**
	South Bay	164	0	0	33	0	0	123	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**164**
	Other	135	0	27	14	0	81	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**136**
	TOTAL IN	**1065**	**0**	**51**	**47**	**0**	**256**	**178**	**28**	**0**	**11**	**0**	**30**	**56**	**0**	**12**	**6**	**63**	**0**	**9**	**47**	**9**	**11**	**0**	**89**	**0**	**22**	**33**	**0**	**11**	**0**	**0**	**74**	**0**	**9**	**0**	**13**	**1065**
Out	SD-1	143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	11	0	0	17	0	0	0	17	0	0	14	0	4	26	0	14	0	20	0	**142**
	SD-2	315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	0	0	0	104	0	0	0	0	38	0	13	88	0	0	0	0	0	**315**
	SD-3	173	0	0	0	0	85	0	0	0	0	0	0	0	0	9	0	0	0	0	14	0	14	35	0	17	0	0	0	0	0	0	0	0	0	0	0	**174**
	SD-4	175	0	0	0	0	0	0	0	0	0	0	0	0	88	0	0	0	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**176**
	East Bay	320	0	0	0	0	0	272	0	32	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**320**
	North Bay	61	37	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**62**
	South Bay	255	0	0	0	51	191	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**255**
	Other	210	42	0	0	21	0	126	0	10	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**209**
	TOTAL OUT	**1651**	**79**	**0**	**0**	**72**	**276**	**398**	**0**	**42**	**0**	**17**	**47**	**0**	**88**	**9**	**19**	**0**	**99**	**72**	**14**	**17**	**14**	**139**	**0**	**34**	**0**	**0**	**52**	**0**	**17**	**114**	**0**	**14**	**0**	**20**	**0**	**1653**
	TOTAL TRIPS	**2716**	**79**	**51**	**47**	**72**	**532**	**576**	**28**	**42**	**11**	**17**	**77**	**56**	**88**	**21**	**25**	**63**	**99**	**81**	**61**	**26**	**25**	**139**	**89**	**34**	**22**	**33**	**52**	**11**	**17**	**114**	**74**	**14**	**9**	**20**	**13**	**2718**

AM Peak Hour Transit Trip Assignment - Pier 48 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	**Total**
In	SD-1	5	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	**5**
	SD-2	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	1	0	0	0	0	3	0	0	0	0	**9**
	SD-3	8	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	**9**
	SD-4	6	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
	East Bay	13	0	0	0	0	11	0	1	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	**13**
	North Bay	3	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	0	**3**
	South Bay	6	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
	Other	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	**1**
	TOTAL IN	**50**	**0**	**2**	**1**	**0**	**12**	**9**	**1**	**0**	**0**	**0**	**2**	**3**	**0**	**1**	**0**	**3**	**0**	**1**	**2**	**1**	**1**	**0**	**5**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**51**
Out	SD-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**
	SD-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	0	0	0	0	0	0	0	0	0	0	**0**
	SD-3	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**
	SD-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	East Bay	1	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	**1**
	North Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	South Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	TOTAL OUT	**4**	**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**	**1**
	TOTAL TRIPS	**54**	**0**	**2**	**1**	**0**	**12**	**10**	**1**	**0**	**0**	**0**	**2**	**3**	**0**	**1**	**0**	**3**	**0**	**1**	**2**	**1**	**1**	**0**	**5**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**52**

PM Peak Hour Transit Trip Assignment - Pier 48 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	**Total**
In	SD-1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	0	1	0	1	**8**
	SD-2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	1	0	0	0	0	3	0	0	0	0	**9**
	SD-3	7	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	**7**
	SD-4	5	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
	East Bay	10	0	0	0	0	9	0	1	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	**11**
	North Bay	3	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	0	**3**
	South Bay	5	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
	Other	10	0	2	1	0	6	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	**10**
	TOTAL IN	**56**	**0**	**4**	**2**	**0**	**15**	**7**	**2**	**0**	**0**	**0**	**2**	**3**	**0**	**1**	**0**	**4**	**0**	**1**	**2**	**1**	**1**	**0**	**4**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**1**	**59**
Out	SD-1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	1	0	0	1	0	1	0	1	0	**8**
	SD-2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	0	1	0	0	3	0	0	0	0	0	**11**
	SD-3	8	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	**9**
	SD-4	6	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
	East Bay	12	0	0	0	0	0	10	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	**12**
	North Bay	3	2	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	**3**
	South Bay	6	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
	Other	12	2	0	0	1	0	7	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	**11**
	TOTAL OUT	**68**	**4**	**0**	**0**	**2**	**9**	**17**	**0**	**2**	**0**	**0**	**2**	**0**	**3**	**0**	**1**	**0**	**4**	**3**	**1**	**1**	**1**	**6**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**4**	**0**	**1**	**0**	**1**	**0**	**66**
	TOTAL TRIPS	**124**	**4**	**4**	**2**	**2**	**24**	**24**	**2**	**2**	**0**	**0**	**4**	**3**	**3**	**1**	**1**	**4**	**4**	**4**	**3**	**2**	**2**	**6**	**4**	**2**	**2**	**2**	**2**	**0**	**0**	**4**	**4**	**1**	**1**	**1**	**1**	**125**

AM Peak Hour Transit Trip Assignment - Maximum Residential Scenario - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	194	0	0	0	0	0	47	0	0	0	0	0	0	0	25	0	16	0	0	0	0	23	0	0	0	23	19	0	6	0	0	35	0	0	0	0	**194**
	SD-2	254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0	0	0	84	0	0	31	0	10	0	0	71	0	0	0	0	**254**
	SD-3	208	0	0	0	0	0	102	0	0	0	0	0	0	0	0	10	0	0	17	0	17	0	0	42	0	21	0	0	0	0	0	0	0	0	0	0	**209**
	SD-4	152	0	0	0	0	0	0	0	0	0	0	0	76	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**152**
	East Bay	297	0	0	0	0	253	0	30	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**298**
	North Bay	52	0	31	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**52**
	South Bay	266	0	0	53	0	0	199	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**265**
	Other	120	0	24	12	0	72	0	6	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**120**
	TOTAL IN	**1543**	**0**	**55**	**65**	**0**	**325**	**348**	**36**	**0**	**15**	**0**	**40**	**76**	**0**	**25**	**10**	**92**	**0**	**17**	**58**	**17**	**23**	**0**	**126**	**0**	**44**	**50**	**0**	**16**	**0**	**0**	**106**	**0**	**0**	**0**	**0**	1544
Out	SD-1	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	9	0	0	14	0	0	0	14	0	0	11	0	3	21	0	11	0	16	0	**114**
	SD-2	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	49	0	0	0	0	18	0	6	42	0	0	0	0	0	**149**
	SD-3	122	0	0	0	0	60	0	0	0	0	0	0	0	0	6	0	0	0	0	10	0	10	24	0	12	0	0	0	0	0	0	0	0	0	0	0	**122**
	SD-4	90	0	0	0	0	0	0	0	0	0	0	0	0	45	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**90**
	East Bay	175	0	0	0	0	0	149	0	17	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**175**
	North Bay	31	18	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**30**
	South Bay	156	0	0	0	31	117	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**156**
	Other	70	14	0	0	7	0	42	0	4	0	1	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	**70**
	TOTAL OUT	**908**	**32**	**0**	**0**	**38**	**177**	**191**	**0**	**21**	**0**	**9**	**23**	**0**	**45**	**6**	**15**	**0**	**54**	**34**	**10**	**14**	**10**	**73**	**0**	**26**	**0**	**0**	**29**	**0**	**9**	**63**	**0**	**11**	**0**	**16**	**0**	906
	TOTAL TRIPS	**2451**	**32**	**55**	**65**	**38**	**502**	**539**	**36**	**21**	**15**	**9**	**63**	**76**	**45**	**31**	**25**	**92**	**54**	**51**	**68**	**31**	**33**	**73**	**126**	**26**	**44**	**50**	**29**	**16**	**9**	**63**	**106**	**11**	**0**	**16**	**0**	2450

PM Peak Hour Transit Trip Assignment - Maximum Residential Scenario - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	130	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	10	0	0	0	0	16	0	0	0	16	13	0	4	0	0	23	0	13	0	18	**130**
	SD-2	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0	74	0	0	27	0	9	0	0	63	0	0	0	0	**225**
	SD-3	122	0	0	0	0	0	60	0	0	0	0	0	0	0	0	6	0	0	10	0	10	0	0	24	0	12	0	0	0	0	0	0	0	0	0	0	**122**
	SD-4	125	0	0	0	0	0	0	0	0	0	0	0	63	0	0	0	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**126**
	East Bay	235	0	0	0	0	200	0	23	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**235**
	North Bay	43	0	26	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**43**
	South Bay	224	0	0	45	0	0	168	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**224**
	Other	160	0	32	16	0	96	0	8	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**160**
	TOTAL IN	**1262**	**0**	**58**	**61**	**0**	**296**	**228**	**31**	**0**	**14**	**0**	**34**	**63**	**0**	**17**	**6**	**73**	**0**	**10**	**52**	**10**	**16**	**0**	**98**	**0**	**28**	**40**	**0**	**13**	**0**	**0**	**86**	**0**	**13**	**0**	**18**	1265
Out	SD-1	157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	13	0	0	19	0	0	0	19	0	0	16	0	5	28	0	16	0	22	0	**158**
	SD-2	272	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	90	0	0	0	0	33	0	11	76	0	0	0	0	0	**272**
	SD-3	147	0	0	0	0	72	0	0	0	0	0	0	0	0	7	0	0	0	0	12	0	12	29	0	15	0	0	0	0	0	0	0	0	0	0	0	**147**
	SD-4	152	0	0	0	0	0	0	0	0	0	0	0	0	76	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**152**
	East Bay	284	0	0	0	0	0	242	0	28	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**284**
	North Bay	51	31	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**52**
	South Bay	270	0	0	0	54	203	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**271**
	Other	193	39	0	0	19	0	116	0	10	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**194**
	TOTAL OUT	**1527**	**70**	**0**	**0**	**73**	**275**	**358**	**0**	**38**	**0**	**18**	**41**	**0**	**76**	**7**	**20**	**0**	**89**	**62**	**12**	**19**	**12**	**119**	**0**	**34**	**0**	**0**	**49**	**0**	**16**	**104**	**0**	**16**	**0**	**22**	**0**	1530
	TOTAL TRIPS	**2789**	**70**	**58**	**61**	**73**	**571**	**586**	**31**	**38**	**14**	**18**	**75**	**63**	**76**	**24**	**26**	**73**	**89**	**72**	**64**	**29**	**28**	**119**	**98**	**34**	**28**	**40**	**49**	**13**	**16**	**104**	**86**	**16**	**13**	**22**	**18**	2795

AM Peak Hour Transit Trip Assignment - Maximum Residential Scenario Seawall Lot 337 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit W	AC Transit E	Samtrans NI	Samtrans SE	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	189	0	0	0	0	0	45	0	0	0	0	0	0	0	25	0	15	0	0	0	0	23	0	0	0	23	19	0	6	0	0	34	0	0	0	0	**190**
	SD-2	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	0	0	0	81	0	0	29	0	10	0	0	69	0	0	0	0	**245**
	SD-3	200	0	0	0	0	0	98	0	0	0	0	0	0	0	0	10	0	0	16	0	16	0	0	40	0	20	0	0	0	0	0	0	0	0	0	0	**200**
	SD-4	146	0	0	0	0	0	0	0	0	0	0	0	73	0	0	0	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**146**
	East Bay	285	0	0	0	0	242	0	29	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**285**
	North Bay	50	0	30	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**50**
	South Bay	259	0	0	52	0	0	194	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**259**
	Other	117	0	23	12	0	70	0	6	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**117**
	TOTAL IN	**1491**	**0**	**53**	**64**	**0**	**312**	**337**	**35**	**0**	**15**	**0**	**38**	**73**	**0**	**25**	**10**	**88**	**0**	**16**	**56**	**16**	**23**	**0**	**121**	**0**	**43**	**48**	**0**	**16**	**0**	**0**	**103**	**0**	**0**	**0**	**0**	**1492**
Out	SD-1	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	9	0	0	14	0	0	0	14	0	0	11	0	3	21	0	11	0	16	0	**114**
	SD-2	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	49	0	0	0	0	18	0	6	42	0	0	0	0	0	**149**
	SD-3	121	0	0	0	0	59	0	0	0	0	0	0	0	0	6	0	0	0	0	10	0	10	24	0	12	0	0	0	0	0	0	0	0	0	0	0	**121**
	SD-4	89	0	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**88**
	East Bay	173	0	0	0	0	0	147	0	17	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**173**
	North Bay	30	18	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**30**
	South Bay	157	0	0	0	31	118	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**157**
	Other	71	14	0	0	7	0	43	0	4	0	1	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	**71**
	TOTAL OUT	**903**	**32**	**0**	**0**	**38**	**177**	**190**	**0**	**21**	**0**	**9**	**23**	**0**	**44**	**6**	**15**	**0**	**53**	**34**	**10**	**14**	**10**	**73**	**0**	**26**	**0**	**0**	**29**	**0**	**9**	**63**	**0**	**11**	**0**	**16**	**0**	**903**
	TOTAL TRIPS	**2394**	**32**	**53**	**64**	**38**	**489**	**527**	**35**	**21**	**15**	**9**	**61**	**73**	**44**	**31**	**25**	**88**	**53**	**50**	**66**	**30**	**33**	**73**	**121**	**26**	**43**	**48**	**29**	**16**	**9**	**63**	**103**	**11**	**0**	**16**	**0**	**2395**

PM Peak Hour Transit Trip Assignment - Maximum Residential Scenario Seawall Lot 337 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	**Total**
In	SD-1	114	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	9	0	0	0	0	14	0	0	0	14	11	0	3	0	0	21	0	11	0	16	**114**
	SD-2	214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	0	0	0	71	0	0	26	0	9	0	0	60	0	0	0	0	**215**
	SD-3	115	0	0	0	0	0	56	0	0	0	0	0	0	0	0	6	0	0	9	0	9	0	0	23	0	11	0	0	0	0	0	0	0	0	0	0	**114**
	SD-4	120	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**120**
	East Bay	225	0	0	0	0	191	0	23	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**225**
	North Bay	40	0	24	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**40**
	South Bay	219	0	0	44	0	0	164	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**219**
	Other	150	0	30	15	0	90	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**149**
	TOTAL IN	**1197**	**0**	**54**	**59**	**0**	**281**	**220**	**30**	**0**	**14**	**0**	**31**	**60**	**0**	**15**	**6**	**69**	**0**	**9**	**49**	**9**	**14**	**0**	**94**	**0**	**25**	**37**	**0**	**12**	**0**	**0**	**81**	**0**	**11**	**0**	**16**	**1196**
Out	SD-1	138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	11	0	0	17	0	0	0	17	0	0	14	0	4	25	0	14	0	19	0	**139**
	SD-2	259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	85	0	0	0	0	31	0	10	72	0	0	0	0	0	**258**
	SD-3	138	0	0	0	0	68	0	0	0	0	0	0	0	0	7	0	0	0	0	11	0	11	28	0	14	0	0	0	0	0	0	0	0	0	0	0	**139**
	SD-4	145	0	0	0	0	0	0	0	0	0	0	0	0	72	0	0	0	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**144**
	East Bay	272	0	0	0	0	0	231	0	27	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**272**
	North Bay	48	29	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**48**
	South Bay	264	0	0	0	53	198	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**264**
	Other	181	36	0	0	18	0	109	0	9	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**181**
	TOTAL OUT	**1445**	**65**	**0**	**0**	**71**	**266**	**340**	**0**	**36**	**0**	**17**	**38**	**0**	**72**	**7**	**18**	**0**	**83**	**60**	**11**	**17**	**11**	**113**	**0**	**31**	**0**	**0**	**45**	**0**	**14**	**97**	**0**	**14**	**0**	**19**	**0**	**1445**
	TOTAL TRIPS	**2642**	**65**	**54**	**59**	**71**	**547**	**560**	**30**	**36**	**14**	**17**	**69**	**60**	**72**	**22**	**24**	**69**	**83**	**69**	**60**	**26**	**25**	**113**	**94**	**31**	**25**	**37**	**45**	**12**	**14**	**97**	**81**	**14**	**11**	**19**	**16**	**2641**

AM Peak Hour Transit Trip Assignment - Cumulative Plus Maximum Commercial Scenario - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	222	0	0	0	0	0	53	0	0	0	0	0	0	0	33	0	18	0	0	0	0	27	0	0	0	27	22	0	2	0	0	40	0	0	0	0	**222**
	SD-2	314	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	72	0	0	0	103	0	0	38	0	6	0	0	88	0	0	0	0	**313**
	SD-3	284	0	0	0	0	0	139	0	0	0	0	0	0	0	0	14	0	0	23	0	23	0	0	57	0	28	0	0	0	0	0	0	0	0	0	0	**284**
	SD-4	185	0	0	0	0	0	0	0	0	0	0	0	93	0	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**186**
	East Bay	355	0	0	0	0	301	0	35	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**354**
	North Bay	67	0	40	0	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**67**
	South Bay	261	0	0	52	0	0	196	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**261**
	Other	141	0	28	14	0	84	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**140**
	TOTAL IN	**1827**	**0**	**68**	**66**	**0**	**385**	**388**	**42**	**0**	**16**	**0**	**49**	**99**	**0**	**33**	**14**	**111**	**0**	**23**	**72**	**23**	**27**	**0**	**160**	**0**	**55**	**60**	**0**	**8**	**0**	**0**	**128**	**0**	**0**	**0**	**0**	**1827**
Out	SD-1	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	8	0	0	12	0	0	0	12	0	0	10	0	1	18	0	10	0	14	0	**100**
	SD-2	138	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	32	0	0	0	46	0	0	0	0	17	0	3	39	0	0	0	0	0	**140**
	SD-3	125	0	0	0	0	61	0	0	0	0	0	0	0	0	6	0	0	0	0	10	0	10	25	0	13	0	0	0	0	0	0	0	0	0	0	0	**125**
	SD-4	82	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**82**
	East Bay	156	0	0	0	0	0	133	0	16	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**157**
	North Bay	29	18	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**30**
	South Bay	115	0	0	0	23	86	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**115**
	Other	62	12	0	0	6	0	37	0	3	0	1	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	**61**
	TOTAL OUT	**807**	**30**	**0**	**0**	**29**	**147**	**170**	**0**	**19**	**0**	**7**	**22**	**0**	**44**	**6**	**15**	**0**	**49**	**32**	**10**	**12**	**10**	**71**	**0**	**25**	**0**	**0**	**27**	**0**	**4**	**57**	**0**	**10**	**0**	**14**	**0**	**810**
	TOTAL TRIPS	**2634**	**30**	**68**	**66**	**29**	**532**	**558**	**42**	**19**	**16**	**7**	**71**	**99**	**44**	**39**	**29**	**111**	**49**	**55**	**82**	**35**	**37**	**71**	**160**	**25**	**55**	**60**	**27**	**8**	**4**	**57**	**128**	**10**	**0**	**14**	**0**	**2637**

PM Peak Hour Transit Trip Assignment - Cumulative Plus Maximum Commercial Scenario - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	99	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	8	0	0	0	0	12	0	0	0	12	10	0	1	0	0	18	0	10	0	14	**100**
	SD-2	213	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	49	0	0	0	70	0	0	26	0	4	0	0	60	0	0	0	0	**213**
	SD-3	118	0	0	0	0	0	58	0	0	0	0	0	0	0	0	6	0	0	9	0	9	0	0	24	0	12	0	0	0	0	0	0	0	0	0	0	**118**
	SD-4	118	0	0	0	0	0	0	0	0	0	0	0	59	0	0	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**118**
	East Bay	216	0	0	0	0	184	0	22	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**217**
	North Bay	42	0	25	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**42**
	South Bay	170	0	0	34	0	0	127	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**169**
	Other	145	0	29	14	0	87	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**144**
	TOTAL IN	**1121**	**0**	**54**	**48**	**0**	**271**	**185**	**29**	**0**	**11**	**0**	**32**	**63**	**0**	**15**	**6**	**67**	**0**	**9**	**49**	**9**	**12**	**0**	**94**	**0**	**24**	**36**	**0**	**5**	**0**	**0**	**78**	**0**	**10**	**0**	**14**	1121
Out	SD-1	151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0	12	0	0	18	0	0	0	18	0	0	15	0	2	27	0	15	0	21	0	**151**
	SD-2	327	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	75	0	0	0	108	0	0	0	0	39	0	7	92	0	0	0	0	0	**328**
	SD-3	182	0	0	0	0	89	0	0	0	0	0	0	0	0	9	0	0	0	0	15	0	15	36	0	18	0	0	0	0	0	0	0	0	0	0	0	**182**
	SD-4	181	0	0	0	0	0	0	0	0	0	0	0	0	91	0	0	0	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**182**
	East Bay	332	0	0	0	0	0	282	0	33	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**332**
	North Bay	65	39	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**65**
	South Bay	260	0	0	0	52	195	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**260**
	Other	222	44	0	0	22	0	133	0	11	0	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**221**
	TOTAL OUT	**1720**	**83**	**0**	**0**	**74**	**284**	**415**	**0**	**44**	**0**	**17**	**50**	**0**	**98**	**9**	**23**	**0**	**103**	**75**	**15**	**18**	**15**	**144**	**0**	**36**	**0**	**0**	**54**	**0**	**9**	**119**	**0**	**15**	**0**	**21**	**0**	1721
	TOTAL TRIPS	**2841**	**83**	**54**	**48**	**74**	**555**	**600**	**29**	**44**	**11**	**17**	**82**	**63**	**98**	**24**	**29**	**67**	**103**	**84**	**64**	**27**	**27**	**144**	**94**	**36**	**24**	**36**	**54**	**5**	**9**	**119**	**78**	**15**	**10**	**21**	**14**	2842

AM Peak Hour Transit Trip Assignment - Cumulative Plus Maximum Commercial Scenario Seawall Lot 337 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NI	Samtrans SE	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	217	0	0	0	0	0	52	0	0	0	0	0	0	0	33	0	17	0	0	0	0	26	0	0	0	26	22	0	2	0	0	39	0	0	0	0	**217**
	SD-2	304	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	70	0	0	0	100	0	0	36	0	6	0	0	85	0	0	0	0	**303**
	SD-3	276	0	0	0	0	0	135	0	0	0	0	0	0	0	0	14	0	0	22	0	22	0	0	55	0	28	0	0	0	0	0	0	0	0	0	0	**276**
	SD-4	180	0	0	0	0	0	0	0	0	0	0	0	90	0	0	0	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**180**
	East Bay	343	0	0	0	0	291	0	34	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**342**
	North Bay	64	0	38	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**64**
	South Bay	255	0	0	51	0	0	191	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**255**
	Other	139	0	28	14	0	83	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**139**
	TOTAL IN	**1777**	**0**	**66**	**65**	**0**	**374**	**378**	**41**	**0**	**16**	**0**	**47**	**96**	**0**	**33**	**14**	**107**	**0**	**22**	**70**	**22**	**26**	**0**	**155**	**0**	**54**	**58**	**0**	**8**	**0**	**0**	**124**	**0**	**0**	**0**	**0**	**1776**
Out	SD-1	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	8	0	0	12	0	0	0	12	0	0	10	0	1	18	0	10	0	14	0	**100**
	SD-2	137	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	32	0	0	0	45	0	0	0	0	16	0	3	38	0	0	0	0	0	**137**
	SD-3	124	0	0	0	0	61	0	0	0	0	0	0	0	0	6	0	0	0	0	10	0	10	25	0	12	0	0	0	0	0	0	0	0	0	0	0	**124**
	SD-4	81	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**82**
	East Bay	154	0	0	0	0	0	131	0	15	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**154**
	North Bay	29	17	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**29**
	South Bay	115	0	0	0	23	86	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**115**
	Other	62	12	0	0	6	0	37	0	3	0	1	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	**61**
	TOTAL OUT	**801**	**29**	**0**	**0**	**29**	**147**	**168**	**0**	**18**	**0**	**7**	**22**	**0**	**44**	**6**	**15**	**0**	**49**	**32**	**10**	**12**	**10**	**70**	**0**	**24**	**0**	**0**	**26**	**0**	**4**	**56**	**0**	**10**	**0**	**14**	**0**	**802**
	TOTAL TRIPS	**2578**	**29**	**66**	**65**	**29**	**521**	**546**	**41**	**18**	**16**	**7**	**69**	**96**	**44**	**39**	**29**	**107**	**49**	**54**	**80**	**34**	**36**	**70**	**155**	**24**	**54**	**58**	**26**	**8**	**4**	**56**	**124**	**10**	**0**	**14**	**0**	**2578**

PM Peak Hour Transit Trip Assignment - Cumulative Plus Maximum Commercial Scenario Seawall Lot 337 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit W	AC Transit E	Samtrans NB	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	92	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	7	0	0	0	0	11	0	0	0	11	9	0	1	0	0	17	0	9	0	13	**92**
	SD-2	203	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	47	0	0	0	67	0	0	24	0	4	0	0	57	0	0	0	0	**203**
	SD-3	111	0	0	0	0	0	55	0	0	0	0	0	0	0	0	6	0	0	9	0	9	0	0	22	0	11	0	0	0	0	0	0	0	0	0	0	**112**
	SD-4	113	0	0	0	0	0	0	0	0	0	0	0	56	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**112**
	East Bay	206	0	0	0	0	175	0	21	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**206**
	North Bay	40	0	24	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**40**
	South Bay	164	0	0	33	0	0	123	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**164**
	Other	135	0	27	14	0	81	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**136**
	TOTAL IN	**1065**	**0**	**51**	**47**	**0**	**256**	**178**	**28**	**0**	**11**	**0**	**30**	**60**	**0**	**14**	**6**	**63**	**0**	**9**	**47**	**9**	**11**	**0**	**89**	**0**	**22**	**33**	**0**	**5**	**0**	**0**	**74**	**0**	**9**	**0**	**13**	**1065**
Out	SD-1	143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	11	0	0	17	0	0	0	17	0	0	14	0	1	26	0	14	0	20	0	**141**
	SD-2	315	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	72	0	0	0	104	0	0	0	0	38	0	6	88	0	0	0	0	0	**314**
	SD-3	173	0	0	0	0	85	0	0	0	0	0	0	0	0	9	0	0	0	0	14	0	14	35	0	17	0	0	0	0	0	0	0	0	0	0	0	**174**
	SD-4	175	0	0	0	0	0	0	0	0	0	0	0	0	88	0	0	0	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**176**
	East Bay	320	0	0	0	0	0	272	0	32	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**320**
	North Bay	61	37	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**62**
	South Bay	255	0	0	0	51	191	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**255**
	Other	210	42	0	0	21	0	126	0	10	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**209**
	TOTAL OUT	**1651**	**79**	**0**	**0**	**72**	**276**	**398**	**0**	**42**	**0**	**17**	**47**	**0**	**94**	**9**	**21**	**0**	**99**	**72**	**14**	**17**	**14**	**139**	**0**	**34**	**0**	**0**	**52**	**0**	**7**	**114**	**0**	**14**	**0**	**20**	**0**	**1651**
	TOTAL TRIPS	**2716**	**79**	**51**	**47**	**72**	**532**	**576**	**28**	**42**	**11**	**17**	**77**	**60**	**94**	**23**	**27**	**63**	**99**	**81**	**61**	**26**	**25**	**139**	**89**	**34**	**22**	**33**	**52**	**5**	**7**	**114**	**74**	**14**	**9**	**20**	**13**	**2716**

AM Peak Hour Transit Trip Assignment - Cumulative Plus Pier 48 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	**Total**
In	SD-1	5	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	**5**
	SD-2	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	1	0	0	0	0	3	0	0	0	0	**9**
	SD-3	8	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	**9**
	SD-4	6	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
	East Bay	13	0	0	0	0	11	0	1	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	**13**
	North Bay	3	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	0	**3**
	South Bay	6	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
	Other	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	**1**
	TOTAL IN	**50**	**0**	**2**	**1**	**0**	**12**	**9**	**1**	**0**	**0**	**0**	**2**	**3**	**0**	**1**	**0**	**3**	**0**	**1**	**2**	**1**	**1**	**0**	**5**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**51**
Out	SD-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**
	SD-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	0	0	0	0	0	0	0	0	0	0	**0**
	SD-3	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**
	SD-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	East Bay	1	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	**1**
	North Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	South Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	TOTAL OUT	**4**	**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**	**1**
	TOTAL TRIPS	**54**	**0**	**2**	**1**	**0**	**12**	**10**	**1**	**0**	**0**	**0**	**2**	**3**	**0**	**1**	**0**	**3**	**0**	**1**	**2**	**1**	**1**	**0**	**5**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**52**

AM Peak Hour Transit Trip Assignment - Cumulative Plus Pier 48 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	0	1	0	1	**8**
	SD-2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	1	0	0	0	0	3	0	0	0	0	**9**
	SD-3	7	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	**7**
	SD-4	5	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
	East Bay	10	0	0	0	0	9	0	1	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	**11**
	North Bay	3	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	0	**3**
	South Bay	5	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
	Other	10	0	2	1	0	6	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	**10**
	TOTAL IN	**56**	**0**	**4**	**2**	**0**	**15**	**7**	**2**	**0**	**0**	**0**	**2**	**3**	**0**	**1**	**0**	**4**	**0**	**1**	**2**	**1**	**1**	**0**	**4**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**1**	**59**
Out	SD-1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	1	0	0	1	0	1	0	1	0	**8**
	SD-2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	0	1	0	0	3	0	0	0	0	0	**11**
	SD-3	8	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	**9**
	SD-4	6	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
	East Bay	12	0	0	0	0	0	10	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	**12**
	North Bay	3	2	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	**3**
	South Bay	6	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
	Other	12	2	0	0	1	0	7	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	**11**
	TOTAL OUT	**68**	**4**	**0**	**0**	**2**	**9**	**17**	**0**	**2**	**0**	**0**	**2**	**0**	**3**	**0**	**1**	**0**	**4**	**3**	**1**	**1**	**1**	**6**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**4**	**0**	**1**	**0**	**1**	**0**	**66**
	TOTAL TRIPS	**124**	**4**	**4**	**2**	**2**	**24**	**24**	**2**	**2**	**0**	**0**	**4**	**3**	**3**	**1**	**1**	**4**	**4**	**4**	**3**	**2**	**2**	**6**	**4**	**2**	**2**	**2**	**2**	**0**	**0**	**4**	**4**	**1**	**1**	**1**	**1**	**125**

AM Peak Hour Transit Trip Assignment - Cumulative Plus Maximum Residential Scenario - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	194	0	0	0	0	0	47	0	0	0	0	0	0	0	29	0	16	0	0	0	0	23	0	0	0	23	19	0	2	0	0	35	0	0	0	0	**194**
	SD-2	254	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	58	0	0	0	84	0	0	31	0	5	0	0	71	0	0	0	0	**254**
	SD-3	208	0	0	0	0	0	102	0	0	0	0	0	0	0	0	10	0	0	17	0	17	0	0	42	0	21	0	0	0	0	0	0	0	0	0	0	**209**
	SD-4	152	0	0	0	0	0	0	0	0	0	0	0	76	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**152**
	East Bay	297	0	0	0	0	253	0	30	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**298**
	North Bay	52	0	31	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**52**
	South Bay	266	0	0	53	0	0	199	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**265**
	Other	120	0	24	12	0	72	0	6	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**120**
	TOTAL IN	**1543**	**0**	**55**	**65**	**0**	**325**	**348**	**36**	**0**	**15**	**0**	**40**	**81**	**0**	**29**	**10**	**92**	**0**	**17**	**58**	**17**	**23**	**0**	**126**	**0**	**44**	**50**	**0**	**7**	**0**	**0**	**106**	**0**	**0**	**0**	**0**	1544
Out	SD-1	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	9	0	0	14	0	0	0	14	0	0	11	0	1	21	0	11	0	16	0	**114**
	SD-2	150	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	34	0	0	0	49	0	0	0	0	18	0	3	42	0	0	0	0	0	**149**
	SD-3	122	0	0	0	0	60	0	0	0	0	0	0	0	0	6	0	0	0	0	10	0	10	24	0	12	0	0	0	0	0	0	0	0	0	0	0	**122**
	SD-4	90	0	0	0	0	0	0	0	0	0	0	0	0	45	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**90**
	East Bay	175	0	0	0	0	0	149	0	17	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**175**
	North Bay	31	18	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**30**
	South Bay	156	0	0	0	31	117	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**156**
	Other	70	14	0	0	7	0	42	0	4	0	1	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	**70**
	TOTAL OUT	**908**	**32**	**0**	**0**	**38**	**177**	**191**	**0**	**21**	**0**	**9**	**23**	**0**	**48**	**6**	**17**	**0**	**54**	**34**	**10**	**14**	**10**	**73**	**0**	**26**	**0**	**0**	**29**	**0**	**4**	**63**	**0**	**11**	**0**	**16**	**0**	906
	TOTAL TRIPS	**2451**	**32**	**55**	**65**	**38**	**502**	**539**	**36**	**21**	**15**	**9**	**63**	**81**	**48**	**35**	**27**	**92**	**54**	**51**	**68**	**31**	**33**	**73**	**126**	**26**	**44**	**50**	**29**	**7**	**4**	**63**	**106**	**11**	**0**	**16**	**0**	2450

PM Peak Hour Transit Trip Assignment - Cumulative Plus Maximum Residential Scenario - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit V	AC Transit E	Samtrans NE	Samtrans SB	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	130	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	10	0	0	0	0	16	0	0	0	16	13	0	1	0	0	23	0	13	0	18	**129**
	SD-2	224	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	52	0	0	0	74	0	0	27	0	4	0	0	63	0	0	0	0	**224**
	SD-3	122	0	0	0	0	0	60	0	0	0	0	0	0	0	0	6	0	0	10	0	10	0	0	24	0	12	0	0	0	0	0	0	0	0	0	0	**122**
	SD-4	125	0	0	0	0	0	0	0	0	0	0	0	63	0	0	0	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**126**
	East Bay	235	0	0	0	0	200	0	23	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**235**
	North Bay	43	0	26	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**43**
	South Bay	224	0	0	45	0	0	168	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**224**
	Other	160	0	32	16	0	96	0	8	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**160**
	TOTAL IN	**1262**	**0**	**58**	**61**	**0**	**296**	**228**	**31**	**0**	**14**	**0**	**34**	**67**	**0**	**19**	**6**	**73**	**0**	**10**	**52**	**10**	**16**	**0**	**98**	**0**	**28**	**40**	**0**	**5**	**0**	**0**	**86**	**0**	**13**	**0**	**18**	**1263**
Out	SD-1	157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	13	0	0	19	0	0	0	19	0	0	16	0	2	28	0	16	0	22	0	**159**
	SD-2	272	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	62	0	0	0	90	0	0	0	0	33	0	5	76	0	0	0	0	0	**271**
	SD-3	147	0	0	0	0	72	0	0	0	0	0	0	0	0	7	0	0	0	0	12	0	12	29	0	15	0	0	0	0	0	0	0	0	0	0	0	**147**
	SD-4	152	0	0	0	0	0	0	0	0	0	0	0	0	76	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**152**
	East Bay	284	0	0	0	0	0	242	0	28	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**284**
	North Bay	51	31	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**52**
	South Bay	270	0	0	0	54	203	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**271**
	Other	193	39	0	0	19	0	116	0	10	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**194**
	TOTAL OUT	**1527**	**70**	**0**	**0**	**73**	**275**	**358**	**0**	**38**	**0**	**18**	**41**	**0**	**81**	**7**	**24**	**0**	**89**	**62**	**12**	**19**	**12**	**119**	**0**	**34**	**0**	**0**	**49**	**0**	**7**	**104**	**0**	**16**	**0**	**22**	**0**	**1530**
	TOTAL TRIPS	**2789**	**70**	**58**	**61**	**73**	**571**	**586**	**31**	**38**	**14**	**18**	**75**	**67**	**81**	**26**	**30**	**73**	**89**	**72**	**64**	**29**	**28**	**119**	**98**	**34**	**28**	**40**	**49**	**5**	**7**	**104**	**86**	**16**	**13**	**22**	**18**	**2793**

AM Peak Hour Transit Trip Assignment - Cumulative Plus Maximum Residential Scenario Seawall Lot 337 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit W	AC Transit E	Samtrans N	Samtrans SE	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	189	0	0	0	0	0	45	0	0	0	0	0	0	0	28	0	15	0	0	0	0	23	0	0	0	23	19	0	2	0	0	34	0	0	0	0	**189**
	SD-2	245	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	56	0	0	0	81	0	0	29	0	5	0	0	69	0	0	0	0	**245**
	SD-3	200	0	0	0	0	0	98	0	0	0	0	0	0	0	0	10	0	0	16	0	16	0	0	40	0	20	0	0	0	0	0	0	0	0	0	0	**200**
	SD-4	146	0	0	0	0	0	0	0	0	0	0	0	73	0	0	0	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**146**
	East Bay	285	0	0	0	0	242	0	29	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**285**
	North Bay	50	0	30	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**50**
	South Bay	259	0	0	52	0	0	194	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**259**
	Other	117	0	23	12	0	70	0	6	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**117**
	TOTAL IN	**1491**	**0**	**53**	**64**	**0**	**312**	**337**	**35**	**0**	**15**	**0**	**38**	**78**	**0**	**28**	**10**	**88**	**0**	**16**	**56**	**16**	**23**	**0**	**121**	**0**	**43**	**48**	**0**	**7**	**0**	**0**	**103**	**0**	**0**	**0**	**0**	**1491**
Out	SD-1	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	9	0	0	14	0	0	0	14	0	0	11	0	1	21	0	11	0	16	0	**114**
	SD-2	148	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	34	0	0	0	49	0	0	0	0	18	0	3	42	0	0	0	0	0	**149**
	SD-3	121	0	0	0	0	59	0	0	0	0	0	0	0	0	6	0	0	0	0	10	0	10	24	0	12	0	0	0	0	0	0	0	0	0	0	0	**121**
	SD-4	89	0	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**88**
	East Bay	173	0	0	0	0	0	147	0	17	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**173**
	North Bay	30	18	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**30**
	South Bay	157	0	0	0	31	118	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**157**
	Other	71	14	0	0	7	0	43	0	4	0	1	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	**71**
	TOTAL OUT	**903**	**32**	**0**	**0**	**38**	**177**	**190**	**0**	**21**	**0**	**9**	**23**	**0**	**47**	**6**	**17**	**0**	**53**	**34**	**10**	**14**	**10**	**73**	**0**	**26**	**0**	**0**	**29**	**0**	**4**	**63**	**0**	**11**	**0**	**16**	**0**	**903**
	TOTAL TRIPS	**2394**	**32**	**53**	**64**	**38**	**489**	**527**	**35**	**21**	**15**	**9**	**61**	**78**	**47**	**34**	**27**	**88**	**53**	**50**	**66**	**30**	**33**	**73**	**121**	**26**	**43**	**48**	**29**	**7**	**4**	**63**	**103**	**11**	**0**	**16**	**0**	**2394**

PM Peak Hour Transit Trip Assignment - Cumulative Plus Maximum Residential Scenario Seawall Lot 337 Only - # trips

			GGT NB	GGT SB	Caltrain NB	Caltrain SB	BART WB	BART EB	AC Transit W	AC Transit E	Samtrans NI	Samtrans SE	Ferries	K/T IB	K/T OB	T (K/T) IB	T (K/T) OB	N IB	N OB	10 IB	10 OB	12 IB	12 OB	22 IB	22 OB	27 IB	27 OB	30 IB	30 OB	45 IB	45 OB	47 IB	47 OB	81 IB	81 OB	82 IB	82 OB	Total
In	SD-1	114	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	9	0	0	0	0	14	0	0	0	14	11	0	1	0	0	21	0	11	0	16	**114**
	SD-2	214	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	49	0	0	0	71	0	0	26	0	4	0	0	60	0	0	0	0	**214**
	SD-3	115	0	0	0	0	0	56	0	0	0	0	0	0	0	0	6	0	0	9	0	9	0	0	23	0	11	0	0	0	0	0	0	0	0	0	0	**114**
	SD-4	120	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**120**
	East Bay	225	0	0	0	0	191	0	23	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**225**
	North Bay	40	0	24	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**40**
	South Bay	219	0	0	44	0	0	164	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**219**
	Other	150	0	30	15	0	90	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**149**
	TOTAL IN	**1197**	**0**	**54**	**59**	**0**	**281**	**220**	**30**	**0**	**14**	**0**	**31**	**64**	**0**	**17**	**6**	**69**	**0**	**9**	**49**	**9**	**14**	**0**	**94**	**0**	**25**	**37**	**0**	**5**	**0**	**0**	**81**	**0**	**11**	**0**	**16**	**1195**
Out	SD-1	138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	11	0	0	17	0	0	0	17	0	0	14	0	1	25	0	14	0	19	0	**139**
	SD-2	259	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	60	0	0	0	85	0	0	0	0	31	0	5	72	0	0	0	0	0	**258**
	SD-3	138	0	0	0	0	68	0	0	0	0	0	0	0	0	7	0	0	0	0	11	0	11	28	0	14	0	0	0	0	0	0	0	0	0	0	0	**139**
	SD-4	145	0	0	0	0	0	0	0	0	0	0	0	0	72	0	0	0	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**144**
	East Bay	272	0	0	0	0	0	231	0	27	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**272**
	North Bay	48	29	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**48**
	South Bay	264	0	0	0	53	198	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**264**
	Other	181	36	0	0	18	0	109	0	9	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**181**
	TOTAL OUT	**1445**	**65**	**0**	**0**	**71**	**266**	**340**	**0**	**36**	**0**	**17**	**38**	**0**	**77**	**7**	**21**	**0**	**83**	**60**	**11**	**17**	**11**	**113**	**0**	**31**	**0**	**0**	**45**	**0**	**6**	**97**	**0**	**14**	**0**	**19**	**0**	**1445**
	TOTAL TRIPS	**2642**	**65**	**54**	**59**	**71**	**547**	**560**	**30**	**36**	**14**	**17**	**69**	**64**	**77**	**24**	**27**	**69**	**83**	**69**	**60**	**26**	**25**	**113**	**94**	**31**	**25**	**37**	**45**	**5**	**6**	**97**	**81**	**14**	**11**	**19**	**16**	**2640**

Seawall Lot (Mission Rock) Transit Impacts Mitigation - Calculation of additional buses needed to remove impact

Baseline 2020 Transit Capacity Summary

Muni Line	Scenario	Time Period	Muni Route & Screenline	Baseline Ridership	Baseline Capacity	Baseline Utilization	Project Trips	Baseline Plus Project Projected Ridership	Baseline Plus Project Utilization	Baseline Plus Project Total Needed Capacity*	Baseline Plus Project Additional Needed Capacity	Number of Needed Additional Buses**	Project's Fair Share Percent of Additional Buses	Project's Fair Share Cost	Percent of Project development that triggers transit impact
10	Max Commercial	AM	10 OB NE	304	315	**97%**	82	386	123%	380	65	2	103%	$991,230	24%
			10 IB SE	378	315	**120%**	55	433	137%	346	31	1	50%	$477,465	39%
		PM	10 IB NE	386	315	**123%**	84	470	149%	369	54	1	85%	$813,710	28%
			10 OB SE	299	315	**95%**	64	363	115%	363	48	1	77%	$734,268	28%
	Max Residential	AM	10 OB NE	304	315	**97%**	68	372	118%	366	51	1	82%	$782,706	27%
			10 IB SE	378	315	**120%**	51	429	136%	343	28	1	45%	$428,807	42%
		PM	10 IB NE	386	315	**123%**	72	458	145%	359	44	1	70%	$670,640	32%
			10 OB SE	299	315	**95%**	64	363	115%	363	48	1	77%	$734,268	28%
30	Max Commercial	PM	30 OB Project Cordon	424	470	**90%**	54	478	102%	502	32	1	34%	$417,691	44%
												maximum per scenario		maximum per scenario	minimum

*Total Needed Capacity = Capacity so that projected ridership is less than 85% of capacity if baseline utilization is less than 85%

** Added buses required to increase capacity such that (1) the capacity utilization for the impacted line is less than 85 percent, or (2) the increment in capacity utilization between the Baseline and Plus Project scenarios is less than five percent where Plus Project capacity utilization is 90 percent or more.

Capacity per bus is based on TA data (see "2020 Muni Screenlines and Individual Muni lines" spreadsheet). Values shown below.

Muni Line	Bus Capacity	Bus Type	Cost / Bus
10	63	Standard	$957,972
30	94	Articulated	$1,225,682

Cumulative 2040 Transit Capacity Summary

Muni Line	Scenario	Time Period	Muni Route & Screenline	Cumulative Ridership	Cumulative Capacity	Cumulative Utilization	Project Trips	Cumulative Plus Project Projected Ridership	Cumulative Plus Project Utilization	Cumulative Plus Project Total Needed Capacity*	Cumulative Plus Project Additional Needed Capacity	Number of Needed Additional Buses**	Project's Fair Share Percent of Additional Buses	Project's Fair Share Cost	Percent of Project development that triggers transit impact
10	Max Commercial	AM	10 IB SE	544	630	**86%**	55	599	95%	656	26	1	41%	$391,179	54%
		PM	10 IB NE	482	630	77%	84	566	90%	666	36	1	57%	$545,624	34%
			10 OB SE	627	630	**100%**	64	691	110%	661	31	1	49%	$472,803	54%
	Max Residential	AM	10 IB SE	544	630	**86%**	51	595	94%	651	21	1	34%	$324,595	58%
		PM	10 IB NE	482	630	77%	72	554	88%	652	22	1	35%	$330,952	38%
			10 OB SE	627	630	**100%**	64	691	110%	661	31	1	49%	$472,803	54%
												maximum per scenario		maximum per scenario	minimum

*Total Needed Capacity = Capacity so that projected ridership is less than 85% of capacity if baseline utilization is less than 85%

** Added buses required to increase capacity such that (1) the capacity utilization for the impacted line is less than 85 percent, or (2) the increment in capacity utilization between the Baseline and Plus Project scenarios is less than five percent where Plus Project capacity utilization is 90 percent or more.

Capacity per bus is based on TA data (see "2020 Muni Screenlines and Individual Muni lines" spreadsheet). Values shown below.

Muni Line	Bus Capacity	Bus Type	Cost / Bus
10	63	Standard	$957,972
30	94	Articulated	$1,225,682

APPENDIX D: PEDESTRIAN LEVEL OF SERVICE DESCRIPTION AND CALCULATIONS

TABLE 1
LEVEL OF SERVICE DEFINITIONS FOR PEDESTRIAN WALKWAY

Level of Service	Space (ft2/p)	Definition
A	>60	Pedestrians move in desired paths without altering their movements in response to other pedestrians. Waling speeds are freely selected, and conflicts between pedestrians are unlikely.
B	>40-60	There is sufficient area for pedestrians to select walking speeds freely, to bypass other pedestrians and to avoid crossing conflicts At this level, pedestrian begins to be aware of other pedestrians and to respond to their presence when selecting a walking path.
C	>24-60	Space is sufficient for normal walking speeds, and for bypassing other pedestrians in primarily undirectional streams. Reverse-direction or crossing movements can cause minor conflicts, and speeds and flow rate are somewhat lower.
D	>15-24	Freedom to select individual walking speed and to bypass other pedestrians is restricted. Crossing or reverse-flow movements face a high probability of conflict, requiring frequent changes in speed and position. The LOS provides reasonably fluid flow, but but friction and interaction between pedestrians is likely.
E	>8-15	Virtually all pedestrians restrict their normal walking speed, frequently adjusting their gait. At the lower range, forward movement is possible only by shuffling. Space is not sufficient for bypassing slower pedestrians. Cross- or reverse-flow movements are possible only with extreme difficulties. Design volumes approach the limit of walkway capacity, with stoppages and interruptions to flow.
F	<=8	All walking speeds are severely restricted, and forward progress is made by shuffling. There is frequent, unavoidable contact with other pedestrians. Cross- and reverse-flow movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrian streams.

Source: *Highway Capacity Manual 2000, Exhibit 11-8*

Central Corridor EIR
Pedestrian Crosswalk Analysis

Int. ID	Crosswalk Location	Cycle Length (sec.)	Pedestrian Green Time (sec.)	Pedestrians Hourly	Max Ped. Per 15 minutes	Max Ped. per 15 minutes NB or EB	Max Ped. per 15 minutes SB or WB	Length (L) (feet)	Width (W) (feet)
8	**Fourth Street / King Street**								
	AM Peak Hour				2055				
	North	110	35.9	505	149	75	75	75	20
	South	110	37.0	220	82	41	41	91	15
	East	110	38.2	296	93	47	47	125	21
	West	110	38.2	1034	334	167	167	129	31
	PM Peak Hour without Giants Game				3782				
	North	110	35.9	695	174	87	87	75	20
	South	110	37	761	190	95	95	91	15
	East	110	38.2	678	170	85	85	125	21
	West	110	38.2	1648	412	206	206	129	31

Central Corridor EIR
Pedestrian Crosswalk Level of Service Calculations

Pedestrian walking speed: 3.5 feet/sec

Int. ID	Crosswalk Location	Time-space TS (sq.ft.-sec)	Pedestrian Flow NB or EB (ped/cycle)	Pedestrian Flow SB or WB (ped/cycle)	Max no. ped accumulated N (ped/cycle)	Crossing Time t (sec)	Occupancy Time T (ped-sec)	Space per ped. crossing M (sq.ft./ped)	LOS		
8	**Fourth Street / King Street**										
	AM Peak Hour										
	North	37779	9	9	6	25.5	463.6	81.5	A	89.4	A
	South	32760	5	5	3	29.8	298.6	109.7	A		
	East	53400	6	6	4	39.4	447.7	119.3	A		
	West	79066	20	20	13	41.2	1682.6	47.0	B		
	PM Peak Hour without Giants Game										
	North	37779	11	11	7	25.6	544.3	69.4	A	54.5	B
	South	32760	12	12	8	30.6	710.3	46.1	B		
	East	53400	10	10	7	39.8	826.7	64.6	A		
	West	79066	25	25	16	41.5	2089.2	37.8	C		

Central Corridor EIR
Pedestrian Crosswalk Analysis Maximum Commercial Scenario

Int. ID	Crosswalk Location	Cycle Length (sec.)	Pedestrian Green Time (sec.)	Pedestrians Hourly	Max Ped. Per 15 minutes	Max Ped. per 15 minutes NB or EB	Max Ped. per 15 minutes SB or WB	Length (L) (feet)	Width (W) (feet)
8	**Fourth Street / King Street**								
	AM Peak Hour				5138				
	North	110	35.9	1262.5	372.5	186	186	75	20
	South	110	37.0	550	205	103	103	91	15
	East	110	38.2	740	232.5	116	116	125	21
	West	110	38.2	2585	835	418	418	129	31
	PM Peak Hour without Giants Game				8631				
	North	110	35.9	1737.5	435	218	218	75	20
	South	110	37	1902.5	475	238	238	91	15
	East	110	38.2	1695	425	213	213	125	21
	West	110	38.2	3296	824	412	412	129	31

Central Corridor EIR
Pedestrian Crosswalk Level of Service Calculations **Maximum Commercial Scenario**

Pedestrian walking speed: 3.5 feet/sec

Int. ID	Crosswalk Location	Time-space TS (sq.ft.-sec)	Pedestrian Flow NB or EB (ped/cycle)	Pedestrian Flow SB or WB (ped/cycle)	Max no. ped accumulated N (ped/cycle)	Crossing Time t (sec)	Occupancy Time T (ped-sec)	Space per ped. crossing M (sq.ft./ped)	LOS		
8	**Fourth Street / King Street**										
	AM Peak Hour										
	North	37779	23	23	15	26.7	1215.5	31.1	C	34.6	C
	South	32760	13	13	8	30.7	769.1	42.6	B		
	East	53400	14	14	9	40.1	1139.7	46.9	B		
	West	79066	51	51	33	43.0	4384.1	18.0	D		
	PM Peak Hour without Giants Game										
	North	37779	27	27	18	27.0	1438.0	26.3	C	21.7	D
	South	32760	29	29	19	32.7	1896.5	17.3	D		
	East	53400	26	26	17	41.1	2134.6	25.0	C		
	West	79066	50	50	33	42.9	4322.5	18.3	D		

Central Corridor EIR
Pedestrian Crosswalk Analysis Maximum Residential Scenario

Int. ID	Crosswalk Location	Cycle Length (sec.)	Pedestrian Green Time (sec.)	Pedestrians Hourly	Max Ped. Per 15 minutes	Max Ped. per 15 minutes NB or EB	Max Ped. per 15 minutes SB or WB	Length (L) (feet)	Width (W) (feet)
8	**Fourth Street / King Street**								
	AM Peak Hour				4932				
	North	110	35.9	1212	357.6	179	179	75	20
	South	110	37.0	528	196.8	98	98	91	15
	East	110	38.2	710.4	223.2	112	112	125	21
	West	110	38.2	2481.6	801.6	401	401	129	31
	PM Peak Hour without Giants Game				8253				
	North	110	35.9	1668	417.6	209	209	75	20
	South	110	37	1826.4	456	228	228	91	15
	East	110	38.2	1627.2	408	204	204	125	21
	West	110	38.2	3131.2	782.8	391	391	129	31

Central Corridor EIR
Pedestrian Crosswalk Level of Service Calculations **Maximum Residential Scenario**

Pedestrian walking speed: 3.5 feet/sec

Int. ID	Crosswalk Location	Time-space TS (sq.ft.-sec)	Pedestrian Flow NB or EB (ped/cycle)	Pedestrian Flow SB or WB (ped/cycle)	Max no. ped accumulated N (ped/cycle)	Crossing Time t (sec)	Occupancy Time T (ped-sec)	Space per ped. crossing M (sq.ft./ped)	LOS		
8	**Fourth Street / King Street**										
	AM Peak Hour										
	North	37779	22	22	15	26.6	1163.3	32.5	C	36.2	C
	South	32760	12	12	8	30.6	736.9	44.5	B		
	East	53400	14	14	9	40.1	1092.8	48.9	B		
	West	79066	49	49	32	42.8	4197.4	18.8	D		
	PM Peak Hour without Giants Game										
	North	37779	26	26	17	26.9	1375.5	27.5	C	22.7	D
	South	32760	28	28	18	32.5	1812.9	18.1	D		
	East	53400	25	25	16	41.0	2044.9	26.1	C		
	West	79066	48	48	31	42.8	4092.7	19.3	D		

Pedestrian Sidewalk Analysis

Existing Conditions

	Sidewalk Widths		AM					PM					PM with Giants				
	Actual	Effective	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS
Third Street Bridge - East	7	5	131	41	0.5	A	B	209	59	0.8	A	B	907	256	3.4	A	C
Third Street Bridge - West	7	5	75	21	0.3	A	A	120	36	0.5	A	A	125	39	0.5	A	B
Fourth Street Bridge - East	7	5	50	16	0.2	A	A	19	7	0.1	A	A	28	9	0.1	A	A
Fourth Street Bridge - West	7	5	145	41	0.5	A	B	213	57	0.8	A	B	205	61	0.8	A	B

Plus Project (Scenario A) + Transit Trips

	Sidewalk Widths		AM					PM					PM with Giants				
	Actual	Effective	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS
Third Street Bridge - East	7	5	327	102	1.4	A	B	523	148	2.0	A	B	2,267	640	8.5	C	D
Third Street Bridge - West	7	5	187	52	0.7	A	B	300	90	1.2	A	B	313	98	1.3	A	B
Fourth Street Bridge - East	7	5	126	40	0.5	A	B	47	17	0.2	A	A	70	23	0.3	A	A
Fourth Street Bridge - West	7	5	363	103	1.4	A	B	533	143	1.9	A	B	513	153	2.0	A	B

Plus Project (Scenario B) + Transit Trips

	Sidewalk Widths		AM					PM					PM with Giants				
	Actual	Effective	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS	Hourly volumes	15-min volumes	flow rate p/min/ft	avg LOS	platoon LOS
Third Street Bridge - East	7	5	315	99	1.3	A	B	501	141	1.9	A	B	2,177	614	8.2	C	D
Third Street Bridge - West	7	5	181	51	0.7	A	B	288	86	1.2	A	B	301	94	1.3	A	B
Fourth Street Bridge - East	7	5	120	38	0.5	A	B	45	17	0.2	A	A	68	22	0.3	A	A
Fourth Street Bridge - West	7	5	349	99	1.3	A	B	511	137	1.8	A	B	493	147	2.0	A	B

APPENDIX E: TRAFFIC VOLUME AND INTERSECTION TURNING MOVEMENT COUNTS

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

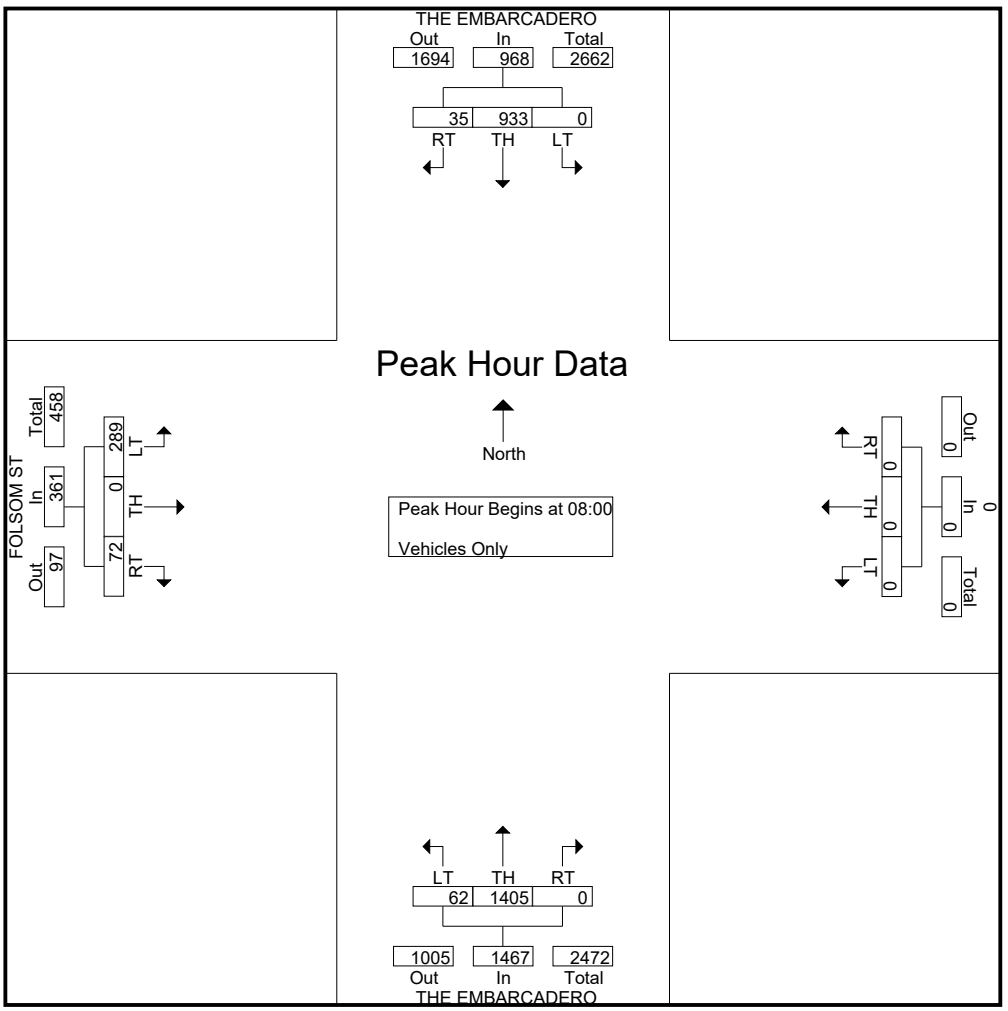
CITY OF SAN FRANCISCO
SOMA Intersections

File Name : embarcadero-folsom-a
Site Code : 2
Start Date : 4/9/2013
Page No : 1

Groups Printed- Vehicles Only

	THE EMBARCADERO Southbound				0 Westbound				THE EMBARCADERO Northbound				FOLSOM ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	6	225	0	231	0	0	0	0	0	268	11	279	16	0	48	64	574
07:15	5	232	0	237	0	0	0	0	0	293	14	307	13	0	51	64	608
07:30	6	254	0	260	0	0	0	0	0	329	18	347	14	0	66	80	687
07:45	9	231	0	240	0	0	0	0	0	317	12	329	21	0	55	76	645
Total	26	942	0	968	0	0	0	0	0	1207	55	1262	64	0	220	284	2514
08:00	7	213	0	220	0	0	0	0	0	341	12	353	20	0	72	92	665
08:15	10	212	0	222	0	0	0	0	0	336	21	357	20	0	71	91	670
08:30	9	232	0	241	0	0	0	0	0	333	15	348	17	0	77	94	683
08:45	9	276	0	285	0	0	0	0	0	395	14	409	15	0	69	84	778
Total	35	933	0	968	0	0	0	0	0	1405	62	1467	72	0	289	361	2796
Grand Total	61	1875	0	1936	0	0	0	0	0	2612	117	2729	136	0	509	645	5310
Apprch %	3.2	96.8	0		0	0	0		0	95.7	4.3		21.1	0	78.9		
Total %	1.1	35.3	0	36.5	0	0	0	0	0	49.2	2.2	51.4	2.6	0	9.6	12.1	

	THE EMBARCADERO Southbound				0 Westbound				THE EMBARCADERO Northbound				FOLSOM ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	7	213	0	220	0	0	0	0	0	341	12	353	**20**	0	72	92	665
08:15	**10**	212	0	222	0	0	0	0	0	336	**21**	357	20	0	71	91	670
08:30	9	232	0	241	0	0	0	0	0	333	15	348	17	0	**77**	**94**	683
08:45	9	**276**	0	**285**	0	0	0	0	0	**395**	14	**409**	15	0	69	84	**778**
Total Volume	35	933	0	968	0	0	0	0	0	1405	62	1467	72	0	289	361	2796
% App. Total	3.6	96.4	0		0	0	0		0	95.8	4.2		19.9	0	80.1		
PHF	.875	.845	.000	.849	.000	.000	.000	.000	.000	.889	.738	.897	.900	.000	.938	.960	.898



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

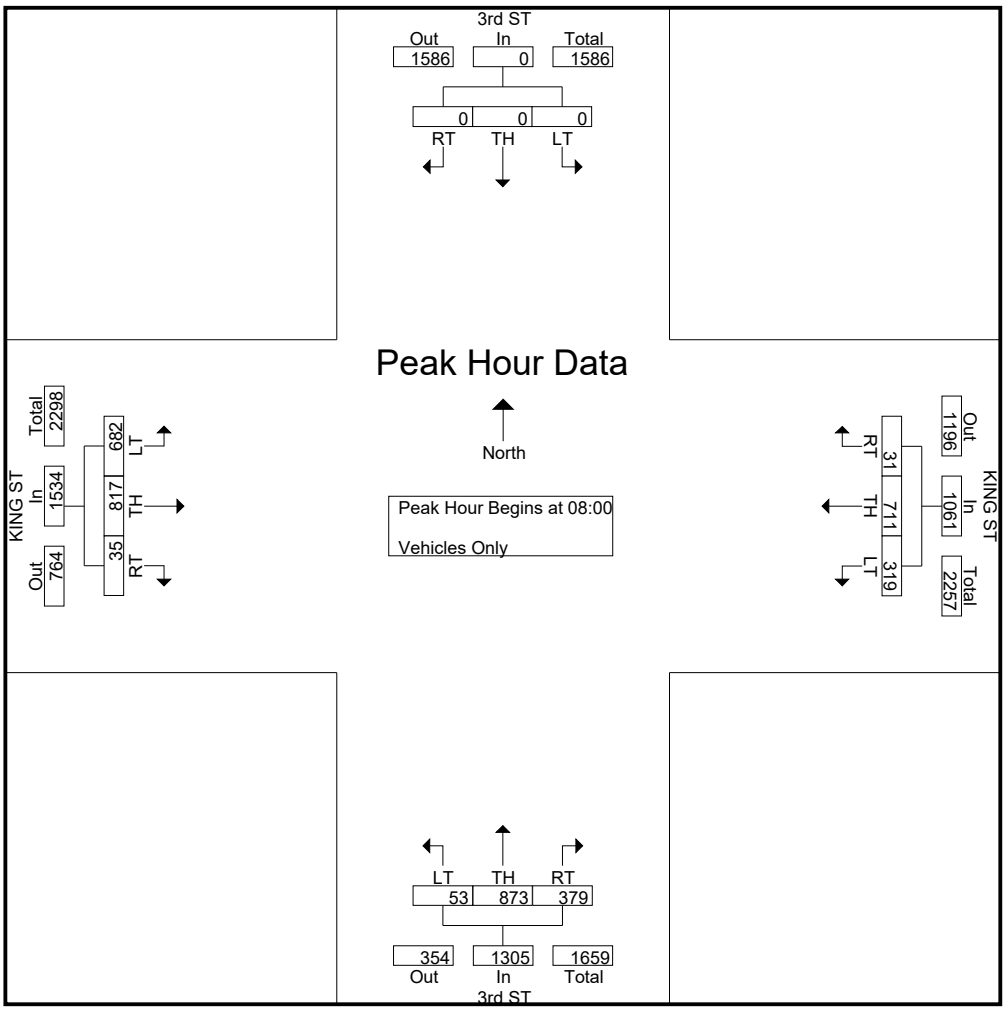
CITY OF SAN FRANCISCO
SOMA Intersections

File Name : 3-king-a
Site Code : 10a
Start Date : 4/9/2013
Page No : 1

Groups Printed- Vehicles Only

	3rd ST Southbound				KING ST Westbound				3rd ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	0	0	0	0	5	166	60	231	27	70	8	105	5	179	164	348	684
07:15	0	0	0	0	4	164	70	238	61	145	10	216	5	190	152	347	801
07:30	0	0	0	0	9	213	78	300	60	170	8	238	4	253	174	431	969
07:45	0	0	0	0	6	188	77	271	73	186	18	277	5	229	166	400	948
Total	0	0	0	0	24	731	285	1040	221	571	44	836	19	851	656	1526	3402
08:00	0	0	0	0	8	177	68	253	83	215	13	311	8	186	172	366	930
08:15	0	0	0	0	5	208	76	289	87	215	17	319	9	235	186	430	1038
08:30	0	0	0	0	12	162	94	268	90	224	9	323	8	190	180	378	969
08:45	0	0	0	0	6	164	81	251	119	219	14	352	10	206	144	360	963
Total	0	0	0	0	31	711	319	1061	379	873	53	1305	35	817	682	1534	3900
Grand Total	0	0	0	0	55	1442	604	2101	600	1444	97	2141	54	1668	1338	3060	7302
Apprch %	0	0	0		2.6	68.6	28.7		28	67.4	4.5		1.8	54.5	43.7		
Total %	0	0	0	0	0.8	19.7	8.3	28.8	8.2	19.8	1.3	29.3	0.7	22.8	18.3	41.9	

	3rd ST Southbound				KING ST Westbound				3rd ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	0	0	0	8	177	68	253	83	215	13	311	8	186	172	366	930
08:15	0	0	0	0	5	**208**	76	**289**	87	215	**17**	319	9	**235**	**186**	**430**	**1038**
08:30	0	0	0	0	**12**	162	**94**	268	90	**224**	9	323	8	190	180	378	969
08:45	0	0	0	0	6	164	81	251	**119**	219	14	**352**	**10**	206	144	360	963
Total Volume	0	0	0	0	31	711	319	1061	379	873	53	1305	35	817	682	1534	3900
% App. Total	0	0	0		2.9	67	30.1		29	66.9	4.1		2.3	53.3	44.5		
PHF	.000	.000	.000	.000	.646	.855	.848	.918	.796	.974	.779	.927	.875	.869	.917	.892	.939



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

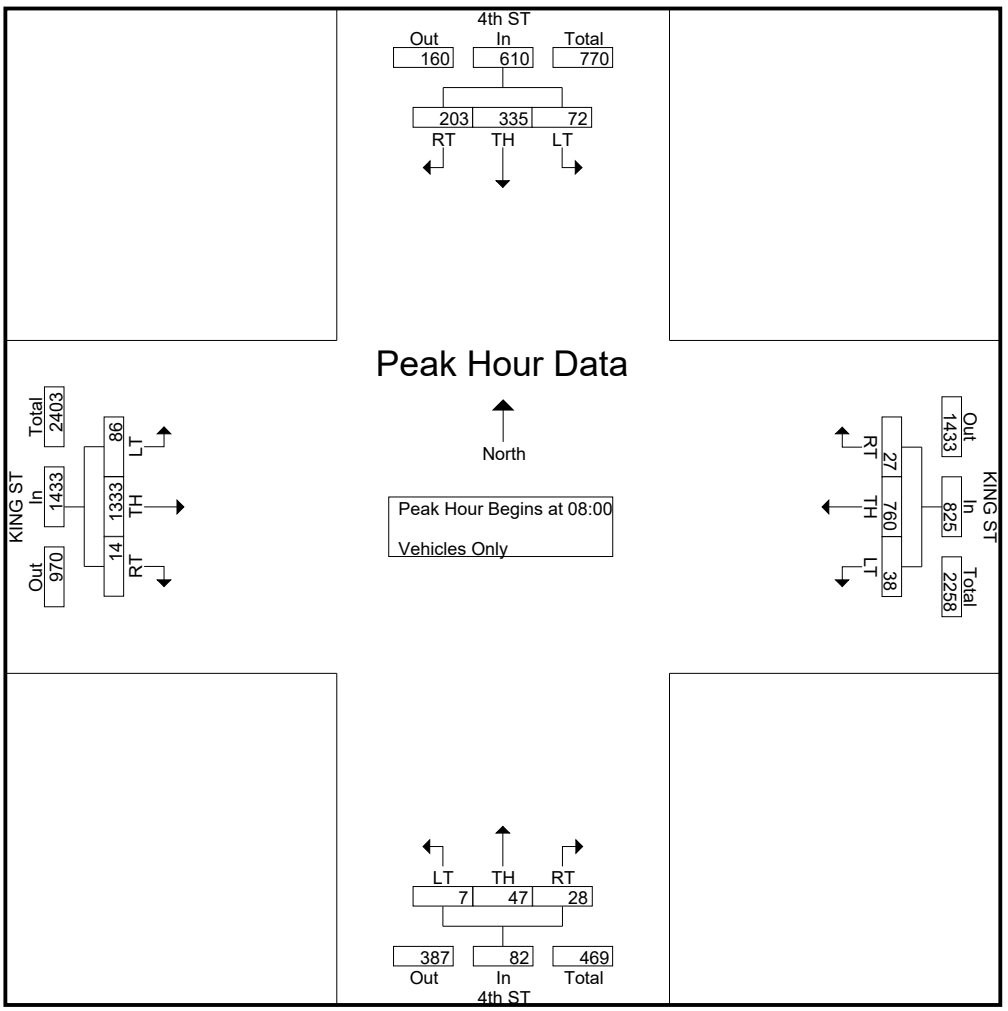
CITY OF SAN FRANCISCO
SOMA Intersections

File Name : 4-king-a
Site Code : 11a
Start Date : 4/10/2013
Page No : 1

Groups Printed- Vehicles Only

	4th ST Southbound				KING ST Westbound				4th ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	44	51	21	116	3	166	10	179	5	4	3	12	2	371	14	387	694
07:15	29	51	8	88	6	179	7	192	6	8	1	15	5	357	21	383	678
07:30	50	70	9	129	4	174	5	183	9	9	3	21	5	340	14	359	692
07:45	45	58	13	116	10	192	9	211	4	9	5	18	3	333	19	355	700
Total	168	230	51	449	23	711	31	765	24	30	12	66	15	1401	68	1484	2764
08:00	53	73	20	146	9	209	8	226	7	12	2	21	5	375	21	401	794
08:15	52	77	16	145	3	190	9	202	9	10	0	19	5	338	19	362	728
08:30	47	88	17	152	5	179	7	191	9	18	1	28	3	312	28	343	714
08:45	51	97	19	167	10	182	14	206	3	7	4	14	1	308	18	327	714
Total	203	335	72	610	27	760	38	825	28	47	7	82	14	1333	86	1433	2950
Grand Total	371	565	123	1059	50	1471	69	1590	52	77	19	148	29	2734	154	2917	5714
Apprch %	35	53.4	11.6		3.1	92.5	4.3		35.1	52	12.8		1	93.7	5.3		
Total %	6.5	9.9	2.2	18.5	0.9	25.7	1.2	27.8	0.9	1.3	0.3	2.6	0.5	47.8	2.7	51.1	

	4th ST Southbound				KING ST Westbound				4th ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	**53**	73	**20**	146	9	**209**	8	**226**	7	12	2	21	**5**	**375**	21	**401**	**794**
08:15	52	77	16	145	3	190	9	202	**9**	10	0	19	5	338	19	362	728
08:30	47	88	17	152	5	179	7	191	9	**18**	1	**28**	3	312	**28**	343	714
08:45	51	**97**	19	**167**	**10**	182	**14**	206	3	7	**4**	14	1	308	18	327	714
Total Volume	203	335	72	610	27	760	38	825	28	47	7	82	14	1333	86	1433	2950
% App. Total	33.3	54.9	11.8		3.3	92.1	4.6		34.1	57.3	8.5		1	93	6		
PHF	.958	.863	.900	.913	.675	.909	.679	.913	.778	.653	.438	.732	.700	.889	.768	.893	.929



Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
503-620-4242
www.qualitycounts.net

Site Code: 10934215
Location: Bryant St & Beale St
Date: 4/17/2013

Peak Hour: 8:00 AM - 9:00 AM
Peak 15-minutes: 8:40 AM - 8:50 AM
Peak Hour Factor: 0.86523

	Bryant St (Southbound)					Beale St (Westbound)					Bryant St (Northbound)					Delancey St (Northbound)					Beale St (Eastbound)							
	U-Turns	Right to Beale St	Thru to Bryant St	Thru to Delancey St	Left to Beale St	U-Turns	Right to Bryant St	Thru to Beale St	Left to Bryant St	Left to Delancey St	U-Turns	Right to Delancey St	Right to Beale St	Thru to Bryant St	Left to Beale St	U-Turns	Right to Beale St	Thru to Bryant St	Left to Beale St	Left to Bryant St	U-Turns	Right to Bryant St	Right to Delancey St	Thru to Beale St	Left to Bryant St	Interval Totals	Hourly Totals	15-minute Totals
7:00 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	24	8	0	0	1	3	0	0	4	1	0	11	57		
7:05 AM	0	0	5	0	0	0	3	1	0	0	0	0	0	8	8	0	0	6	4	0	0	4	2	0	5	46		
7:10 AM	0	0	7	1	0	0	1	0	0	1	0	0	1	11	6	0	0	5	1	0	0	2	0	1	8	45		148
7:15 AM	0	1	3	0	0	0	1	1	0	0	0	0	0	6	3	0	0	3	1	1	0	4	2	3	6	35		126
7:20 AM	0	1	5	0	0	0	0	1	1	1	0	1	0	18	6	0	1	4	5	0	0	3	0	1	5	53		133
7:25 AM	0	1	3	1	1	0	1	0	1	0	0	0	0	12	9	0	0	0	1	2	0	3	0	0	4	39		127
7:30 AM	0	2	4	0	0	0	1	0	0	0	0	0	0	15	6	0	0	2	1	1	0	3	0	1	7	43		135
7:35 AM	0	1	5	0	0	0	1	0	0	0	0	0	1	14	4	0	0	6	1	1	0	1	4	0	2	41		123
7:40 AM	0	1	2	0	1	0	2	0	0	0	0	0	0	21	3	0	2	3	5	0	0	1	1	1	9	52		136
7:45 AM	0	0	3	1	0	0	1	0	0	1	0	1	1	22	15	0	0	4	0	0	0	6	2	0	8	65		158
7:50 AM	0	1	4	0	0	0	0	0	0	0	0	0	2	26	10	0	0	6	4	1	0	1	3	1	9	68		185
7:55 AM	0	1	4	0	0	0	2	0	0	0	0	0	1	30	16	0	0	0	0	2	0	5	1	0	7	69	613	202
8:00 AM	0	1	6	0	0	0	2	0	1	0	0	0	0	22	7	0	0	4	5	1	0	3	3	0	11	66	622	203
8:05 AM	0	1	7	1	0	0	2	1	0	0	0	0	3	24	10	0	0	2	1	1	0	4	2	0	9	68	644	203
8:10 AM	0	0	2	1	0	0	2	0	0	1	0	1	0	25	7	0	0	9	1	0	0	6	3	0	10	68	667	202
8:15 AM	0	1	3	0	0	0	3	2	0	0	0	1	0	23	13	0	0	7	3	0	0	3	5	0	10	74	706	210
8:20 AM	0	1	2	2	1	0	3	0	0	0	0	0	1	15	7	0	0	11	6	0	0	9	3	1	6	68	721	210
8:25 AM	0	0	6	0	0	0	4	2	0	0	0	1	1	20	10	0	0	7	3	1	0	5	5	0	8	73	755	215
8:30 AM	0	1	2	1	0	0	5	0	0	0	0	0	0	16	17	0	1	4	4	1	0	4	3	0	13	72	784	213
8:35 AM	0	0	3	0	1	1	2	1	1	0	0	0	0	20	7	0	0	6	9	1	0	6	1	1	10	70	813	215
8:40 AM	0	0	4	1	0	0	6	0	1	0	0	0	0	34	15	0	1	6	8	0	0	5	0	0	6	87	848	229
8:45 AM	0	0	6	2	1	0	3	0	1	0	0	0	0	32	10	0	0	7	5	0	0	5	3	0	5	80	863	237
8:50 AM	0	0	8	2	0	0	2	0	0	1	0	0	0	25	10	0	1	10	4	0	0	5	4	0	17	89	884	256
8:55 AM	0	0	1	3	0	0	2	2	0	0	0	0	0	25	10	0	0	9	2	0	0	6	3	1	7	71	886	240
Totals	0	14	97	16	5	1	52	11	6	5	0	5	11	488	217	0	6	122	77	13	0	98	51	11	193			

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

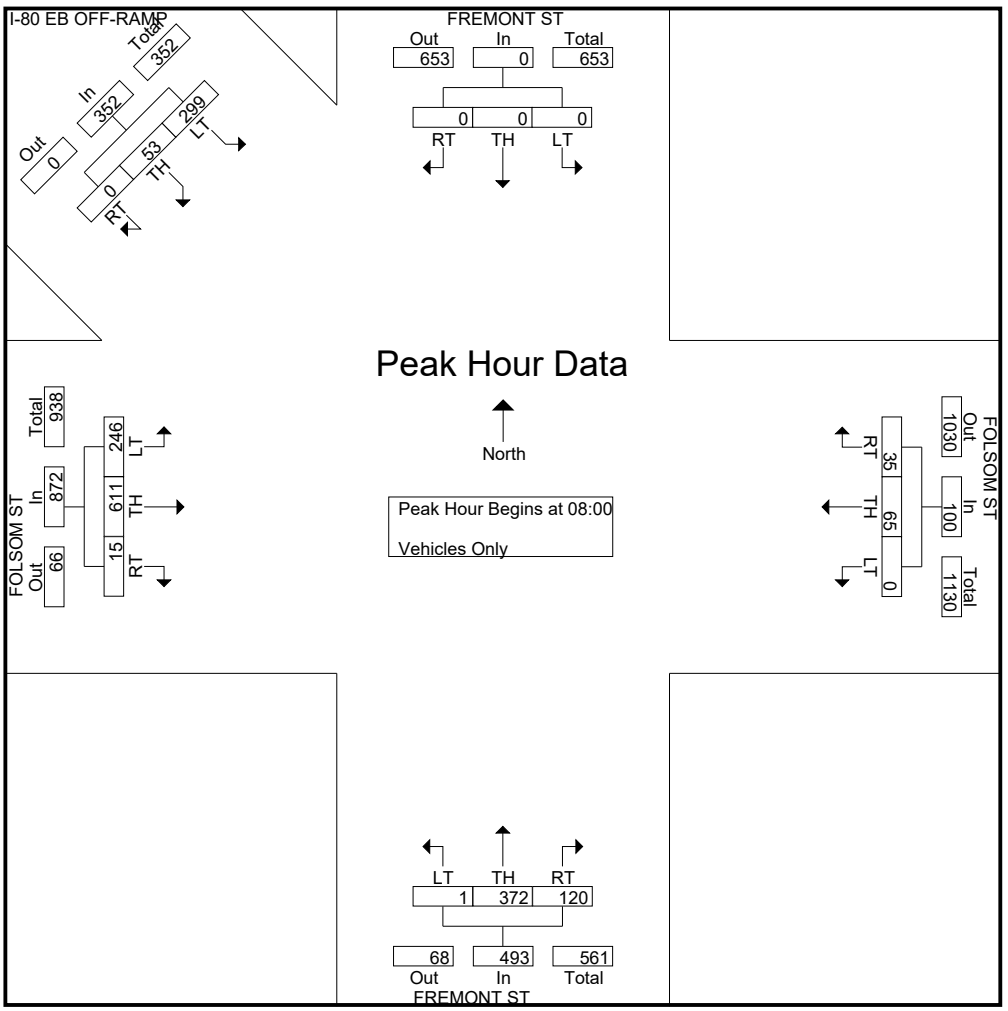
CITY OF SAN FRANCISCO
SOMA Intersections

File Name : fremont-folsom-a
Site Code : 3a
Start Date : 4/10/2013
Page No : 1

Groups Printed- Vehicles Only

	FREMONT ST Southbound				FOLSOM ST Westbound				FREMONT ST Northbound				FOLSOM ST Eastbound				I-80 EB OFF-RAMP Southeastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	0	0	0	0	4	11	0	15	14	48	0	62	4	61	35	100	0	13	51	64	241
07:15	0	0	0	0	6	18	0	24	21	42	0	63	3	84	64	151	0	7	60	67	305
07:30	0	0	0	0	6	15	0	21	13	61	0	74	5	102	57	164	0	11	72	83	342
07:45	0	0	0	0	8	15	0	23	27	76	2	105	3	103	49	155	0	13	62	75	358
Total	0	0	0	0	24	59	0	83	75	227	2	304	15	350	205	570	0	44	245	289	1246
08:00	0	0	0	0	7	17	0	24	26	74	0	100	2	149	48	199	0	15	72	87	410
08:15	0	0	0	0	8	18	0	26	34	92	0	126	4	143	64	211	0	12	76	88	451
08:30	0	0	0	0	15	16	0	31	29	95	0	124	4	159	70	233	0	12	72	84	472
08:45	0	0	0	0	5	14	0	19	31	111	1	143	5	160	64	229	0	14	79	93	484
Total	0	0	0	0	35	65	0	100	120	372	1	493	15	611	246	872	0	53	299	352	1817
Grand Total	0	0	0	0	59	124	0	183	195	599	3	797	30	961	451	1442	0	97	544	641	3063
Apprch %	0	0	0		32.2	67.8	0		24.5	75.2	0.4		2.1	66.6	31.3		0	15.1	84.9		
Total %	0	0	0	0	1.9	4	0	6	6.4	19.6	0.1	26	1	31.4	14.7	47.1	0	3.2	17.8	20.9	

	FREMONT ST Southbound				FOLSOM ST Westbound				FREMONT ST Northbound				FOLSOM ST Eastbound				I-80 EB OFF-RAMP Southeastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	7	17	0	24	26	74	0	100	2	149	48	199	0	**15**	72	87	410
08:15	0	0	0	0	8	**18**	0	26	**34**	92	0	126	4	143	64	211	0	12	76	88	451
08:30	0	0	0	0	**15**	16	0	**31**	29	95	0	124	4	159	**70**	**233**	0	12	72	84	472
08:45	0	0	0	0	5	14	0	19	31	**111**	**1**	**143**	**5**	**160**	64	229	0	14	**79**	**93**	**484**
Total Volume	0	0	0	0	35	65	0	100	120	372	1	493	15	611	246	872	0	53	299	352	1817
% App. Total	0	0	0		35	65	0		24.3	75.5	0.2		1.7	70.1	28.2		0	15.1	84.9		
PHF	.000	.000	.000	.000	.583	.903	.000	.806	.882	.838	.250	.862	.750	.955	.879	.936	.000	.883	.946	.946	.939



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

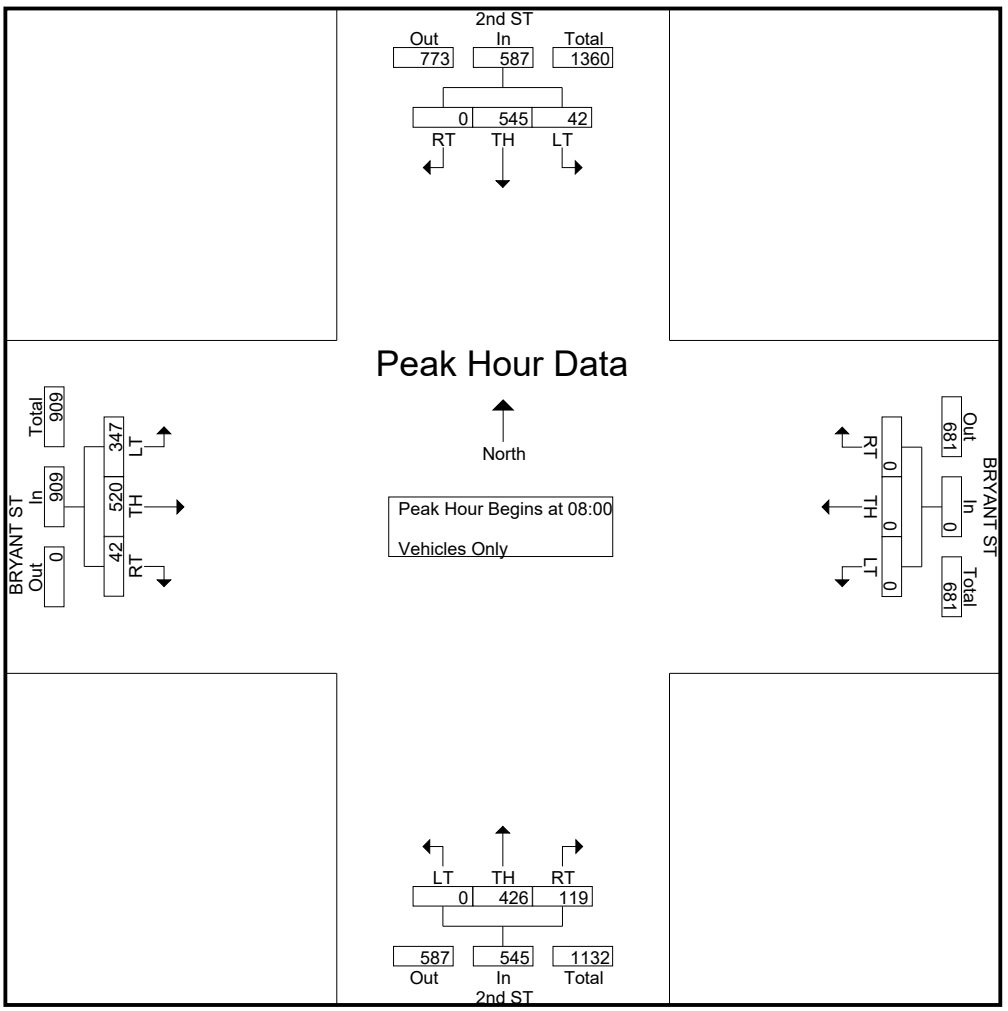
CITY OF SAN FRANCISCO
SOMA Intersections

File Name : 2-bryant-a
Site Code : 7a
Start Date : 4/10/2013
Page No : 1

Groups Printed- Vehicles Only

	2nd ST Southbound				BRYANT ST Westbound				2nd ST Northbound				BRYANT ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	0	87	2	89	0	0	0	0	14	58	0	72	8	51	37	96	257
07:15	0	88	4	92	0	0	0	0	22	87	0	109	9	69	58	136	337
07:30	0	88	11	99	0	0	0	0	19	87	0	106	13	75	57	145	350
07:45	0	134	9	143	0	0	0	0	28	96	0	124	10	99	76	185	452
Total	0	397	26	423	0	0	0	0	83	328	0	411	40	294	228	562	1396
08:00	0	133	5	138	0	0	0	0	34	121	0	155	10	125	69	204	497
08:15	0	135	8	143	0	0	0	0	32	96	0	128	8	114	69	191	462
08:30	0	133	14	147	0	0	0	0	29	108	0	137	14	141	104	259	543
08:45	0	144	15	159	0	0	0	0	24	101	0	125	10	140	105	255	539
Total	0	545	42	587	0	0	0	0	119	426	0	545	42	520	347	909	2041
Grand Total	0	942	68	1010	0	0	0	0	202	754	0	956	82	814	575	1471	3437
Apprch %	0	93.3	6.7		0	0	0		21.1	78.9	0		5.6	55.3	39.1		
Total %	0	27.4	2	29.4	0	0	0	0	5.9	21.9	0	27.8	2.4	23.7	16.7	42.8	

	2nd ST Southbound				BRYANT ST Westbound				2nd ST Northbound				BRYANT ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	133	5	138	0	0	0	0	**34**	**121**	0	**155**	10	125	69	204	497
08:15	0	135	8	143	0	0	0	0	32	96	0	128	8	114	69	191	462
08:30	0	133	14	147	0	0	0	0	29	108	0	137	**14**	**141**	104	**259**	**543**
08:45	0	**144**	**15**	**159**	0	0	0	0	24	101	0	125	10	140	**105**	255	539
Total Volume	0	545	42	587	0	0	0	0	119	426	0	545	42	520	347	909	2041
% App. Total	0	92.8	7.2		0	0	0		21.8	78.2	0		4.6	57.2	38.2		
PHF	.000	.946	.700	.923	.000	.000	.000	.000	.875	.880	.000	.879	.750	.922	.826	.877	.940



Type of peak hour being reported: System Peak

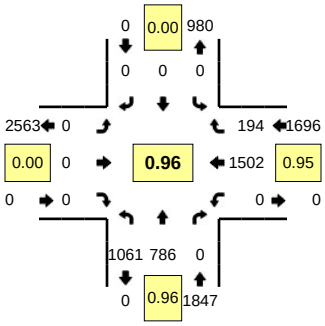
Method for determining peak hour: Total Entering Volume

LOCATION: Bryant St -- 3rd St

QC JOB #: 10473315

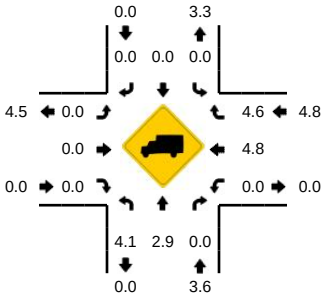
CITY/STATE: San Francisco, CA

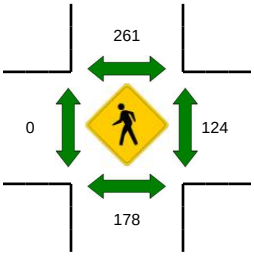
DATE: 1/13/2010

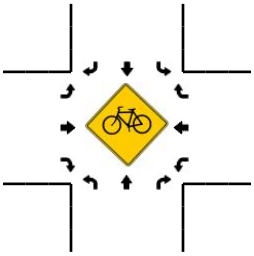


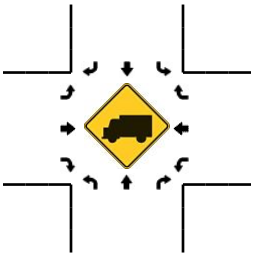
Peak-Hour: 8:00 AM -- 9:00 AM

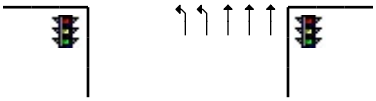
Peak 15-Min: 8:40 AM -- 8:55 AM

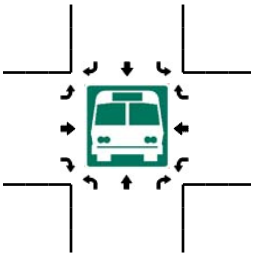












5-Min Count Period Beginning At	Bryant St (Northbound)			Bryant St (Southbound)			3rd St (Eastbound)			3rd St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
7:00 AM	53	35	0	0	0	0	0	0	0	0	73	9	170	
7:05 AM	49	34	0	0	0	0	0	0	0	0	67	8	158	
7:10 AM	73	45	0	0	0	0	0	0	0	0	62	14	194	
7:15 AM	60	34	0	0	0	0	0	0	0	0	81	10	185	
7:20 AM	77	27	0	0	0	0	0	0	0	0	97	8	209	
7:25 AM	70	34	0	0	0	0	0	0	0	0	102	9	215	
7:30 AM	70	34	0	0	0	0	0	0	0	0	127	13	244	
7:35 AM	83	34	0	0	0	0	0	0	0	0	108	7	232	
7:40 AM	92	41	0	0	0	0	0	0	0	0	129	12	274	
7:45 AM	63	44	0	0	0	0	0	0	0	0	124	10	241	
7:50 AM	80	58	0	0	0	0	0	0	0	0	125	12	275	
7:55 AM	75	43	0	0	0	0	0	0	0	0	129	13	260	2657
8:00 AM	80	58	0	0	0	0	0	0	0	0	129	12	279	2766
8:05 AM	79	54	0	0	0	0	0	0	0	0	123	17	273	2881
8:10 AM	105	49	0	0	0	0	0	0	0	0	122	12	288	2975
8:15 AM	90	50	0	0	0	0	0	0	0	0	112	17	269	3059
8:20 AM	62	67	0	0	0	0	0	0	0	0	127	14	270	3120
8:25 AM	102	81	0	0	0	0	0	0	0	0	137	12	332	3237
8:30 AM	92	62	0	0	0	0	0	0	0	0	115	22	291	3284
8:35 AM	96	57	0	0	0	0	0	0	0	0	125	17	295	3347
8:40 AM	91	83	0	0	0	0	0	0	0	0	133	13	320	3393
8:45 AM	87	77	0	0	0	0	0	0	0	0	137	20	321	3473
8:50 AM	72	70	0	0	0	0	0	0	0	0	117	24	283	3481
8:55 AM	105	78	0	0	0	0	0	0	0	0	125	14	322	3543

Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
All Vehicles	1000	920	0	0	0	0	0	0	0	0	1548	228	3696
Heavy Trucks	48	16	0	0	0	0	0	0	0	0	108	4	176
Pedestrians		220			280			0			112		612
Bicycles													
Railroad													
Stopped Buses													

Comments:

Report generated on 1/21/2010 2:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

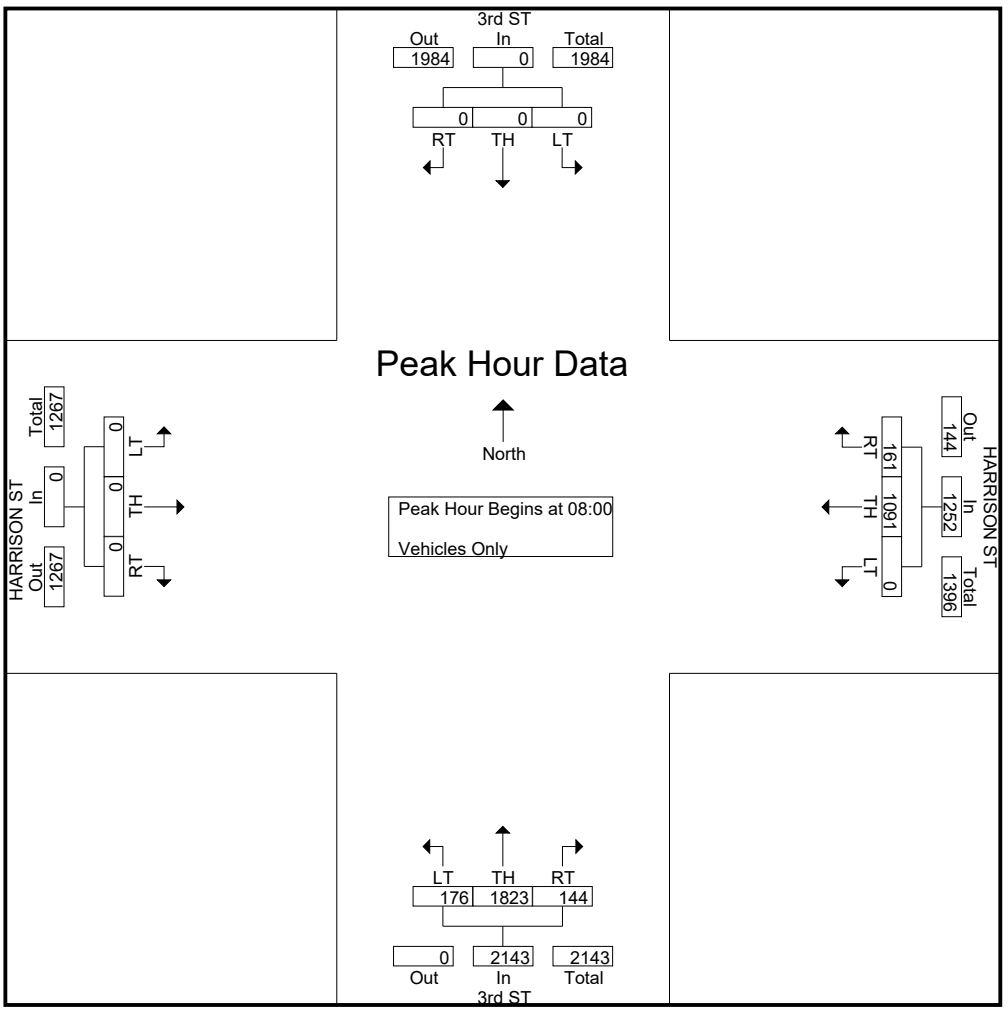
CITY OF SAN FRANCISCO
SOMA Intersections

File Name : 3-harrison-a
Site Code : 5a
Start Date : 4/8/2013
Page No : 1

Groups Printed- Vehicles Only

	3rd ST Southbound				HARRISON ST Westbound				3rd ST Northbound				HARRISON ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	0	0	0	0	29	195	0	224	15	308	32	355	0	0	0	0	579
07:15	0	0	0	0	24	195	0	219	19	365	39	423	0	0	0	0	642
07:30	0	0	0	0	34	251	0	285	32	434	42	508	0	0	0	0	793
07:45	0	0	0	0	39	244	0	283	23	441	46	510	0	0	0	0	793
Total	0	0	0	0	126	885	0	1011	89	1548	159	1796	0	0	0	0	2807
08:00	0	0	0	0	37	262	0	299	41	440	35	516	0	0	0	0	815
08:15	0	0	0	0	36	274	0	310	31	471	47	549	0	0	0	0	859
08:30	0	0	0	0	38	310	0	348	38	470	42	550	0	0	0	0	898
08:45	0	0	0	0	50	245	0	295	34	442	52	528	0	0	0	0	823
Total	0	0	0	0	161	1091	0	1252	144	1823	176	2143	0	0	0	0	3395
Grand Total	0	0	0	0	287	1976	0	2263	233	3371	335	3939	0	0	0	0	6202
Apprch %	0	0	0		12.7	87.3	0		5.9	85.6	8.5		0	0	0		
Total %	0	0	0	0	4.6	31.9	0	36.5	3.8	54.4	5.4	63.5	0	0	0	0	

	3rd ST Southbound				HARRISON ST Westbound				3rd ST Northbound				HARRISON ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	0	0	0	37	262	0	299	**41**	440	35	516	0	0	0	0	815
08:15	0	0	0	0	36	274	0	310	31	**471**	47	549	0	0	0	0	859
08:30	0	0	0	0	38	**310**	0	**348**	38	470	42	**550**	0	0	0	0	**898**
08:45	0	0	0	0	**50**	245	0	295	34	442	**52**	528	0	0	0	0	823
Total Volume	0	0	0	0	161	1091	0	1252	144	1823	176	2143	0	0	0	0	3395
% App. Total	0	0	0		12.9	87.1	0		6.7	85.1	8.2		0	0	0		
PHF	.000	.000	.000	.000	.805	.880	.000	.899	.878	.968	.846	.974	.000	.000	.000	.000	.945



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

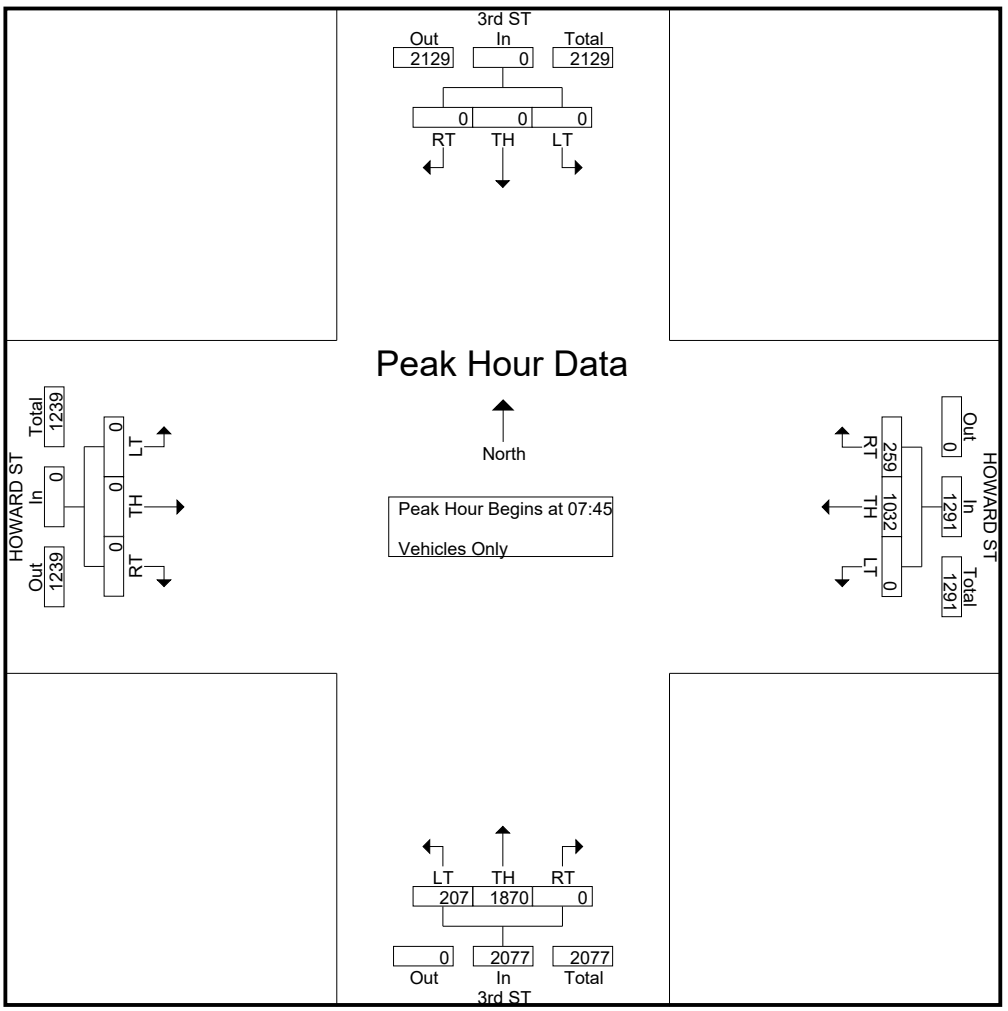
CITY OF SAN FRANCISCO
SOMA Intersections

File Name : 3-howard-a
Site Code : 1a
Start Date : 4/9/2013
Page No : 1

Groups Printed- Vehicles Only

	3rd ST Southbound				HOWARD ST Westbound				3rd ST Northbound				HOWARD ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
07:00	0	0	0	0	53	175	0	228	0	323	28	351	0	0	0	0	579
07:15	0	0	0	0	48	209	0	257	0	349	43	392	0	0	0	0	649
07:30	0	0	0	0	62	205	0	267	0	418	42	460	0	0	0	0	727
07:45	0	0	0	0	74	252	0	326	0	445	59	504	0	0	0	0	830
Total	0	0	0	0	237	841	0	1078	0	1535	172	1707	0	0	0	0	2785
08:00	0	0	0	0	63	233	0	296	0	460	40	500	0	0	0	0	796
08:15	0	0	0	0	55	265	0	320	0	476	53	529	0	0	0	0	849
08:30	0	0	0	0	67	282	0	349	0	489	55	544	0	0	0	0	893
08:45	0	0	0	0	61	290	0	351	0	395	69	464	0	0	0	0	815
Total	0	0	0	0	246	1070	0	1316	0	1820	217	2037	0	0	0	0	3353
Grand Total	0	0	0	0	483	1911	0	2394	0	3355	389	3744	0	0	0	0	6138
Apprch %	0	0	0		20.2	79.8	0		0	89.6	10.4		0	0	0		
Total %	0	0	0	0	7.9	31.1	0	39	0	54.7	6.3	61	0	0	0	0	

	3rd ST Southbound				HOWARD ST Westbound				3rd ST Northbound				HOWARD ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	0	0	0	**74**	252	0	326	0	445	**59**	504	0	0	0	0	830
08:00	0	0	0	0	63	233	0	296	0	460	40	500	0	0	0	0	796
08:15	0	0	0	0	55	265	0	320	0	476	53	529	0	0	0	0	849
08:30	0	0	0	0	67	**282**	0	**349**	0	**489**	55	**544**	0	0	0	0	**893**
Total Volume	0	0	0	0	259	1032	0	1291	0	1870	207	2077	0	0	0	0	3368
% App. Total	0	0	0		20.1	79.9	0		0	90	10		0	0	0		
PHF	.000	.000	.000	.000	.875	.915	.000	.925	.000	.956	.877	.955	.000	.000	.000	.000	.943



Type of peak hour being reported: System Peak

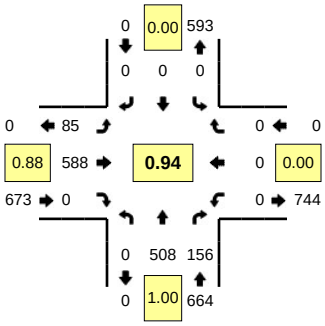
Method for determining peak hour: Total Entering Volume

LOCATION: Bryant St -- 4th St

QC JOB #: 10473314

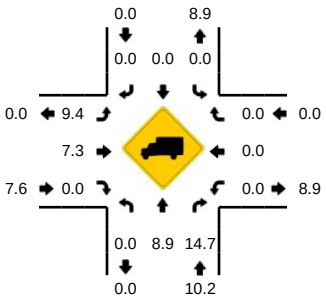
CITY/STATE: San Francisco, CA

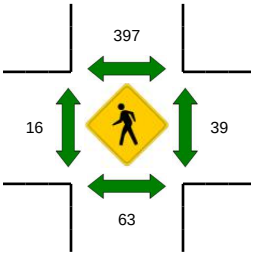
DATE: 1/13/2010

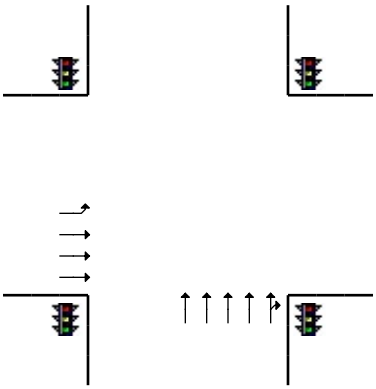


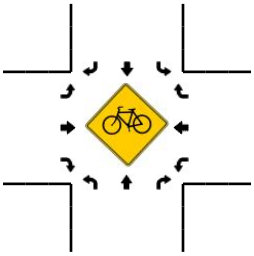
Peak-Hour: 8:00 AM -- 9:00 AM

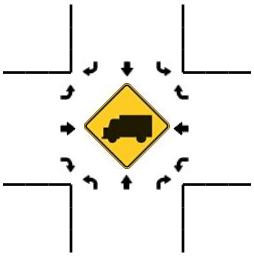
Peak 15-Min: 8:40 AM -- 8:55 AM

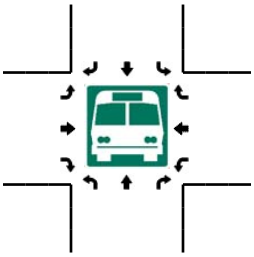












5-Min Count Period Beginning At	Bryant St (Northbound)			Bryant St (Southbound)			4th St (Eastbound)			4th St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
7:00 AM	0	14	6	0	0	0	3	22	0	0	0	0	45	
7:05 AM	0	13	8	0	0	0	3	34	0	0	0	0	58	
7:10 AM	0	14	8	0	0	0	1	26	0	0	0	0	49	
7:15 AM	0	23	11	0	0	0	2	26	0	0	0	0	62	
7:20 AM	0	9	6	0	0	0	1	25	0	0	0	0	41	
7:25 AM	0	21	11	0	0	0	1	33	0	0	0	0	66	
7:30 AM	0	31	14	0	0	0	3	30	0	0	0	0	78	
7:35 AM	0	14	2	0	0	0	3	22	0	0	0	0	41	
7:40 AM	0	24	12	0	0	0	8	45	0	0	0	0	89	
7:45 AM	0	40	8	0	0	0	4	40	0	0	0	0	92	
7:50 AM	0	34	3	0	0	0	1	32	0	0	0	0	70	
7:55 AM	0	28	9	0	0	0	5	54	0	0	0	0	96	787
8:00 AM	0	65	8	0	0	0	5	30	0	0	0	0	108	850
8:05 AM	0	29	11	0	0	0	4	39	0	0	0	0	83	875
8:10 AM	0	32	13	0	0	0	5	42	0	0	0	0	92	918
8:15 AM	0	49	19	0	0	0	6	42	0	0	0	0	116	972
8:20 AM	0	31	8	0	0	0	8	51	0	0	0	0	98	1029
8:25 AM	0	44	19	0	0	0	6	61	0	0	0	0	130	1093
8:30 AM	0	57	19	0	0	0	8	45	0	0	0	0	129	1144
8:35 AM	0	34	9	0	0	0	8	36	0	0	0	0	87	1190
8:40 AM	0	49	11	0	0	0	8	58	0	0	0	0	126	1227
8:45 AM	0	42	17	0	0	0	6	60	0	0	0	0	125	1260
8:50 AM	0	35	10	0	0	0	7	53	0	0	0	0	105	1295
8:55 AM	0	41	12	0	0	0	14	71	0	0	0	0	138	1337

Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
All Vehicles	0	504	152	0	0	0	84	684	0	0	0	0	1424
Heavy Trucks	0	44	40	0	0	0	4	36	0	0	0	0	124
Pedestrians		72			424			12			36		544
Bicycles													
Railroad													
Stopped Buses													

Comments:

Report generated on 1/21/2010 2:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

MARKS TRAFFIC DATA

CITY OF SAN FRANCISCO

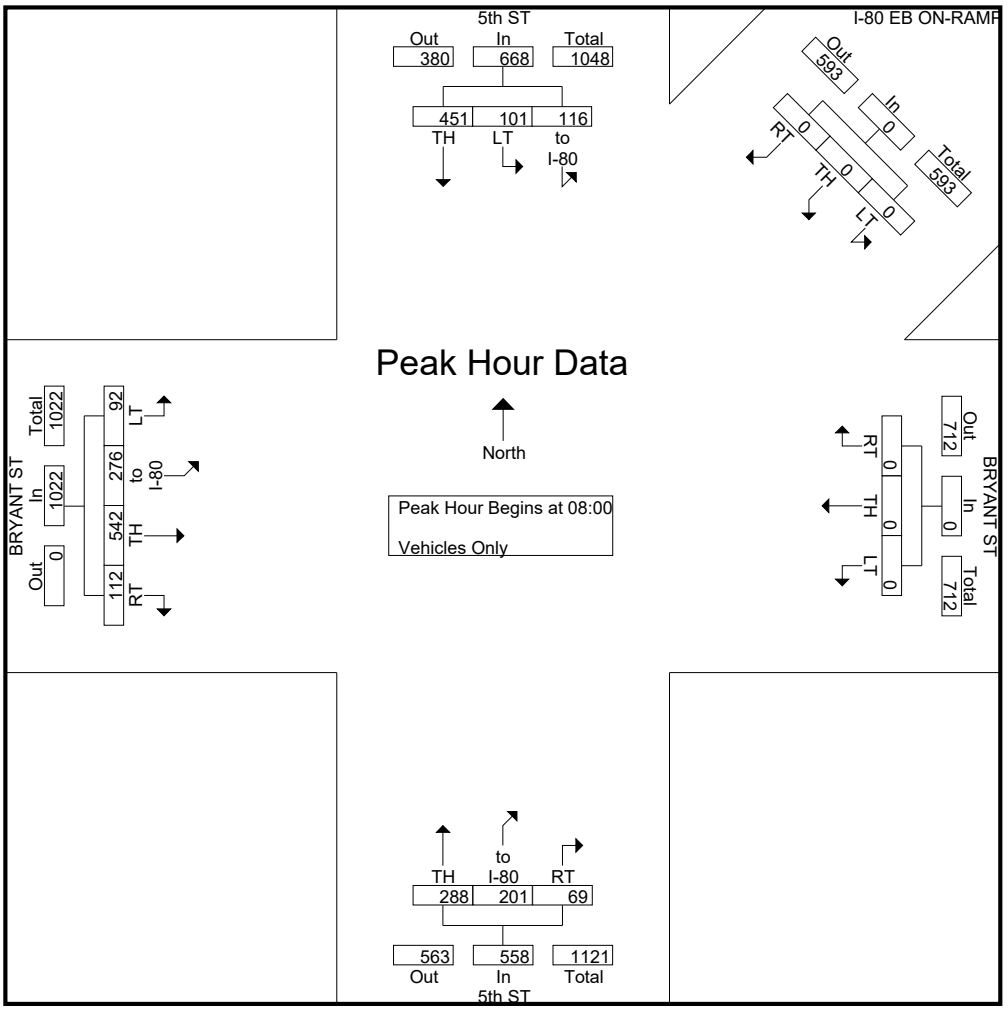
lcw
Mietek 916-806-0250

File Name : 5-bryant-a
Site Code : 1
Start Date : 12/3/2009
Page No : 1

Groups Printed- Vehicles Only

	5th ST Southbound				I-80 EB ON-RAMP Southwestbound				BRYANT ST Westbound				5th ST Northbound				BRYANT ST Eastbound					
Start Time	TH	LT	to I-80	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	to I-80	TH	App. Total	RT	TH	to I-80	LT	App. Total	Int. Total
07:00	107	12	24	143	0	0	0	0	0	0	0	0	2	23	46	71	14	44	54	18	130	344
07:15	84	11	18	113	0	0	0	0	0	0	0	0	9	33	45	87	15	85	58	6	164	364
07:30	102	6	21	129	0	0	0	0	0	0	0	0	13	36	40	89	21	112	61	16	210	428
07:45	113	17	18	148	0	0	0	0	0	0	0	0	12	47	65	124	30	116	63	18	227	499
Total	406	46	81	533	0	0	0	0	0	0	0	0	36	139	196	371	80	357	236	58	731	1635
08:00	118	16	20	154	0	0	0	0	0	0	0	0	21	49	67	137	34	114	75	23	246	537
08:15	112	16	32	160	0	0	0	0	0	0	0	0	13	32	72	117	19	139	79	17	254	531
08:30	101	35	42	178	0	0	0	0	0	0	0	0	10	65	70	145	34	130	62	27	253	576
08:45	120	34	22	176	0	0	0	0	0	0	0	0	25	55	79	159	25	159	60	25	269	604
Total	451	101	116	668	0	0	0	0	0	0	0	0	69	201	288	558	112	542	276	92	1022	2248
Grand Total	857	147	197	1201	0	0	0	0	0	0	0	0	105	340	484	929	192	899	512	150	1753	3883
Apprch %	71.4	12.2	16.4		0	0	0		0	0	0		11.3	36.6	52.1		11	51.3	29.2	8.6		
Total %	22.1	3.8	5.1	30.9	0	0	0	0	0	0	0	0	2.7	8.8	12.5	23.9	4.9	23.2	13.2	3.9	45.1	

	5th ST Southbound				I-80 EB ON-RAMP Southwestbound				BRYANT ST Westbound				5th ST Northbound				BRYANT ST Eastbound					
Start Time	TH	LT	to I-80	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	to I-80	TH	App. Total	RT	TH	to I-80	LT	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 08:00																						
08:00	118	16	20	154	0	0	0	0	0	0	0	0	21	49	67	137	**34**	114	75	23	246	537
08:15	112	16	32	160	0	0	0	0	0	0	0	0	13	32	72	117	19	139	**79**	17	254	531
08:30	101	**35**	**42**	**178**	0	0	0	0	0	0	0	0	10	**65**	70	145	34	130	62	**27**	253	576
08:45	**120**	34	22	176	0	0	0	0	0	0	0	0	**25**	55	**79**	**159**	25	**159**	60	25	**269**	**604**
Total Volume	451	101	116	668	0	0	0	0	0	0	0	0	69	201	288	558	112	542	276	92	1022	2248
% App. Total	67.5	15.1	17.4		0	0	0		0	0	0		12.4	36	51.6		11	53	27	9		
PHF	.940	.721	.690	.938	.000	.000	.000	.000	.000	.000	.000	.000	.690	.773	.911	.877	.824	.852	.873	.852	.950	.930



New Intersectiosn Summary
AM Peak Hour
Vehicles

			TIME END	NBL	NBT	NBTR	NBLR	EBL	EBT	EBTR	EBLR	SBL	SBT	SBLTR	SBTR	SBLR	WBL	WBLT	WBT	WBTR	WBLR	WB2LT	WB2LTR	WB2U			
			TIME END	**NBL**	**NBT**	**NBR**	NBU	**EBL**	**EBT**	**EBR**	EBU	**SBL**	**SBT**	SBT2	**SBR**	SBU	**WBL**	WBL2	**WBT**	**WBR**	WBU	WB2L2	WB2T2	WB2U2		**Sum 15**	**Sum hour**	**PHF**
Intersection 2																											
Street N	The Embarcadero		7:15	0	213	0	0	42	0	34	0	0	155	0	59	0	0	0	0	0	0	0	0	0		503		
Street N2		0	7:30	0	251	0	0	42	0	29	0	0	155	0	72	0	0	0	0	0	0	0	0	0		549		
Street E	Harrison Street		7:45	0	286	0	0	39	0	33	0	0	168	0	48	0	0	0	0	0	0	0	0	0		574		
Street E2		0	8:00	0	304	0	0	52	0	34	0	0	212	0	40	0	0	0	0	0	0	0	0	0		642	2268	
Street S	The Embarcadero		8:15	0	297	0	0	41	0	34	0	0	207	0	36	0	0	0	0	0	0	0	0	0		615	2380	
Street S2		0	8:30	0	287	0	0	42	0	27	0	0	228	0	52	0	0	0	0	0	0	0	0	0		636	2467	
Street W	Harrison Street		8:45	0	273	0	0	59	0	44	0	0	209	0	46	0	0	0	0	0	0	0	0	0		631	2524	
Street W2		0	9:00	0	205	0	0	77	0	55	0	0	202	0	49	0	0	0	0	0	0	0	0	0		588	2470	
			Peak	0	1161	0	0	194	0	139	0	0	856	0	174	0	0	0	0	0	0	0	0	0		642	2524	0.98
Intersection 3																											
Street N	The Embarcadero		7:15	21	217	0	0	10	0	26	0	0	181	0	7	2	2	0	0	1	0	0	0	0		467		
Street N2		0	7:30	35	222	4	0	14	0	29	0	3	181	0	13	1	1	0	0	0	0	0	0	0		503		
Street E	Bryant Street		7:45	23	291	0	0	27	1	35	0	6	198	0	16	1	0	0	0	0	0	0	0	0		598		
Street E2		0	8:00	41	280	1	0	26	0	44	0	1	225	0	9	0	0	0	1	1	0	0	0	0		629	2197	
Street S	The Embarcadero		8:15	20	242	0	0	30	2	41	0	4	223	0	8	4	0	0	2	0	0	0	0	0		576	2306	
Street S2		0	8:30	35	277	1	0	28	1	35	0	5	235	0	22	5	0	0	2	2	0	0	0	0		648	2451	
Street W	Bryant Street		8:45	42	235	0	0	25	1	48	0	3	224	0	12	1	0	0	1	0	0	0	0	0		592	2445	
Street W2		0	9:00	44	189	1	0	38	2	42	0	2	251	0	14	5	1	0	1	3	0	0	0	0		593	2409	
			Peak	119	1090	2	0	111	4	155	0	16	881	0	55	10	0	0	5	3	0	0	0	0		648	2451	0.95
Intersection 4																											
Street N	The Embarcadero		7:15	2	237	0	1	8	0	6	0	0	196	0	16	0	0	0	0	0	0	0	0	0		466		
Street N2		0	7:30	1	248	0	0	21	0	5	0	0	183	0	20	0	0	0	0	0	0	0	0	0		478		
Street E	Brannan Street		7:45	2	271	0	0	24	0	5	0	0	210	0	17	0	0	0	0	0	0	0	0	0		529		
Street E2		0	8:00	2	294	0	0	33	0	5	0	0	246	0	40	2	0	0	0	0	0	0	0	0		622	2095	
Street S	The Embarcadero		8:15	3	245	0	0	34	0	11	0	0	227	0	31	0	0	0	0	0	0	0	0	0		551	2180	
Street S2		0	8:30	4	286	0	0	38	0	1	0	0	215	0	41	0	0	0	0	0	0	0	0	0		585	2287	
Street W	Brannan Street		8:45	7	223	0	1	37	0	1	0	0	258	0	39	1	0	0	0	0	0	0	0	0		567	2325	
Street W2		0	9:00	13	212	0	0	26	0	5	0	0	265	0	35	0	0	0	0	0	0	0	0	0		556	2259	
			Peak	16	1048	0	1	142	0	18	0	0	946	0	151	3	0	0	0	0	0	0	0	0		622	2325	0.93
Intersection 5																											
Street N	The Embarcadero		7:15	1	218	0	2	10	2	1	0	0	193	0	17	0	3	0	2	3	0	0	0	0		452		
Street N2		0	7:30	3	210	1	1	9	1	3	0	1	178	0	8	1	0	0	0	0	0	0	0	0		416		
Street E	Townsend Street		7:45	1	282	1	1	16	0	4	0	0	188	0	18	0	0	0	2	0	0	0	0	0		513		
Street E2		0	8:00	4	254	1	1	16	0	0	0	3	218	0	26	3	1	0	1	0	0	0	0	0		528	1909	
Street S	The Embarcadero		8:15	3	243	0	3	18	1	5	0	2	211	0	29	0	1	0	2	0	0	0	0	0		518	1975	
Street S2		0	8:30	2	262	1	3	13	0	4	0	6	191	0	23	1	1	0	0	1	0	0	0	0		508	2067	
Street W	Townsend Street		8:45	3	250	2	0	12	2	3	0	3	249	0	21	0	0	0	1	1	0	0	0	0		547	2101	
Street W2		0	9:00	15	201	2	2	23	0	7	0	4	215	0	33	1	0	0	2	2	0	0	0	0		507	2080	
			Peak	12	1009	4	7	59	3	12	0	14	869	0	99	4	3	0	4	2	0	0	0	0		547	2101	0.96
Intersection 6																											
Street N	Second Street		7:15	0	0	1	0	26	219	1	1	3	2	0	46	0	1	0	175	2	0	0	0	0		477		
Street N2		0	7:30	0	0	4	0	27	221	2	1	1	3	0	67	0	0	0	197	4	0	0	0	0		527		
Street E	King Street		7:45	0	0	2	0	24	286	1	0	0	1	0	69	0	0	0	183	3	0	0	0	0		569		
Street E2		0	8:00	0	0	1	0	30	232	1	1	1	2	0	62	0	0	0	213	4	0	0	0	0		547	2120	
Street S	Second Street		8:15	0	0	3	0	27	235	3	1	1	2	0	72	0	0	0	216	6	0	0	0	0		566	2209	
Street S2		0	8:30	0	0	2	0	30	274	0	1	0	0	0	79	0	1	0	181	4	0	0	0	0		572	2254	
Street W	King Street		8:45	0	0	0	0	29	249	3	2	2	3	0	60	0	1	0	240	5	0	0	0	0		594	2279	
Street W2		0	9:00	0	0	5	0	34	233	2	0	1	3	0	70	0	2	0	209	9	0	0	0	0		568	2300	
			Peak	0	0	10	0	120	991	8	4	4	8	0	281	0	4	0	846	24	0	0	0	0		594	2300	0.97

Intersection 9

Street N	Fifth Street		7:15	23	0	0	0	0	426	24	0	0	0	0	0	0	0	0	191	0	0	0	0	0	664		
Street N2		0	7:30	21	0	2	0	0	415	22	0	0	0	0	0	0	0	0	226	0	0	0	0	0	686		
Street E	King Street		7:45	38	0	5	0	0	466	18	0	0	0	0	0	0	0	0	195	0	0	0	0	0	722		
Street E2		0	8:00	29	0	3	0	0	374	29	0	0	0	0	0	0	0	0	231	0	0	0	0	0	666	2738	
Street S	Fifth Street		8:15	38	0	5	0	0	345	20	0	0	0	0	0	0	0	0	236	0	0	0	0	0	644	2718	
Street S2		0	8:30	22	0	4	0	0	430	18	0	0	0	0	0	0	0	0	212	0	0	0	0	0	686	2718	
Street W	King Street		8:45	25	0	7	0	0	380	18	0	0	0	0	0	0	0	0	256	0	0	0	0	0	686	2682	
Street W2		0	9:00	20	0	4	0	0	407	14	0	0	0	0	0	0	0	0	211	0	0	0	0	0	656	2672	
			Peak	111	0	10	0	0	1681	93	0	0	0	0	0	0	0	0	843	0	0	0	0	0	722	2738	0.95

Intersection 11

Street N	I-80 Westbound Off Ramp/Fremont Street		7:15	46	51	74	0	8	13	0	0	1	0	0	17	0	0	0	102	7	0	0	0	0	319		
Street N2		0	7:30	54	71	69	0	23	17	0	1	0	0	0	12	0	0	0	112	5	0	0	0	0	364		
Street E	Harrison Street		7:45	56	59	75	0	15	12	0	2	2	0	0	18	0	0	0	103	6	0	0	0	0	348		
Street E2		0	8:00	53	95	74	0	28	18	0	2	2	0	0	15	0	0	0	100	4	0	0	0	0	391	1422	
Street S	I-80 Westbound Off Ramp/Fremont Street		8:15	59	72	61	0	27	33	0	2	0	0	0	13	0	0	0	100	4	0	0	0	0	371	1474	
Street S2		0	8:30	56	96	64	0	32	28	0	1	0	0	0	22	0	0	0	101	7	0	0	0	0	407	1517	
Street W	Harrison Street		8:45	56	84	81	0	27	30	0	0	0	0	0	17	0	0	0	96	7	1	0	0	0	399	1568	
Street W2		0	9:00	69	98	102	0	32	31	0	1	4	0	0	22	0	0	0	110	21	0	0	0	0	490	1667	
			Peak	240	350	308	0	118	122	0	4	4	0	0	74	0	0	0	407	39	1	0	0	0	490	1667	0.85

Intersection 13

Street N	Second Street		7:15	1	39	3	0	49	23	2	0	7	61	0	21	0	3	0	29	11	0	0	0	0	249		
Street N2		0	7:30	0	49	2	0	51	38	5	0	9	83	0	20	0	7	0	30	7	0	0	0	0	301		
Street E	Brannan Street		7:45	2	53	1	0	56	50	5	0	7	81	0	30	0	6	0	36	18	0	0	0	0	345		
Street E2		0	8:00	1	63	3	0	71	54	7	0	15	70	0	27	0	12	0	55	12	0	0	0	0	390	1285	
Street S	Second Street		8:15	3	64	9	0	51	60	10	0	15	103	0	39	0	5	0	60	16	0	0	0	0	435	1471	
Street S2		0	8:30	2	67	5	0	64	84	11	0	22	90	0	36	0	4	0	64	14	0	0	0	0	463	1633	
Street W	Brannan Street		8:45	8	69	5	0	70	77	21	0	11	88	0	31	0	6	0	64	13	0	0	0	0	463	1751	
Street W2		0	9:00	2	81	5	0	69	98	17	0	20	114	0	48	0	7	0	72	25	0	0	0	0	558	1919	
			Peak	15	281	24	0	254	319	59	0	68	395	0	154	0	22	0	260	68	0	0	0	0	558	1919	0.86

Intersection 19

Street N	Fourth Street		7:15	0	0	0	0	0	0	0	0	0	48	138	18	0	16	159	71	0	0	0	0	0	450		
Street N2		0	7:30	0	0	0	0	0	0	0	0	0	50	97	22	0	17	166	79	0	0	0	0	0	431		
Street E	Harrison Street		7:45	0	0	0	0	0	0	0	0	0	49	92	29	0	19	186	94	0	0	0	0	0	469		
Street E2		0	8:00	0	0	0	0	0	0	0	0	0	72	109	16	0	28	167	125	0	0	0	0	0	517	1867	
Street S	Fourth Street		8:15	0	0	0	0	0	0	0	0	0	75	98	40	0	22	141	133	0	0	0	0	0	509	1926	
Street S2	I-80 Westbound On Ramp		8:30	0	0	0	0	0	0	0	0	0	73	103	39	0	24	157	123	0	0	0	0	0	519	2014	
Street W	Harrison Street		8:45	0	0	0	0	0	0	0	0	0	87	118	38	0	32	167	125	0	0	0	0	0	567	2112	
Street W2		0	9:00	0	0	0	0	0	0	0	0	0	90	117	33	0	41	160	128	0	0	0	0	0	569	2164	
			Peak	0	0	0	0	0	0	0	0	0	325	436	150	0	119	625	509	0	0	0	0	0	569	2164	0.95

Intersection 20

Street N	Fourth Street		7:15	0	0	0	0	0	0	0	0	0	103	0	19	0	92	0	155	0	0	0	0	0	369		
Street N2		0	7:30	0	0	0	0	0	0	0	0	0	61	0	34	0	97	0	164	0	0	0	0	0	356		
Street E	Howard Street		7:45	0	0	0	0	0	0	0	0	0	98	0	32	0	72	0	173	0	0	0	0	0	375		
Street E2		0	8:00	0	0	0	0	0	0	0	0	0	86	0	36	0	95	0	192	0	0	0	0	0	409	1509	
Street S	Fourth Street		8:15	0	0	0	0	0	0	0	0	0	95	0	32	0	101	0	220	0	0	0	0	0	448	1588	
Street S2		0	8:30	0	0	0	0	0	0	0	0	0	96	0	47	0	93	0	218	0	0	0	0	0	454	1686	
Street W	Howard Street		8:45	0	0	0	0	0	0	0	0	0	111	0	49	0	99	0	216	0	0	0	0	0	475	1786	
Street W2		0	9:00	0	0	0	0	0	0	0	0	0	107	0	47	0	92	0	245	0	0	0	0	0	491	1868	
			Peak	0	0	0	0	0	0	0	0	0	409	0	175	0	385	0	899	0	0	0	0	0	491	1868	0.95

Intersection 22

Street N	Fifth Street		7:15	4	39	0	0	0	0	0	0	0	87	0	42	0	4	0	76	11	0	120	63	51	497		
Street N2		0	7:30	9	50	0	0	0	0	0	0	0	84	0	38	0	11	0	73	10	0	116	56	56	503		
Street E	Harrison Street		7:45	6	66	0	0	0	0	0	0	0	97	0	41	0	14	0	94	16	0	122	69	60	585		
Street E2		0	8:00	8	68	0	0	0	0	0	0	0	89	0	42	0	14	0	115	17	0	130	71	62	616	2201	
Street S	Fifth Street		8:15	8	75	0	0	0	0	0	0	0	138	0	47	0	14	0	126	27	0	102	62	60	659	2363	
Street S2		0	8:30	11	94	0	0	0	0	0	0	0	140	0	60	0	8	0	132	23	0	117	82	55	722	2582	
Street W	Harrison Street		8:45	14	79	0	0	0	0	0	0	0	133	0	50	0	14	0	116	31	0	127	66	64	694	2691	
Street W2	I-80 Westbound Off Ramp		9:00	12	79	0	0	0	0	0	0	0	151	0	43	0	7	0	119	34	0	98	79	55	677	2752	
			Peak	45	327	0	0	0	0	0	0	0	562	0	200	0	43	0	493	115	0	444	289	234	722	2752	0.95

Intersection 23																													
Street N	Third Street		7:15	0	115	1	0	0	0	0	0	18	54	0	0	0	2	0	0	20	0	0	0	0	210		
Street N2		0	7:30	0	105	1	0	0	0	0	0	24	63	0	0	1	0	0	0	22	0	0	0	0	216		
Street E	Terry A Francois Street		7:45	0	185	0	0	0	0	0	0	23	70	0	0	0	0	0	0	31	0	0	0	0	309		
Street E2		0	8:00	0	212	1	0	0	0	0	0	17	65	0	0	0	0	0	0	45	0	0	0	0	340	1075	
Street S	Third Street		8:15	0	196	0	0	0	0	0	0	33	70	0	0	0	3	0	0	40	0	0	0	0	342	1207	
Street S2		0	8:30	0	219	0	0	0	0	0	0	18	71	0	0	1	1	0	0	85	0	0	0	0	395	1386	
Street W	Terry A Francois Street		8:45	0	259	0	0	0	0	0	0	25	80	0	0	1	0	0	0	75	0	0	0	0	440	1517	
Street W2		0	9:00	0	241	1	0	0	0	0	0	26	82	0	0	0	1	0	0	57	0	0	0	0	408	1585	
			Peak	0	915	1	0	0	0	0	0	102	303	0	0	2	5	0	0	257	0	0	0	0	440	1585	0.90
Intersection 24																													
Street N	Third Street		7:15	2	115	5	0	4	4	7	0	6	46	0	2	0	0	0	1	0	0	0	0	0	192		
Street N2		0	7:30	6	106	4	0	2	4	9	0	5	50	0	3	0	0	0	0	0	0	0	0	0	189		
Street E	Channel Street		7:45	8	198	10	0	1	4	13	0	4	61	0	5	0	0	0	2	0	0	0	0	0	306		
Street E2		0	8:00	3	213	9	0	1	6	9	0	11	53	0	4	0	0	0	0	0	0	0	0	0	309	996	
Street S	Third Street		8:15	2	194	7	0	3	3	10	0	14	58	0	5	0	0	0	0	0	0	0	0	0	296	1100	
Street S2		0	8:30	4	216	5	0	5	5	10	0	9	60	0	2	0	0	0	0	1	0	0	0	0	317	1228	
Street W	Channel Street		8:45	2	262	10	0	2	6	14	0	8	60	0	4	0	0	0	0	0	0	0	0	0	368	1290	
Street W2		0	9:00	8	220	4	0	1	5	11	0	22	60	0	3	0	0	0	1	1	0	0	0	0	336	1317	
			Peak	16	892	26	0	11	19	45	0	53	238	0	14	0	0	0	1	2	0	0	0	0	368	1317	0.89
Intersection 25																													
Street N	Third Street		7:15	9	104	5	0	2	1	0	0	1	46	0	2	1	2	0	0	1	0	0	0	0	174		
Street N2		0	7:30	1	123	4	1	1	1	7	0	2	60	0	1	0	0	0	0	0	0	0	0	0	201		
Street E	Mission Rock Street		7:45	6	208	5	1	6	0	7	0	6	62	0	3	0	1	0	1	7	0	0	0	0	313		
Street E2		0	8:00	3	211	2	1	5	0	1	0	2	62	0	1	0	3	0	1	2	0	0	0	0	294	982	
Street S	Third Street		8:15	3	198	2	0	2	5	5	0	0	64	0	2	0	0	0	1	11	0	0	0	0	293	1101	
Street S2		0	8:30	5	221	5	2	3	4	1	0	5	67	0	0	0	2	0	1	8	0	0	0	0	324	1224	
Street W	Mission Rock Street		8:45	0	265	6	0	1	2	2	0	5	64	0	2	0	0	0	2	7	0	0	0	0	356	1267	
Street W2		0	9:00	0	226	5	0	3	2	3	0	4	66	0	0	0	1	0	1	8	0	0	0	0	319	1292	
			Peak	8	910	18	2	9	13	11	0	14	261	0	4	0	3	0	5	34	0	0	0	0	356	1292	0.91
Intersection 26																													
Street N	Fourth Street		7:15	6	8	4	0	4	1	3	0	10	27	0	2	0	0	0	1	4	0	0	0	0	70		
Street N2		0	7:30	4	15	2	0	3	2	5	0	11	32	0	4	0	1	0	4	4	0	0	0	0	87		
Street E	Channel Street		7:45	5	5	2	0	0	0	3	0	16	28	0	3	0	2	0	3	9	0	0	0	0	76		
Street E2		0	8:00	7	5	3	2	4	3	3	0	9	29	0	2	0	2	0	1	5	0	0	0	0	75	308	
Street S	Fourth Street		8:15	6	12	1	0	2	5	2	0	11	30	0	3	0	0	0	0	6	0	0	0	0	78	316	
Street S2		0	8:30	4	12	0	0	3	3	7	0	16	38	0	3	0	0	0	1	6	0	0	0	0	93	322	
Street W	Channel Street		8:45	3	16	1	0	0	2	4	0	20	34	0	2	0	0	0	1	5	0	0	0	0	88	334	
Street W2		0	9:00	2	14	2	0	4	0	4	0	15	29	0	3	0	0	0	1	11	0	0	0	0	85	344	
			Peak	15	54	4	0	9	10	17	0	62	131	0	11	0	0	0	3	28	0	0	0	0	93	344	0.92
Intersection 27																													
Street N	Terry A Francois Boulevard		7:15	5	16	0	0	1	0	4	1	0	16	0	0	0	0	0	0	0	0	0	0	0	43		
Street N2		0	7:30	0	34	0	0	1	0	3	1	0	11	0	0	0	0	0	0	0	0	0	0	0	50		
Street E	Mission Rock Street		7:45	8	43	1	0	2	1	6	0	1	14	0	0	0	0	0	0	0	0	0	0	0	76		
Street E2		0	8:00	1	49	0	0	0	0	1	0	1	11	0	3	0	0	0	0	0	0	0	0	0	66	235	
Street S	Terry A Francois Boulevard		8:15	10	47	0	0	4	1	4	0	2	28	0	2	0	0	0	0	0	0	0	0	0	98	290	
Street S2		0	8:30	7	98	0	0	2	1	8	0	1	19	0	1	0	0	0	0	0	0	0	0	0	137	377	
Street W	Mission Rock Street		8:45	6	88	1	0	5	0	7	1	0	23	0	0	0	0	0	0	0	0	0	0	0	131	432	
Street W2		0	9:00	7	75	0	0	0	0	9	0	0	23	0	2	0	0	0	0	0	0	0	0	0	116	482	
			Peak	30	308	1	0	11	2	28	1	3	93	0	5	0	0	0	0	0	0	0	0	0	137	482	0.88
Intersection 28																													
Street N	Terry A Francois Boulevard		7:15	0	23	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	38		
Street N2		0	7:30	0	41	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	51		
Street E	16th Street		7:45	0	49	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	56		
Street E2		0	8:00	0	57	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	73	218	
Street S	Terry A Francois Boulevard		8:15	0	73	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	97	277	
Street S2		0	8:30	0	129	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	151	377	
Street W	16th Street		8:45	0	120	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	131	452	
Street W2		0	9:00	0	110	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	122	501	
			Peak	0	432	0	0	0	0	0	0	0	69	0	0	0	0	0	0	0	0	0	0	0	151	501	0.83

Intersection 29

Street N	Third Street		7:15	33	110	1	0	17	5	19	0	1	39	0	17	0	0	0	14	5	0	0	0	0	261		
Street N2		0	7:30	63	130	6	0	12	9	23	0	2	40	0	21	0	0	0	14	15	0	0	0	0	335		
Street E	16th Street		7:45	66	195	2	0	20	14	35	0	3	47	0	23	0	0	0	19	18	0	0	0	0	442		
Street E2		0	8:00	78	199	11	0	14	14	29	0	4	53	0	20	0	0	0	27	15	0	0	0	0	464	1502	
Street S	Third Street		8:15	60	197	11	1	21	17	27	0	3	43	0	21	0	0	0	27	11	0	0	0	0	439	1680	
Street S2		0	8:30	72	204	4	1	31	11	27	0	5	53	0	22	0	0	0	34	18	0	0	0	0	482	1827	
Street W	16th Street		8:45	73	222	3	0	40	20	30	0	6	44	0	24	0	0	0	26	23	0	0	0	0	511	1896	
Street W2		0	9:00	61	219	3	0	42	20	43	0	6	48	0	25	0	0	0	19	12	0	0	0	0	498	1930	
			Peak	266	842	21	2	134	68	127	0	20	188	0	92	0	0	0	106	64	0	0	0	0	511	1930	0.94

Intersection 30

Street N	Owens Street		7:15	0	0	0	0	24	57	0	0	12	0	0	20	0	0	0	44	12	0	0	0	0	169		
Street N2		0	7:30	0	0	0	0	33	48	0	2	9	0	0	16	0	0	0	66	22	0	0	0	0	196		
Street E	16th Street		7:45	0	0	0	0	39	80	0	0	11	0	0	13	0	0	0	70	21	0	0	0	0	234		
Street E2		0	8:00	0	0	0	0	38	79	0	0	7	0	0	11	0	0	0	69	18	0	0	0	0	222	821	
Street S	Owens Street		8:15	0	0	0	0	50	91	0	0	8	0	0	9	0	0	0	69	19	0	0	0	0	246	898	
Street S2		0	8:30	0	0	0	0	58	81	0	0	15	0	0	16	0	0	0	90	16	0	0	0	0	276	978	
Street W	16th Street		8:45	0	0	1	0	52	101	0	0	17	0	0	21	0	1	0	85	31	0	0	0	0	309	1053	
Street W2		0	9:00	0	0	1	0	57	98	0	0	12	0	0	20	0	2	0	62	26	0	0	0	0	278	1109	
			Peak	0	0	2	0	217	371	0	0	52	0	0	66	0	3	0	306	92	0	0	0	0	309	1109	0.90

Intersection 31

Street N	Seventh Street		7:15	11	64	14	0	4	44	24	0	24	15	0	4	0	10	0	37	15	0	0	0	0	266		
Street N2		0	7:30	16	87	21	0	5	55	23	0	13	31	0	3	0	3	0	40	30	0	0	0	0	327		
Street E	16th Street		7:45	12	102	25	0	8	75	23	0	21	18	0	3	0	8	0	42	37	0	0	0	0	374		
Street E2		0	8:00	12	92	22	0	8	70	16	0	22	20	0	5	0	5	0	35	23	0	0	0	0	330	1297	
Street S	Seventh Street		8:15	18	104	23	0	10	94	25	0	28	23	0	3	0	7	0	46	34	0	0	0	0	415	1446	
Street S2		0	8:30	7	95	24	0	5	93	14	0	27	17	0	6	0	4	0	53	44	0	0	0	0	389	1508	
Street W	16th Street		8:45	17	98	33	0	5	90	15	0	29	29	0	15	0	4	0	55	43	0	0	0	0	433	1567	
Street W2		0	9:00	7	86	26	0	15	97	26	0	35	28	0	14	0	4	0	42	35	0	0	0	0	415	1652	
			Peak	49	383	106	0	35	374	80	0	119	97	0	38	0	19	0	196	156	0	0	0	0	433	1652	0.95

Intersection 32

Street N	Seventh Street		7:15	2	86	3	0	0	0	0	0	4	54	0	0	0	5	0	0	14	0	0	0	0	168		
Street N2		0	7:30	2	127	1	0	0	0	0	0	10	59	0	2	0	3	0	0	18	0	0	0	0	222		
Street E	Mission Bay Drive		7:45	0	141	4	0	0	0	0	0	6	48	0	1	0	10	0	0	16	0	0	0	0	226		
Street E2		0	8:00	0	136	4	0	0	0	0	0	7	76	0	3	0	2	0	0	22	0	0	0	0	250	866	
Street S	Seventh Street		8:15	0	167	4	0	0	0	0	0	12	62	0	0	0	4	0	0	16	0	0	0	0	265	963	
Street S2		0	8:30	0	146	9	0	0	0	0	0	22	65	0	0	0	8	0	0	29	0	0	0	0	279	1020	
Street W	Mission Bay Drive		8:45	0	143	1	0	0	0	0	0	12	89	0	0	0	6	0	0	18	0	0	0	0	269	1063	
Street W2		0	9:00	1	150	7	0	0	0	0	0	10	73	0	2	0	6	0	0	17	1	0	0	0	267	1080	
			Peak	1	606	21	0	0	0	0	0	56	289	0	2	0	24	0	0	80	1	0	0	0	279	1080	0.97

Intersection 33

Street N	Illinois Street		7:15	3	17	6	0	5	19	5	0	0	4	0	2	0	9	0	6	0	0	0	0	0	76		
Street N2		0	7:30	5	21	9	0	4	32	14	0	1	6	0	0	0	4	0	6	0	1	0	0	0	103		
Street E	Mariposa Street/Terry A Francois Street		7:45	5	25	16	0	12	34	6	0	0	10	0	0	0	5	0	1	0	0	0	0	0	114		
Street E2		0	8:00	4	25	20	0	8	34	10	0	0	13	0	1	0	1	0	12	0	0	0	0	0	128	421	
Street S	Illinois Street		8:15	5	21	22	0	18	55	11	0	0	10	0	3	0	15	0	9	0	0	0	0	0	169	514	
Street S2		0	8:30	9	28	64	0	29	72	5	0	0	9	0	1	0	14	0	6	2	0	0	0	0	239	650	
Street W	Mariposa Street/Terry A Francois Street		8:45	9	41	42	0	17	79	7	0	1	10	0	1	0	3	0	7	2	0	0	0	0	219	755	
Street W2		0	9:00	6	21	56	0	17	60	6	0	2	24	0	0	0	4	0	7	0	0	0	0	0	203	830	
			Peak	29	111	184	0	81	266	29	0	3	53	0	5	0	36	0	29	4	0	0	0	0	239	830	0.87

Intersection 34

Street N	Third Street		7:15	5	88	3	0	66	26	5	0	0	39	0	15	0	0	0	11	1	0	0	0	0	259		
Street N2		0	7:30	8	134	3	1	63	43	6	0	3	47	0	9	0	1	0	11	0	0	0	0	0	329		
Street E	Mariposa Street		7:45	14	183	5	0	93	46	3	0	2	50	0	28	0	0	0	5	1	0	0	0	0	430		
Street E2		0	8:00	31	189	8	1	89	39	7	0	5	56	0	19	0	2	0	16	1	0	0	0	0	463	1481	
Street S	Third Street		8:15	17	191	20	1	88	66	5	0	5	57	0	12	0	0	0	16	1	0	0	0	0	479	1701	
Street S2		0	8:30	33	192	27	1	77	74	6	0	2	65	0	13	0	0	0	15	2	0	0	0	0	507	1879	
Street W	Mariposa Street		8:45	20	205	18	0	92	82	5	0	3	62	0	11	1	1	0	13	4	0	0	0	0	517	1966	
Street W2		0	9:00	13	188	14	0	83	64	2	0	5	59	0	24	0	0	0	14	2	0	0	0	0	468	1971	
			Peak	83	776	79	2	340	286	18	0	15	243	0	60	1	1	0	58	9	0	0	0	0	517	1971	0.95

Intersection 35

Street N	I-280 Northbound Off Ramp		7:15	172	0	65	0	0	17	0	0	0	0	0	0	0	0	0	43	0	0	0	0	0	297		
Street N2		0	7:30	204	0	137	0	0	18	0	0	0	0	0	0	0	0	0	39	0	0	0	0	0	398		
Street E	Mariposa Street		7:45	172	0	156	0	0	30	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	418		
Street E2		0	8:00	215	0	146	0	0	27	0	0	0	0	0	0	0	0	0	64	0	0	0	0	0	452	1565	
Street S	I-280 Northbound Off Ramp		8:15	220	0	195	0	0	25	0	0	0	0	0	0	0	0	0	65	0	0	0	0	0	505	1773	
Street S2		0	8:30	240	0	206	0	0	25	0	0	0	0	0	0	0	0	0	59	0	0	0	0	0	530	1905	
Street W	Mariposa Street		8:45	205	0	215	0	0	35	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	515	2002	
Street W2		0	9:00	194	0	186	0	0	40	0	0	0	0	0	0	0	0	0	77	0	0	0	0	0	497	2047	
		Peak		859	0	802	0	0	125	0	0	0	0	0	0	0	0	0	261	0	0	0	0	0	530	2047	0.97

Intersection 36

Street N	I-280 Southbound On Ramp		7:15	0	0	0	0	0	15	63	0	0	0	0	0	0	21	0	196	0	0	0	0	0	295		
Street N2		0	7:30	0	0	0	0	0	19	68	0	0	0	0	0	0	25	0	214	0	0	0	0	0	326		
Street E	Mariposa Street		7:45	0	0	0	0	0	28	92	0	0	0	0	0	0	33	0	202	0	0	0	0	0	355		
Street E2		0	8:00	0	0	0	0	0	29	84	0	0	0	0	0	0	32	0	243	0	0	0	0	0	388	1364	
Street S	I-280 Southbound On Ramp		8:15	0	0	0	0	0	24	87	0	0	0	0	0	0	24	0	266	0	0	0	0	0	401	1470	
Street S2		0	8:30	0	0	0	0	0	27	91	0	0	0	0	0	0	23	0	271	0	0	0	0	0	412	1556	
Street W	Mariposa Street		8:45	0	0	0	0	0	31	86	0	0	0	0	0	0	33	0	236	0	0	0	0	0	386	1587	
Street W2		0	9:00	0	0	0	0	0	43	86	0	0	0	0	0	0	35	0	229	0	0	0	0	0	393	1592	
		Peak		0	0	0	0	0	125	350	0	0	0	0	0	0	115	0	1002	0	0	0	0	0	412	1592	0.97

Peak Hour
Non-standard movement
Peak period
Not included in Synchro

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: The Embarcadero -- Folsom St

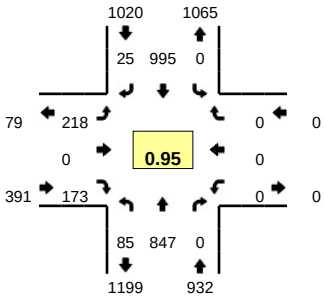
CITY/STATE: San Francisco, CA

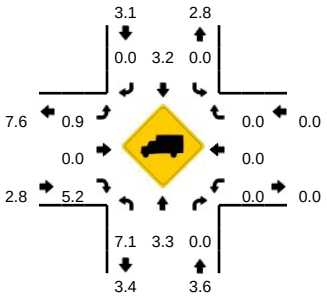
QC JOB #: 10850407

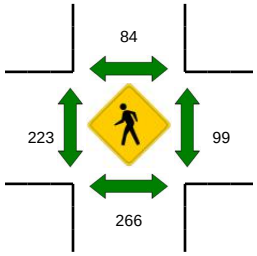
DATE: Thu, Nov 15 2012

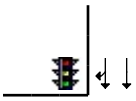
Peak-Hour: 4:20 PM -- 5:20 PM

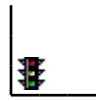
Peak 15-Min: 4:50 PM -- 5:05 PM

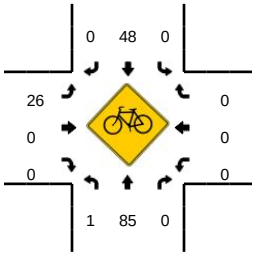


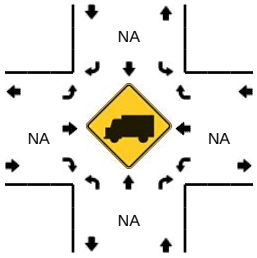


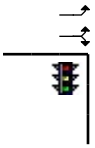


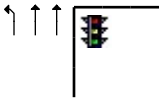


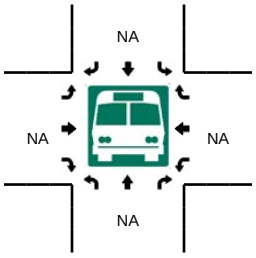












5-Min Count Period Beginning At	The Embarcadero (Northbound)				The Embarcadero (Southbound)				Folsom St (Eastbound)				Folsom St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	78	0	0	0	100	2	0	12	0	12	0	0	0	0	0	210	
4:05 PM	9	78	0	1	0	100	2	0	16	0	11	0	0	0	0	0	217	
4:10 PM	4	69	0	0	0	69	3	0	19	0	13	0	0	0	0	0	177	
4:15 PM	5	58	0	2	0	71	3	0	16	0	14	0	0	0	0	0	169	
4:20 PM	6	81	0	4	0	99	3	0	18	0	10	0	0	0	0	0	221	
4:25 PM	3	55	0	0	0	85	0	0	16	0	10	0	0	0	0	0	169	
4:30 PM	4	50	0	0	0	68	1	0	17	0	18	0	0	0	0	0	158	
4:35 PM	4	73	0	2	0	98	4	0	16	0	16	0	0	0	0	0	213	
4:40 PM	7	77	0	7	0	96	1	0	18	0	8	0	0	0	0	0	214	
4:45 PM	4	63	0	1	0	79	1	0	15	0	10	0	0	0	0	0	173	
4:50 PM	4	69	0	3	0	79	3	0	17	0	13	0	0	0	0	0	188	
4:55 PM	3	63	0	3	0	96	2	0	19	0	23	0	0	0	0	0	209	2318
5:00 PM	5	72	0	3	0	92	3	0	23	0	19	0	0	0	0	0	217	2325
5:05 PM	7	67	0	0	0	64	3	0	17	0	16	0	0	0	0	0	174	2282
5:10 PM	7	77	0	5	0	72	1	0	21	0	13	0	0	0	0	0	196	2301
5:15 PM	0	100	0	3	0	67	3	0	21	0	17	0	0	0	0	0	211	2343
5:20 PM	9	69	0	2	0	57	3	0	19	0	17	0	0	0	0	0	176	2298
5:25 PM	3	59	0	0	0	53	4	0	14	0	18	0	0	0	0	0	151	2280
5:30 PM	11	79	0	2	0	82	2	0	19	0	18	0	0	0	0	0	213	2335
5:35 PM	5	69	0	2	0	77	2	0	8	0	20	0	0	0	0	0	183	2305
5:40 PM	10	90	0	0	0	44	1	0	14	0	20	0	0	0	0	0	179	2270
5:45 PM	8	57	0	1	0	33	3	0	20	0	16	0	0	0	0	0	138	2235
5:50 PM	6	82	0	3	0	47	0	0	24	0	16	0	0	0	0	0	178	2225
5:55 PM	10	84	0	5	0	37	0	0	17	0	21	0	0	0	0	0	174	2190

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	48	816	0	36	0	1068	32	0	236	0	220	0	0	0	0	0	2456
Heavy Trucks	4	28	0		0	32	0		4	0	16		0	0	0		84
Pedestrians		228				80				236				108			652
Bicycles	0	15	0		0	21	0		3	0	0		0	0	0		39
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/30/2012 7:18 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: The Embarcadero -- Harrison St

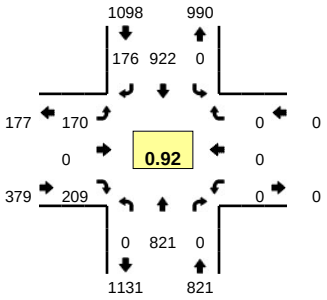
CITY/STATE: San Francisco, CA

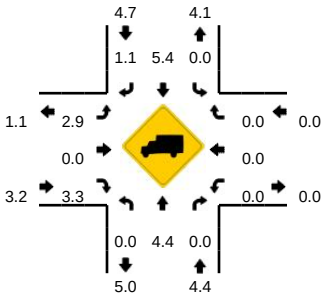
QC JOB #: 10850410

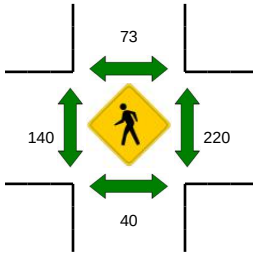
DATE: Thu, Nov 15 2012

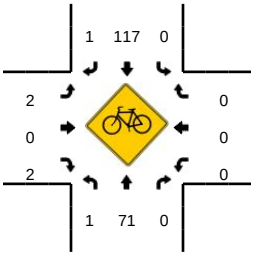
Peak-Hour: 4:45 PM -- 5:45 PM

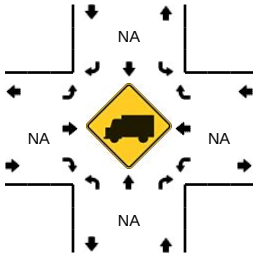
Peak 15-Min: 5:05 PM -- 5:20 PM

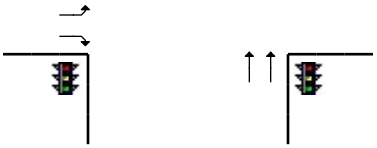


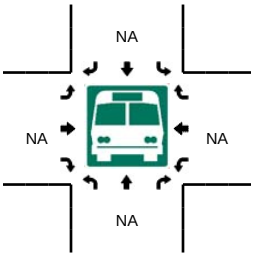












5-Min Count Period Beginning At	The Embarcadero (Northbound)				The Embarcadero (Southbound)				Harrison St (Eastbound)				Harrison St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	67	0	0	0	75	18	0	11	0	12	0	0	0	0	0	183	
4:05 PM	0	52	0	0	0	87	13	0	11	0	12	0	0	0	0	0	175	
4:10 PM	0	68	0	0	0	93	19	0	11	0	16	0	0	0	0	0	207	
4:15 PM	0	78	0	0	0	85	13	0	5	0	14	0	0	0	0	0	195	
4:20 PM	0	67	0	0	0	92	13	0	12	0	17	0	0	0	0	0	201	
4:25 PM	0	38	0	0	0	74	18	0	19	0	17	0	0	0	0	0	166	
4:30 PM	0	53	0	0	0	92	14	0	10	0	14	0	0	0	0	0	183	
4:35 PM	0	72	0	0	0	81	20	0	8	0	13	0	0	0	0	0	194	
4:40 PM	0	44	0	0	0	67	11	0	12	0	14	0	0	0	0	0	148	
4:45 PM	0	63	0	0	0	93	17	0	8	0	13	0	0	0	0	0	194	
4:50 PM	0	75	0	0	0	81	22	0	8	0	14	0	0	0	0	0	200	
4:55 PM	0	61	0	0	0	84	13	0	17	0	9	0	0	0	0	0	184	2230
5:00 PM	0	43	0	0	0	81	16	0	18	0	16	0	0	0	0	0	174	2221
5:05 PM	0	67	0	0	0	84	18	0	15	0	23	0	0	0	0	0	207	2253
5:10 PM	0	97	0	0	0	87	12	0	13	0	23	0	0	0	0	0	232	2278
5:15 PM	0	76	0	0	0	56	6	0	14	0	30	1	0	0	0	0	183	2266
5:20 PM	0	48	0	0	0	55	14	0	18	0	17	0	0	0	0	0	152	2217
5:25 PM	0	68	0	0	0	86	22	0	13	0	11	0	0	0	0	0	200	2251
5:30 PM	0	74	0	0	0	74	15	0	12	0	13	0	0	0	0	0	188	2256
5:35 PM	0	63	0	0	0	71	13	0	16	0	17	0	0	0	0	0	180	2242
5:40 PM	0	86	0	0	0	70	8	0	17	0	23	0	0	0	0	0	204	2298
5:45 PM	0	77	0	0	0	56	9	0	12	0	14	0	0	0	0	0	168	2272
5:50 PM	0	56	0	0	0	45	6	0	17	0	19	0	0	0	0	0	143	2215
5:55 PM	0	74	0	0	0	82	20	0	18	0	22	0	0	0	0	0	216	2247

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	0	960	0	0	0	908	144	0	168	0	304	4	0	0	0	0	2488
Heavy Trucks	0	24	0		0	48	8		0	0	4		0	0	0		84
Pedestrians		24				48				132				312			516
Bicycles	0	27	0		0	28	0		0	0	0		0	0	0		55
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/30/2012 7:18 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: The Embarcadero -- Bryant St

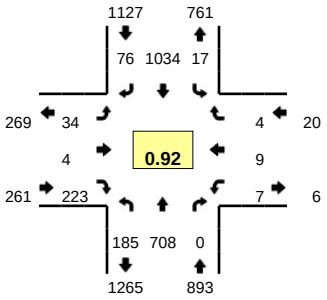
CITY/STATE: San Francisco, CA

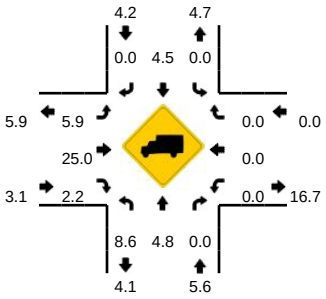
QC JOB #: 10850413

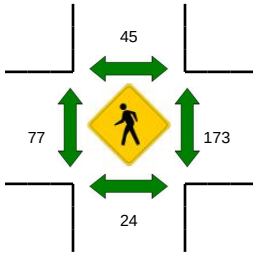
DATE: Thu, Nov 15 2012

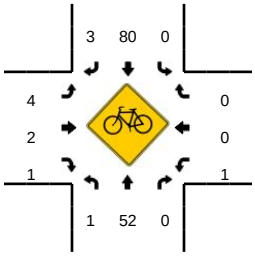
Peak-Hour: 4:20 PM -- 5:20 PM

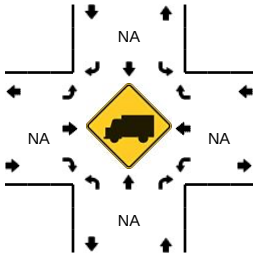
Peak 15-Min: 5:05 PM -- 5:20 PM

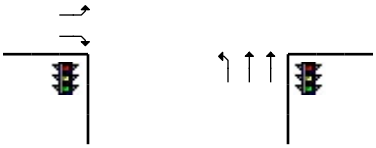


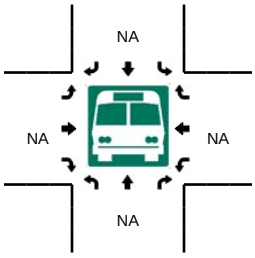












5-Min Count Period Beginning At	The Embarcadero (Northbound)				The Embarcadero (Southbound)				Bryant St (Eastbound)				Bryant St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	19	64	0	0	0	83	15	1	6	0	16	0	0	0	0	0	204	
4:05 PM	11	54	0	0	0	84	11	1	6	0	8	0	0	0	1	0	176	
4:10 PM	14	56	0	0	0	87	4	1	3	0	11	0	0	0	0	0	176	
4:15 PM	11	53	0	0	1	98	6	0	7	1	15	0	1	0	0	0	193	
4:20 PM	15	60	0	0	0	87	9	0	4	1	15	0	0	1	0	0	192	
4:25 PM	14	42	0	0	1	102	5	0	3	0	12	0	0	1	0	0	180	
4:30 PM	17	44	0	0	0	85	5	2	4	0	17	0	2	1	0	0	177	
4:35 PM	18	72	0	0	0	70	5	0	3	0	30	0	0	0	0	0	198	
4:40 PM	17	54	0	0	0	91	3	2	3	0	23	0	0	1	1	0	195	
4:45 PM	7	60	0	0	0	100	7	4	2	0	10	0	0	0	0	0	190	
4:50 PM	20	54	0	0	0	61	6	1	1	1	19	0	0	1	0	0	164	
4:55 PM	7	63	0	1	0	96	8	0	2	1	18	0	3	1	0	0	200	2245
5:00 PM	13	58	0	0	1	85	4	1	1	0	19	0	0	0	0	0	182	2223
5:05 PM	13	57	0	0	0	89	7	1	5	0	22	0	1	2	1	0	198	2245
5:10 PM	18	74	0	0	0	87	8	1	4	0	28	0	1	1	0	0	222	2291
5:15 PM	25	70	0	0	0	81	9	3	2	1	10	0	0	0	2	0	203	2301
5:20 PM	9	47	0	0	0	76	7	3	3	0	12	0	0	0	2	0	159	2268
5:25 PM	13	44	0	1	1	75	5	3	14	0	20	0	1	0	1	0	178	2266
5:30 PM	14	62	0	0	0	60	2	1	6	0	19	0	1	0	0	0	165	2254
5:35 PM	18	75	0	0	1	96	9	3	1	0	12	0	0	1	0	0	216	2272
5:40 PM	14	74	0	0	0	90	5	2	3	0	13	0	0	1	0	0	202	2279
5:45 PM	18	44	0	0	0	49	2	0	3	0	16	0	1	1	1	0	135	2224
5:50 PM	16	66	0	0	0	63	10	1	4	0	11	0	1	1	0	0	173	2233
5:55 PM	8	67	0	0	0	119	12	1	0	0	17	0	0	0	0	0	224	2257

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	224	804	0	0	0	1028	96	20	44	4	240	0	8	12	12	0	2492
Heavy Trucks	16	24	0		0	52	0		0	4	8		0	0	0		104
Pedestrians		32				56				112				192			392
Bicycles	1	19	0		0	28	1		3	1	0		1	0	0		54
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/30/2012 7:18 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: The Embarcadero -- Brannan St

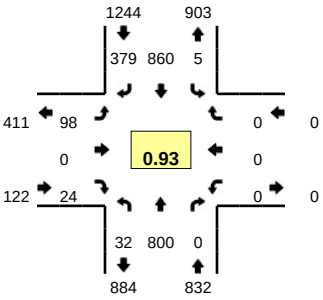
CITY/STATE: San Francisco, CA

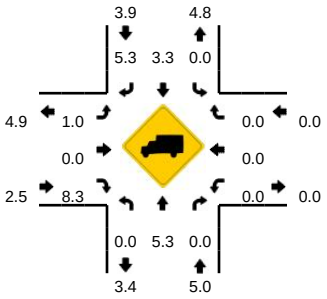
QC JOB #: 10850416

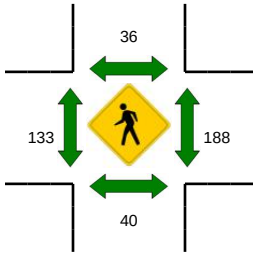
DATE: Thu, Nov 15 2012

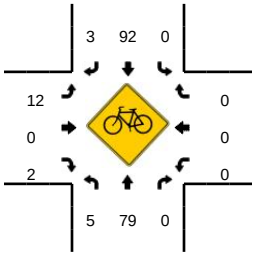
Peak-Hour: 4:25 PM -- 5:25 PM

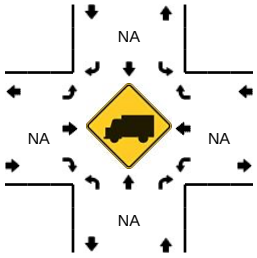
Peak 15-Min: 5:05 PM -- 5:20 PM

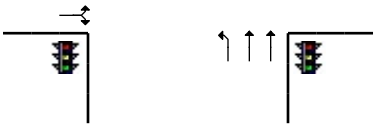


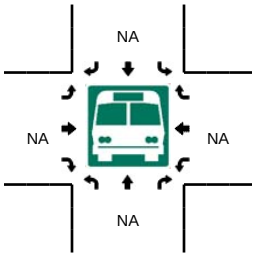












5-Min Count Period Beginning At	The Embarcadero (Northbound)				The Embarcadero (Southbound)				Brannan St (Eastbound)				Brannan St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	70	0	0	0	83	17	2	5	0	3	0	0	0	0	0	183	
4:05 PM	1	59	0	0	0	79	20	0	5	0	0	0	0	0	0	0	164	
4:10 PM	1	76	0	0	0	81	19	1	3	0	3	0	0	0	0	0	184	
4:15 PM	3	60	0	0	0	74	19	0	8	0	2	0	0	0	0	0	166	
4:20 PM	2	53	0	0	0	80	24	0	2	0	2	0	0	0	0	0	163	
4:25 PM	3	64	0	0	0	77	39	0	3	0	2	0	0	0	0	0	188	
4:30 PM	0	72	0	0	0	84	38	2	4	0	2	0	0	0	0	0	202	
4:35 PM	5	86	0	0	0	65	19	0	4	0	1	0	0	0	0	0	180	
4:40 PM	5	41	0	0	0	79	39	0	7	0	0	0	0	0	0	0	171	
4:45 PM	2	73	0	0	0	58	33	0	10	0	0	0	0	0	0	0	176	
4:50 PM	1	80	0	0	0	82	19	1	4	0	1	0	0	0	0	0	188	
4:55 PM	1	47	0	0	0	56	33	1	4	0	0	0	0	0	0	0	142	2107
5:00 PM	0	49	0	0	0	83	31	0	12	0	2	0	0	0	0	0	177	2101
5:05 PM	4	90	0	0	0	84	36	0	2	0	2	0	0	0	0	0	218	2155
5:10 PM	3	71	0	0	0	63	33	1	20	0	2	0	0	0	0	0	193	2164
5:15 PM	2	70	0	0	0	64	29	0	17	0	0	0	0	0	0	0	182	2180
5:20 PM	6	57	0	0	0	65	30	0	11	0	12	0	0	0	0	0	181	2198
5:25 PM	3	71	0	0	0	63	32	0	1	0	5	0	0	0	0	0	175	2185
5:30 PM	3	63	0	0	0	71	25	0	8	0	5	0	0	0	0	0	175	2158
5:35 PM	3	79	0	1	0	63	27	0	11	0	3	0	0	0	0	0	187	2165
5:40 PM	6	65	0	1	0	69	30	0	10	0	6	0	0	0	0	0	187	2181
5:45 PM	4	66	0	0	0	49	18	0	13	0	7	0	0	0	0	0	157	2162
5:50 PM	2	56	0	0	0	69	28	1	14	0	10	0	0	0	0	0	180	2154
5:55 PM	0	59	0	0	0	81	26	0	9	0	9	0	0	0	0	0	184	2196

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	36	924	0	0	0	844	392	4	156	0	16	0	0	0	0	0	2372
Heavy Trucks	0	32	0		0	24	28		0	0	4		0	0	0		88
Pedestrians		72				52				132				336			592
Bicycles	1	32	0		0	34	0		4	0	1		0	0	0		72
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/30/2012 7:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

MARKS TRAFFIC DATA
mietekm@comcast.net
916.806.0250

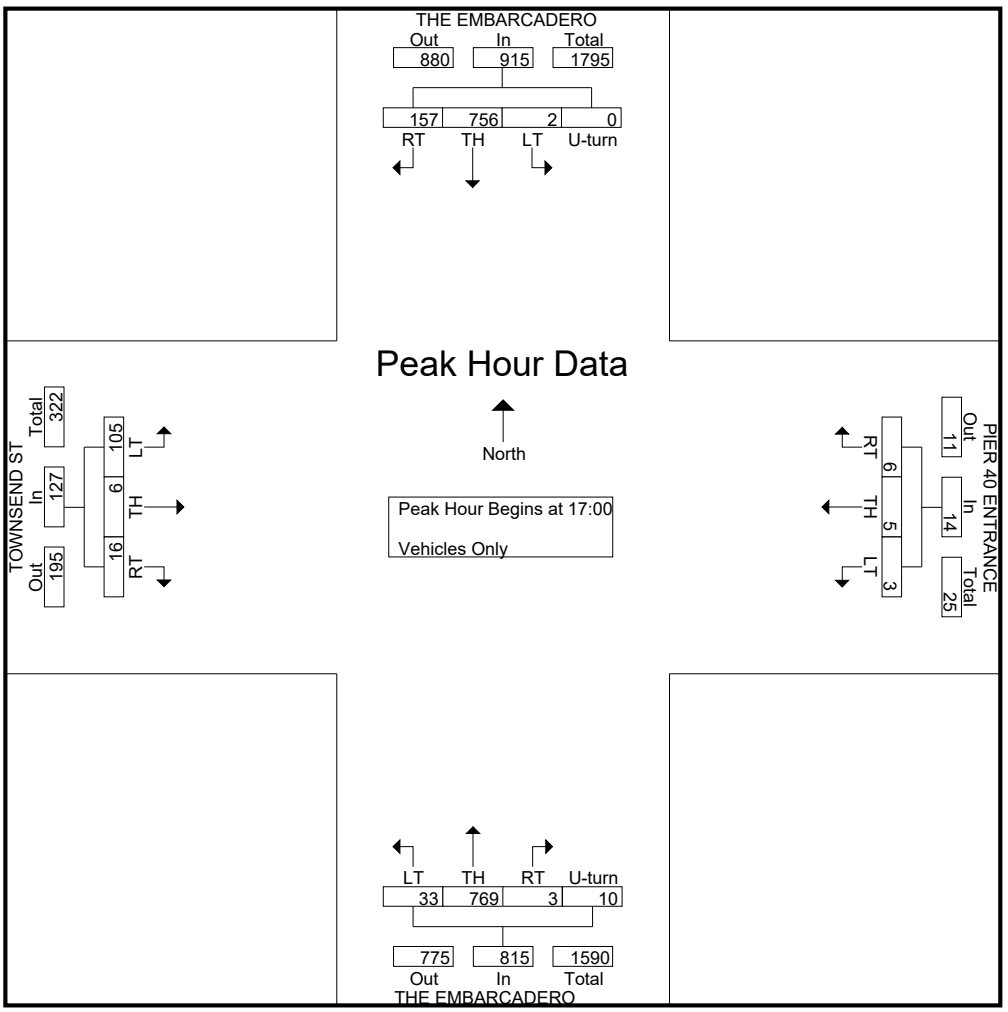
CITY OF SAN FRANCISCO
Giants Project

File Name : embarcadero-townsend-p
Site Code : 10
Start Date : 11/15/2012
Page No : 1

Groups Printed- Vehicles Only

	THE EMBARCADERO Southbound					PIER 40 ENTRANCE Westbound				THE EMBARCADERO Northbound					TOWNSEND ST Eastbound				
Start Time	RT	TH	LT	U-turn	App. Total	RT	TH	LT	App. Total	RT	TH	LT	U-turn	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	34	220	1	1	256	0	0	0	0	1	202	5	4	212	8	0	18	26	494
16:15	38	193	2	0	233	0	0	0	0	0	166	15	6	187	8	1	15	24	444
16:30	32	181	1	0	214	4	3	0	7	1	192	15	2	210	7	0	18	25	456
16:45	26	181	0	0	207	0	1	0	1	0	184	6	7	197	4	1	17	22	427
Total	130	775	4	1	910	4	4	0	8	2	744	41	19	806	27	2	68	97	1821
17:00	38	185	2	0	225	1	2	1	4	0	210	9	6	225	1	2	13	16	470
17:15	35	177	0	0	212	2	0	2	4	1	179	6	2	188	4	0	35	39	443
17:30	40	196	0	0	236	3	2	0	5	1	214	12	1	228	3	2	27	32	501
17:45	44	198	0	0	242	0	1	0	1	1	166	6	1	174	8	2	30	40	457
Total	157	756	2	0	915	6	5	3	14	3	769	33	10	815	16	6	105	127	1871
Grand Total	287	1531	6	1	1825	10	9	3	22	5	1513	74	29	1621	43	8	173	224	3692
Apprch %	15.7	83.9	0.3	0.1		45.5	40.9	13.6		0.3	93.3	4.6	1.8		19.2	3.6	77.2		
Total %	7.8	41.5	0.2	0	49.4	0.3	0.2	0.1	0.6	0.1	41	2	0.8	43.9	1.2	0.2	4.7	6.1	

	THE EMBARCADERO Southbound					PIER 40 ENTRANCE Westbound				THE EMBARCADERO Northbound					TOWNSEND ST Eastbound				
Start Time	RT	TH	LT	U-turn	App. Total	RT	TH	LT	App. Total	RT	TH	LT	U-turn	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 17:00																			
17:00	38	185	**2**	0	225	1	**2**	1	4	0	210	9	**6**	225	1	**2**	13	16	470
17:15	35	177	0	0	212	2	0	**2**	4	**1**	179	6	2	188	4	0	**35**	39	443
17:30	40	196	0	0	236	**3**	2	0	**5**	1	**214**	**12**	1	**228**	3	2	27	32	**501**
17:45	**44**	**198**	0	0	**242**	0	1	0	1	1	166	6	1	174	**8**	2	30	**40**	457
Total Volume	157	756	2	0	915	6	5	3	14	3	769	33	10	815	16	6	105	127	1871
% App. Total	17.2	82.6	0.2	0		42.9	35.7	21.4		0.4	94.4	4	1.2		12.6	4.7	82.7		
PHF	.892	.955	.250	.000	.945	.500	.625	.375	.700	.750	.898	.688	.417	.894	.500	.750	.750	.794	.934



MARKS TRAFFIC DATA
mietekm@comcast.net
916.806.0250

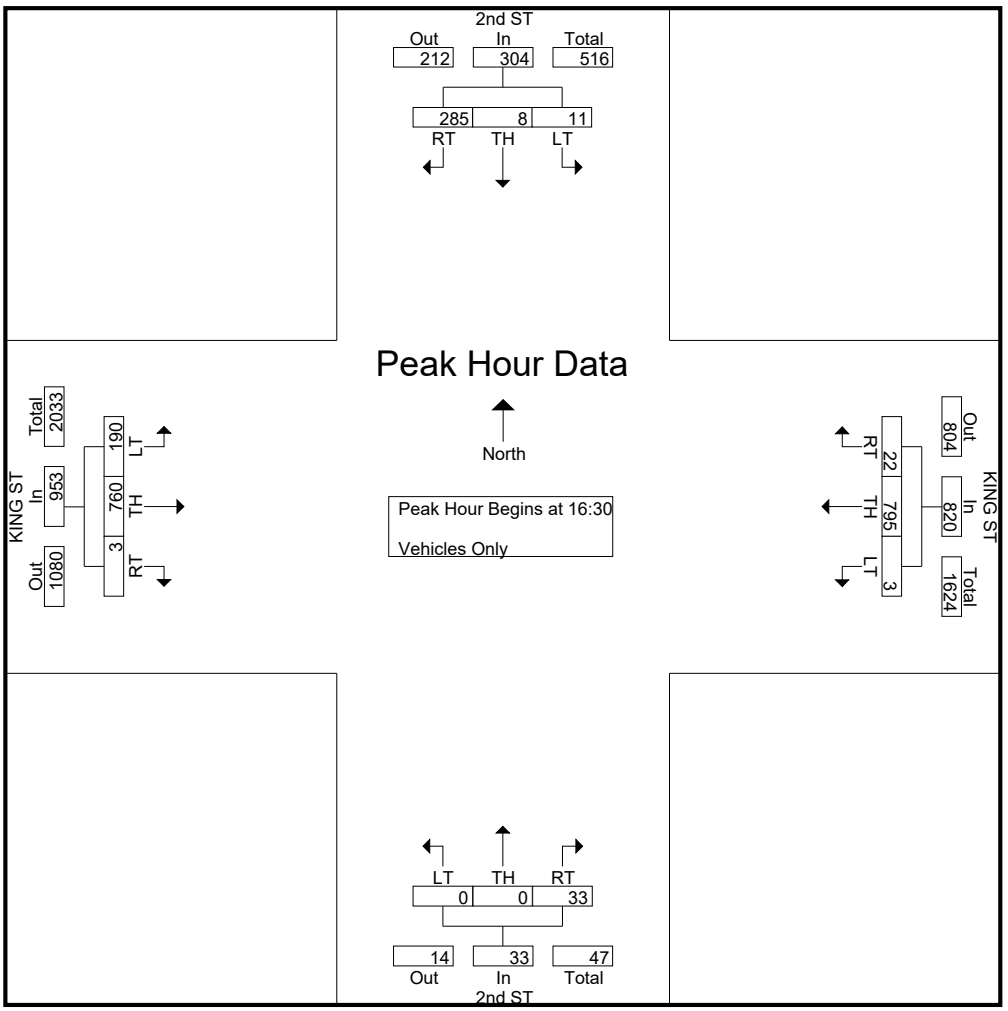
CITY OF SAN FRANCISCO
Giants Project

File Name : 2-king-p
Site Code : 11
Start Date : 11/15/2012
Page No : 1

Groups Printed- Vehicles Only

	2nd ST Southbound				KING ST Westbound				2nd ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	65	3	1	69	7	191	0	198	1	1	1	3	0	199	46	245	515
16:15	56	1	1	58	3	196	1	200	4	0	0	4	0	186	24	210	472
16:30	70	2	4	76	12	207	1	220	10	0	0	10	1	191	38	230	536
16:45	63	3	1	67	6	211	0	217	7	0	0	7	1	178	52	231	522
Total	254	9	7	270	28	805	2	835	22	1	1	24	2	754	160	916	2045
17:00	66	0	2	68	0	205	0	205	12	0	0	12	0	208	50	258	543
17:15	86	3	4	93	4	172	2	178	4	0	0	4	1	183	50	234	509
17:30	77	0	3	80	1	181	4	186	6	0	0	6	1	206	50	257	529
17:45	66	1	5	72	5	206	4	215	1	0	0	1	1	170	46	217	505
Total	295	4	14	313	10	764	10	784	23	0	0	23	3	767	196	966	2086
Grand Total	549	13	21	583	38	1569	12	1619	45	1	1	47	5	1521	356	1882	4131
Apprch %	94.2	2.2	3.6		2.3	96.9	0.7		95.7	2.1	2.1		0.3	80.8	18.9		
Total %	13.3	0.3	0.5	14.1	0.9	38	0.3	39.2	1.1	0	0	1.1	0.1	36.8	8.6	45.6	

	2nd ST Southbound				KING ST Westbound				2nd ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	70	2	**4**	76	**12**	207	1	**220**	10	0	0	10	**1**	191	38	230	536
16:45	63	**3**	1	67	6	**211**	0	217	7	0	0	7	1	178	**52**	231	522
17:00	66	0	2	68	0	205	0	205	**12**	0	0	**12**	0	**208**	50	**258**	**543**
17:15	**86**	3	4	**93**	4	172	**2**	178	4	0	0	4	1	183	50	234	509
Total Volume	285	8	11	304	22	795	3	820	33	0	0	33	3	760	190	953	2110
% App. Total	93.8	2.6	3.6		2.7	97	0.4		100	0	0		0.3	79.7	19.9		
PHF	.828	.667	.688	.817	.458	.942	.375	.932	.688	.000	.000	.688	.750	.913	.913	.923	.971



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

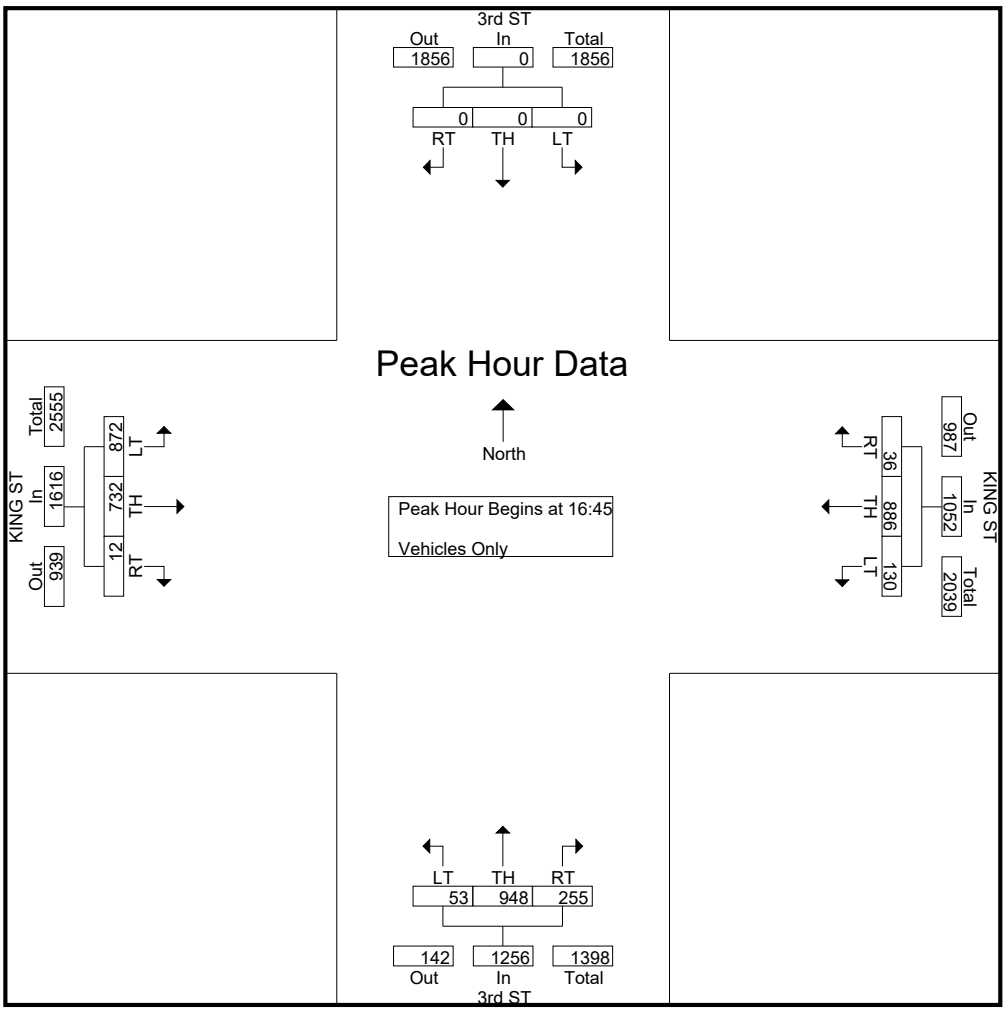
CITY OF SAN FRANCISCO
Giants Project

File Name : 3-king-p
Site Code : 12
Start Date : 11/15/2012
Page No : 1

Groups Printed- Vehicles Only

	3rd ST Southbound				KING ST Westbound				3rd ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	0	0	0	0	6	226	22	254	65	210	11	286	2	180	168	350	890
16:15	0	0	0	0	9	218	27	254	63	226	16	305	4	151	194	349	908
16:30	0	0	0	0	7	233	33	273	57	219	13	289	3	178	198	379	941
16:45	0	0	0	0	10	234	29	273	59	231	12	302	2	175	224	401	976
Total	0	0	0	0	32	911	111	1054	244	886	52	1182	11	684	784	1479	3715
17:00	0	0	0	0	7	226	38	271	60	235	19	314	5	205	216	426	1011
17:15	0	0	0	0	12	212	32	256	65	234	11	310	1	172	214	387	953
17:30	0	0	0	0	7	214	31	252	71	248	11	330	4	180	218	402	984
17:45	0	0	0	0	10	222	34	266	51	255	10	316	2	163	192	357	939
Total	0	0	0	0	36	874	135	1045	247	972	51	1270	12	720	840	1572	3887
Grand Total	0	0	0	0	68	1785	246	2099	491	1858	103	2452	23	1404	1624	3051	7602
Apprch %	0	0	0		3.2	85	11.7		20	75.8	4.2		0.8	46	53.2		
Total %	0	0	0	0	0.9	23.5	3.2	27.6	6.5	24.4	1.4	32.3	0.3	18.5	21.4	40.1	

	3rd ST Southbound				KING ST Westbound				3rd ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	0	0	0	10	**234**	29	**273**	59	231	12	302	2	175	**224**	401	976
17:00	0	0	0	0	7	226	**38**	271	60	235	**19**	314	**5**	**205**	216	**426**	**1011**
17:15	0	0	0	0	**12**	212	32	256	65	234	11	310	1	172	214	387	953
17:30	0	0	0	0	7	214	31	252	**71**	**248**	11	**330**	4	180	218	402	984
Total Volume	0	0	0	0	36	886	130	1052	255	948	53	1256	12	732	872	1616	3924
% App. Total	0	0	0		3.4	84.2	12.4		20.3	75.5	4.2		0.7	45.3	54		
PHF	.000	.000	.000	.000	.750	.947	.855	.963	.898	.956	.697	.952	.600	.893	.973	.948	.970



MARKS TRAFFIC DATA
mietekm@comcast.net
916.806.0250

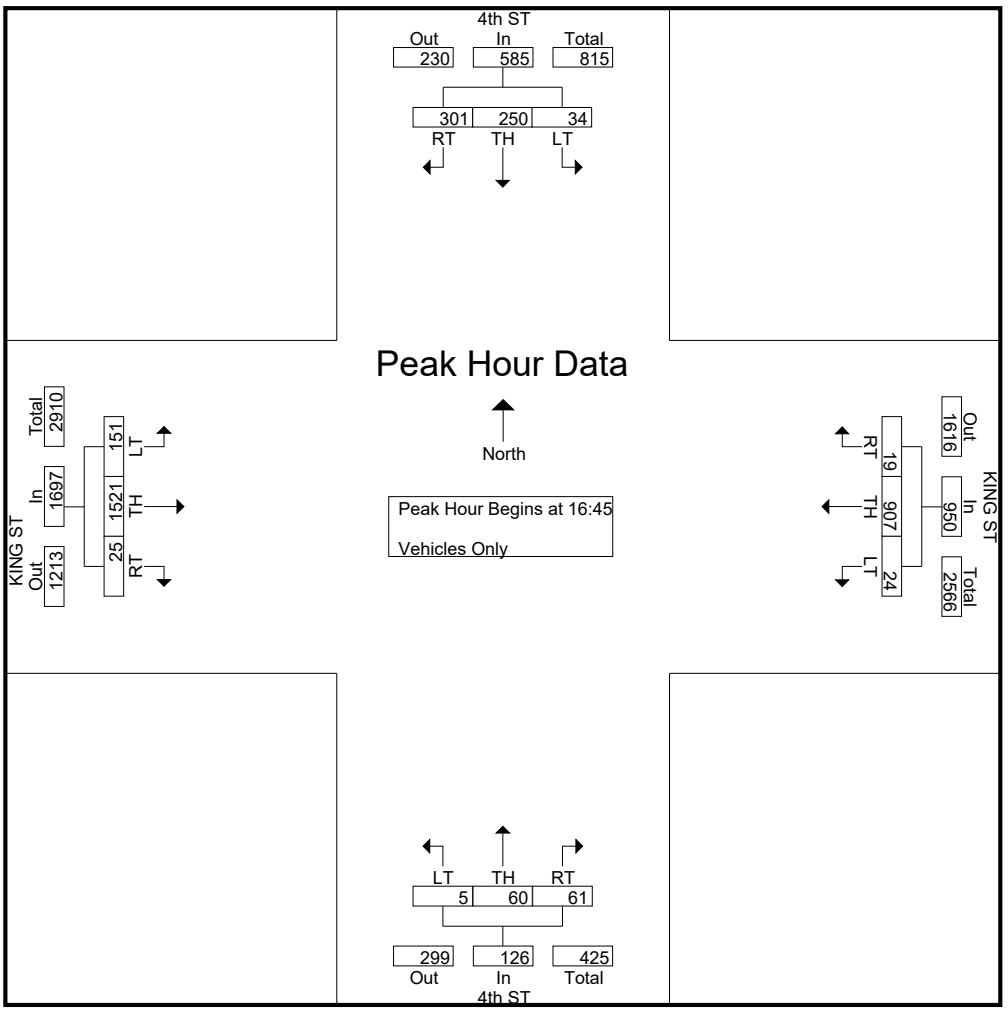
CITY OF SAN FRANCISCO
Giants Project

File Name : 4-king-p
Site Code : 13
Start Date : 11/15/2012
Page No : 1

Groups Printed- Vehicles Only

	4th ST Southbound				KING ST Westbound				4th ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	61	56	5	122	4	231	8	243	14	12	3	29	5	336	42	383	777
16:15	102	62	12	176	4	206	6	216	13	14	2	29	0	314	29	343	764
16:30	17	53	12	82	7	238	7	252	14	12	5	31	3	350	35	388	753
16:45	60	61	6	127	3	237	9	249	11	15	0	26	5	394	32	431	833
Total	240	232	35	507	18	912	30	960	52	53	10	115	13	1394	138	1545	3127
17:00	79	65	9	153	6	225	7	238	17	11	2	30	9	391	38	438	859
17:15	84	54	6	144	6	228	3	237	19	17	2	38	7	356	35	398	817
17:30	78	70	13	161	4	217	5	226	14	17	1	32	4	380	46	430	849
17:45	82	75	13	170	4	228	6	238	13	20	5	38	9	330	42	381	827
Total	323	264	41	628	20	898	21	939	63	65	10	138	29	1457	161	1647	3352
Grand Total	563	496	76	1135	38	1810	51	1899	115	118	20	253	42	2851	299	3192	6479
Apprch %	49.6	43.7	6.7		2	95.3	2.7		45.5	46.6	7.9		1.3	89.3	9.4		
Total %	8.7	7.7	1.2	17.5	0.6	27.9	0.8	29.3	1.8	1.8	0.3	3.9	0.6	44	4.6	49.3	

	4th ST Southbound				KING ST Westbound				4th ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	60	61	6	127	3	**237**	**9**	**249**	11	15	0	26	5	**394**	32	431	833
17:00	79	65	9	153	**6**	225	7	238	17	11	**2**	30	**9**	391	38	**438**	**859**
17:15	**84**	54	6	144	6	228	3	237	**19**	**17**	2	**38**	7	356	35	398	817
17:30	78	**70**	**13**	**161**	4	217	5	226	14	17	1	32	4	380	**46**	430	849
Total Volume	301	250	34	585	19	907	24	950	61	60	5	126	25	1521	151	1697	3358
% App. Total	51.5	42.7	5.8		2	95.5	2.5		48.4	47.6	4		1.5	89.6	8.9		
PHF	.896	.893	.654	.908	.792	.957	.667	.954	.803	.882	.625	.829	.694	.965	.821	.969	.977



Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: King St -- 5th St

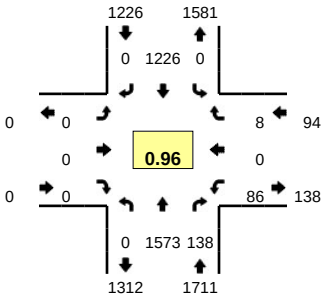
CITY/STATE: San Francisco, CA

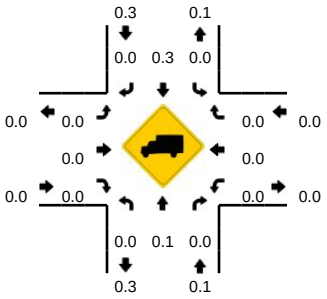
QC JOB #: 10850431

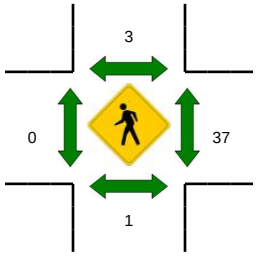
DATE: Thu, Nov 15 2012

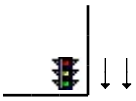
Peak-Hour: 4:40 PM -- 5:40 PM

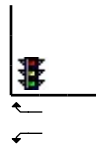
Peak 15-Min: 5:25 PM -- 5:40 PM

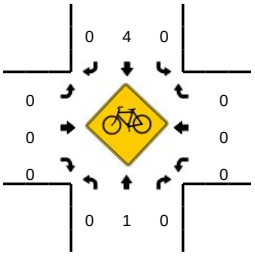


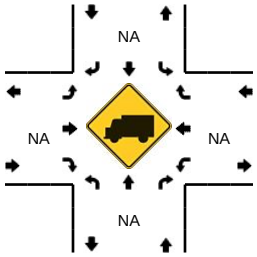


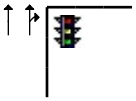


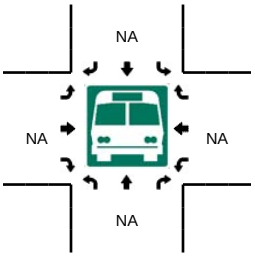












5-Min Count Period Beginning At	King St (Northbound)				King St (Southbound)				5th St (Eastbound)				5th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	144	13	0	0	82	0	0	0	0	0	0	0	0	0	0	239	
4:05 PM	0	111	12	0	0	102	0	0	0	0	0	0	8	0	2	0	235	
4:10 PM	0	110	12	0	0	103	0	0	0	0	0	0	5	0	0	0	230	
4:15 PM	0	135	12	0	0	99	0	0	0	0	0	0	5	0	0	0	251	
4:20 PM	0	128	12	0	0	113	0	0	0	0	0	0	5	0	1	0	259	
4:25 PM	0	105	11	0	0	91	0	0	0	0	0	0	0	0	0	0	207	
4:30 PM	0	138	11	0	0	119	0	0	0	0	0	0	2	0	3	0	273	
4:35 PM	0	128	9	0	0	112	0	0	0	0	0	0	3	0	0	0	252	
4:40 PM	0	115	10	0	0	106	0	0	0	0	0	0	4	0	1	0	236	
4:45 PM	0	124	15	0	0	107	0	0	0	0	0	0	8	0	1	0	255	
4:50 PM	0	144	9	0	0	101	0	0	0	0	0	0	8	0	0	0	262	
4:55 PM	0	149	11	0	0	90	0	0	0	0	0	0	8	0	1	0	259	2958
5:00 PM	0	122	14	0	0	108	0	0	0	0	0	0	4	0	0	0	248	2967
5:05 PM	0	131	8	0	0	106	0	0	0	0	0	0	9	0	1	0	255	2987
5:10 PM	0	156	15	0	0	76	0	0	0	0	0	0	6	0	1	0	254	3011
5:15 PM	0	130	14	0	0	111	0	0	0	0	0	0	11	0	0	0	266	3026
5:20 PM	0	86	10	0	0	100	0	0	0	0	0	0	12	0	0	0	208	2975
5:25 PM	0	117	13	0	0	113	0	0	0	0	0	0	3	0	2	0	248	3016
5:30 PM	0	120	7	0	0	91	0	0	0	0	0	0	9	0	1	0	228	2971
5:35 PM	0	179	12	0	0	117	0	0	0	0	0	0	4	0	0	0	312	3031
5:40 PM	0	113	13	0	0	80	0	0	0	0	0	0	6	0	1	0	213	3008
5:45 PM	0	122	16	0	0	119	0	0	0	0	0	0	7	0	2	0	266	3019
5:50 PM	0	128	8	0	0	110	0	0	0	0	0	0	2	0	2	0	250	3007
5:55 PM	0	142	13	0	0	101	0	0	0	0	0	0	0	0	1	0	257	3005

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	0	1664	128	0	0	1284	0	0	0	0	0	0	64	0	12	0	3152
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	0	0		4
Pedestrians		0				8				0				76			84
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/30/2012 7:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
503-620-4242
www.qualitycounts.net

Site Code: 10934216
Location: Bryant St & Beale St
Date: 4/17/2013

Peak Hour: 4:55 PM - 5:55 PM
Peak 15-minutes: 4:55 PM - 5:10 PM
Peak Hour Factor: 0.91601

	Bryant St (Southbound)					Beale St (Westbound)					Delaney St (Northbound)					Bryant St (Northbound)					Beale St (Eastbound)							
	U-Turns	Right to Beale St	Thru to Bryant St	Thru to Delaney St	Left to Beale	U-Turns	Right to Bryant St	Thru to Beale St	Left to Bryant St	Left to Delaney St	U-Turns	Right to Beale St	Thru to Bryant St	Left to Beale St	Left to Bryant St	U-Turns	Right to Delaney St	Right to Beale St	Thru to Bryant St	Left to Beale St	U-Turns	Right to Bryant St	Right to Delaney St	Thru to Beale St	Left to Bryant St	Interval Totals	Hourly Totals	15-minute Totals
4:00 PM	0	2	3	0	1	0	1	1	0	0	0	0	2	1	1	0	0	0	10	10	0	11	12	1	9	65		
4:05 PM	0	3	0	1	0	0	0	0	0	0	0	0	7	5	1	0	0	1	7	2	0	21	8	0	5	61		
4:10 PM	0	3	3	1	1	0	3	2	0	0	0	0	3	1	0	0	0	1	6	3	0	30	7	2	9	75		201
4:15 PM	0	2	5	1	1	0	1	0	0	0	0	0	7	0	0	0	0	0	9	1	0	17	8	1	10	63		199
4:20 PM	0	4	1	2	1	0	2	1	0	0	0	0	3	2	2	0	0	1	9	4	0	11	8	2	4	57		195
4:25 PM	0	2	1	2	1	0	1	2	2	0	0	2	5	2	0	0	0	0	9	3	0	9	7	2	15	65		185
4:30 PM	0	2	5	2	2	0	0	0	3	0	0	0	3	5	0	0	0	0	11	3	0	17	9	1	9	72		194
4:35 PM	0	1	3	2	1	0	1	1	0	0	0	0	7	5	0	0	0	0	5	5	0	23	4	1	4	63		200
4:40 PM	0	2	1	3	3	0	0	1	0	0	0	0	5	3	0	0	0	0	5	1	0	28	6	1	8	67		202
4:45 PM	0	3	1	0	0	0	0	1	0	0	0	0	7	1	0	0	0	0	8	5	0	16	5	0	11	58		188
4:50 PM	0	2	5	1	2	0	2	1	1	0	0	0	7	8	2	0	0	0	2	3	0	24	7	4	7	78		203
4:55 PM	0	2	4	2	2	0	1	0	1	0	0	4	5	5	0	0	0	0	14	3	0	22	8	0	8	81	805	217
5:00 PM	0	1	4	2	2	0	1	0	2	0	0	2	7	5	0	0	0	1	7	4	0	24	10	4	5	81	821	240
5:05 PM	0	1	3	4	2	0	2	0	0	0	0	4	8	4	0	0	0	0	13	5	0	28	7	2	8	91	851	253
5:10 PM	0	1	8	3	1	0	0	2	1	0	0	6	7	3	0	0	0	0	4	4	0	21	7	2	9	79	855	251
5:15 PM	0	3	8	3	3	0	1	0	0	0	0	0	4	1	2	0	0	0	8	4	0	29	6	1	4	77	869	247
5:20 PM	0	1	6	2	1	0	0	0	0	0	0	4	5	6	0	0	0	0	7	3	0	16	15	2	6	74	886	230
5:25 PM	0	1	2	2	1	0	1	1	2	0	0	2	7	0	1	0	0	0	9	2	0	20	9	1	5	66	887	217
5:30 PM	0	6	9	5	0	0	2	3	1	0	0	4	4	6	0	0	0	1	11	1	0	15	3	1	7	79	894	219
5:35 PM	0	0	8	2	0	0	1	0	0	0	0	0	7	2	0	0	0	0	10	5	0	28	6	0	4	73	904	218
5:40 PM	0	0	7	0	4	0	0	0	2	0	0	2	5	3	0	0	0	1	13	3	0	16	6	0	1	63	900	215
5:45 PM	0	1	8	2	1	0	0	2	1	0	0	4	5	3	1	0	0	1	4	6	0	21	11	3	8	82	924	218
5:50 PM	0	1	4	2	1	0	4	0	1	0	0	2	5	4	1	0	0	3	11	3	0	20	9	2	8	81	927	226
5:55 PM	0	3	3	1	2	0	1	0	0	0	0	4	2	4	0	0	0	1	10	2	0	15	5	4	8	65	911	228
Totals	0	47	102	45	33	0	25	18	17	0	0	40	127	79	11	0	0	11	202	85	0	482	183	37	172			

Traffic Data Service

Campbell, CA

(408) 377-2988

tdsbay@cs.com

File Name : 3pm 4-6P FINAL
Site Code : 00000003
Start Date : 11/14/2012
Page No : 1

Groups Printed- Vehicles - Motor Bikes

	FREMONT ST Southbound					HARRISON ST Westbound					I-80 WB OFF-RAMP Northbound					HARRISON ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	41	0	0	10	51	6	218	0	3	227	37	27	23	1	88	0	11	5	0	16	382
04:15 PM	50	0	0	9	59	5	257	0	3	265	27	33	20	1	81	0	9	7	0	16	421
04:30 PM	54	0	2	6	62	13	217	0	3	233	32	35	8	0	75	0	13	9	0	22	392
04:45 PM	47	0	0	9	56	12	224	0	0	236	33	34	19	0	86	0	13	5	0	18	396
Total	192	0	2	34	228	36	916	0	9	961	129	129	70	2	330	0	46	26	0	72	1591
05:00 PM	54	0	2	8	64	15	189	0	2	206	29	34	16	1	80	0	28	11	0	39	389
05:15 PM	49	0	2	10	61	13	184	0	2	199	26	39	16	1	82	0	24	21	0	45	387
05:30 PM	64	0	0	13	77	18	180	0	2	200	35	39	18	1	93	0	19	13	0	32	402
05:45 PM	74	0	1	9	84	13	147	0	0	160	29	40	23	1	93	0	17	20	0	37	374
Total	241	0	5	40	286	59	700	0	6	765	119	152	73	4	348	0	88	65	0	153	1552
Grand Total	433	0	7	74	514	95	1616	0	15	1726	248	281	143	6	678	0	134	91	0	225	3143
Apprch %	84.2	0	1.4	14.4		5.5	93.6	0	0.9		36.6	41.4	21.1	0.9		0	59.6	40.4	0		
Total %	13.8	0	0.2	2.4	16.4	3	51.4	0	0.5	54.9	7.9	8.9	4.5	0.2	21.6	0	4.3	2.9	0	7.2	
Vehicles	433	0	7	74	514	95	1616	0	15	1726	248	281	143	6	678	0	134	91	0	225	3143
% Vehicles	100	0	100	100	100	100	100	0	100	100	100	100	100	100	100	0	100	100	0	100	100
Motor Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Motor Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	FREMONT ST Southbound					HARRISON ST Westbound					I-80 WB OFF-RAMP Northbound					HARRISON ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	50	0	0	**9**	59	5	**257**	0	**3**	**265**	27	33	**20**	**1**	81	0	9	7	0	16	**421**
04:30 PM	**54**	0	**2**	6	62	13	217	0	3	233	32	**35**	8	0	75	0	13	9	0	22	392
04:45 PM	47	0	0	9	56	12	224	0	0	236	**33**	34	19	0	**86**	0	13	5	0	18	396
05:00 PM	54	0	2	8	**64**	**15**	189	0	2	206	29	34	16	1	80	0	**28**	**11**	0	**39**	389
Total Volume	205	0	4	32	241	45	887	0	8	940	121	136	63	2	322	0	63	32	0	95	1598
% App. Total	85.1	0	1.7	13.3		4.8	94.4	0	0.9		37.6	42.2	19.6	0.6		0	66.3	33.7	0		
PHF	.949	.000	.500	.889	.941	.750	.863	.000	.667	.887	.917	.971	.788	.500	.936	.000	.563	.727	.000	.609	.949

Traffic Data Service

Campbell, CA

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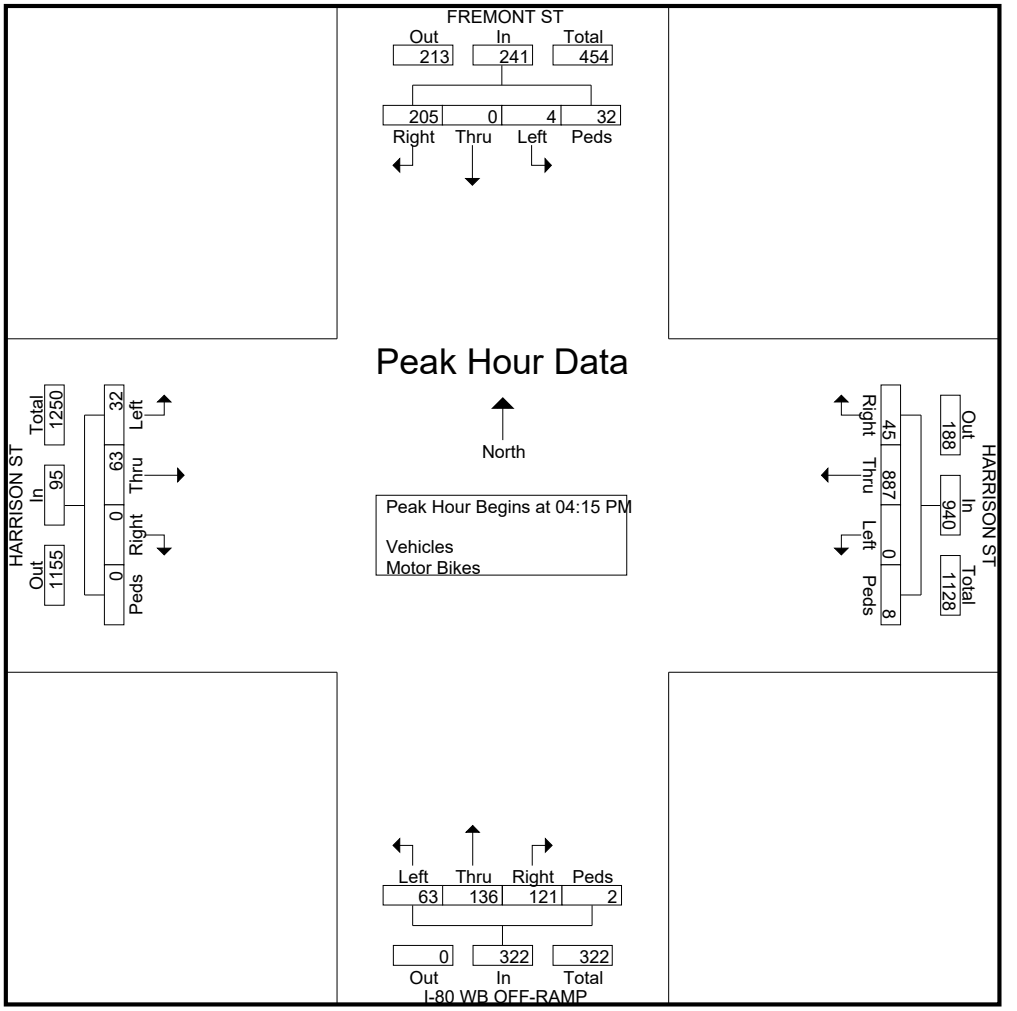
File Name : 3pm 4-6P FINAL
Site Code : 00000003
Start Date : 11/14/2012
Page No : 2



Traffic Data Service

Campbell, CA

(408) 377-2988

tdsbay@cs.com

File Name : 4PM 4-6P FINAL
Site Code : 00000004
Start Date : 11/14/2012
Page No : 1

Groups Printed- Vehicles - Motor Bikes

	I-80 WB OFF-RAMP/FREMONT ST Southbound					FOLSOM ST Westbound					FREMONT ST Northbound					FOLSOM ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	5	38	26	69	22	16	0	4	42	16	23	0	17	56	40	46	42	3	131	298
04:15 PM	0	5	41	29	75	14	21	2	5	42	16	27	0	22	65	45	59	49	0	153	335
04:30 PM	0	13	84	35	132	25	22	1	7	55	22	29	0	22	73	36	48	38	1	123	383
04:45 PM	0	13	43	41	97	26	24	0	7	57	16	25	0	23	64	34	60	50	3	147	365
Total	0	36	206	131	373	87	83	3	23	196	70	104	0	84	258	155	213	179	7	554	1381
05:00 PM	0	8	61	44	113	20	28	3	4	55	23	35	0	33	91	42	46	34	8	130	389
05:15 PM	0	16	43	37	96	32	35	3	8	78	21	48	0	36	105	27	61	38	1	127	406
05:30 PM	0	17	48	38	103	24	25	4	12	65	16	45	0	47	108	41	58	48	2	149	425
05:45 PM	0	11	38	35	84	32	17	2	1	52	18	43	0	36	97	44	73	57	4	178	411
Total	0	52	190	154	396	108	105	12	25	250	78	171	0	152	401	154	238	177	15	584	1631
Grand Total	0	88	396	285	769	195	188	15	48	446	148	275	0	236	659	309	451	356	22	1138	3012
Apprch %	0	11.4	51.5	37.1		43.7	42.2	3.4	10.8		22.5	41.7	0	35.8		27.2	39.6	31.3	1.9		
Total %	0	2.9	13.1	9.5	25.5	6.5	6.2	0.5	1.6	14.8	4.9	9.1	0	7.8	21.9	10.3	15	11.8	0.7	37.8	
Vehicles	0	88	389	285	762	193	188	15	48	444	145	272	0	236	653	308	446	351	22	1127	2986
% Vehicles	0	100	98.2	100	99.1	99	100	100	100	99.6	98	98.9	0	100	99.1	99.7	98.9	98.6	100	99	99.1
Motor Bikes	0	0	7	0	7	2	0	0	0	2	3	3	0	0	6	1	5	5	0	11	26
% Motor Bikes	0	0	1.8	0	0.9	1	0	0	0	0.4	2	1.1	0	0	0.9	0.3	1.1	1.4	0	1	0.9

	I-80 WB OFF-RAMP/FREMONT ST Southbound					FOLSOM ST Westbound					FREMONT ST Northbound					FOLSOM ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	8	**61**	**44**	**113**	20	28	3	4	55	**23**	35	0	33	91	42	46	34	**8**	130	389
05:15 PM	0	16	43	37	96	**32**	**35**	3	8	**78**	21	**48**	0	36	105	27	61	38	1	127	406
05:30 PM	0	**17**	48	38	103	24	25	**4**	**12**	65	16	45	0	**47**	**108**	41	58	48	2	149	**425**
05:45 PM	0	11	38	35	84	32	17	2	1	52	18	43	0	36	97	**44**	**73**	**57**	4	**178**	411
Total Volume	0	52	190	154	396	108	105	12	25	250	78	171	0	152	401	154	238	177	15	584	1631
% App. Total	0	13.1	48	38.9		43.2	42	4.8	10		19.5	42.6	0	37.9		26.4	40.8	30.3	2.6		
PHF	.000	.765	.779	.875	.876	.844	.750	.750	.521	.801	.848	.891	.000	.809	.928	.875	.815	.776	.469	.820	.959

Traffic Data Service

Campbell, CA

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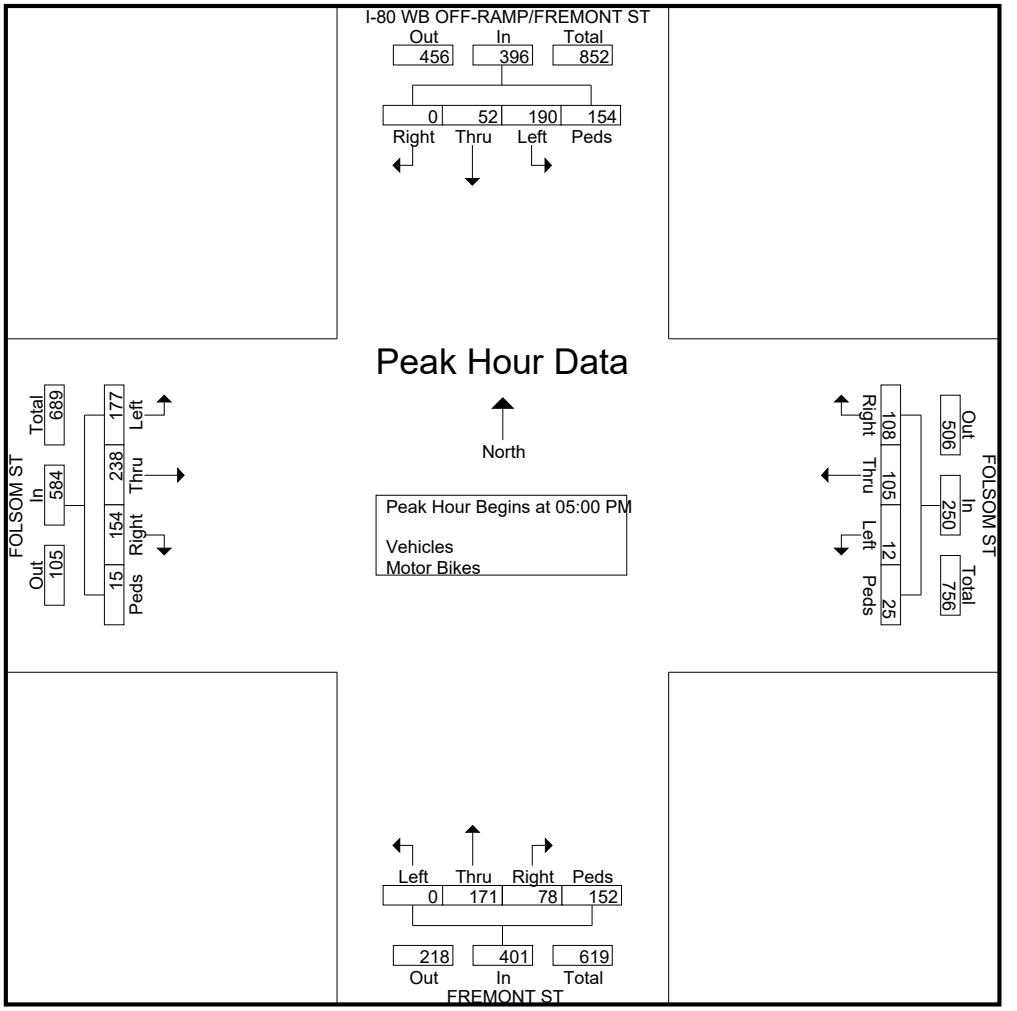
File Name : 4PM 4-6P FINAL
Site Code : 00000004
Start Date : 11/14/2012
Page No : 2



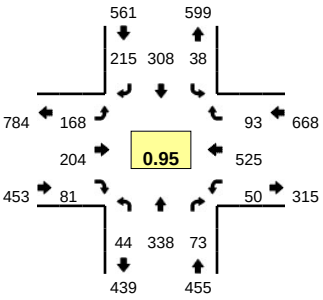
Type of peak hour being reported: Intersection Peak

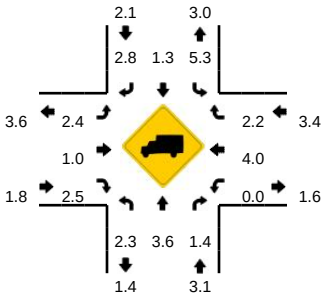
Method for determining peak hour: Total Entering Volume

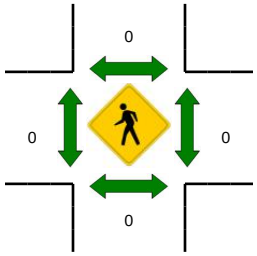
LOCATION: 2nd St -- Brannan St
CITY/STATE: San Francisco, CA

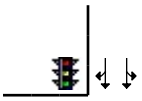
QC JOB #: 10850449
DATE: Thu, Nov 15 2012

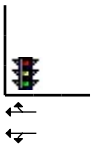
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:35 PM -- 4:50 PM

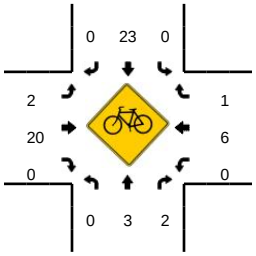


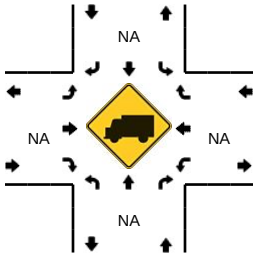


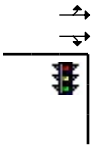


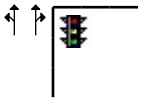


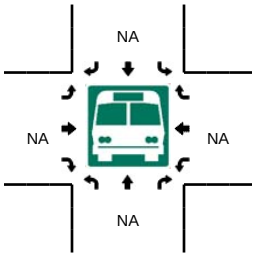












5-Min Count Period Beginning At	2nd St (Northbound)				2nd St (Southbound)				Brannan St (Eastbound)				Brannan St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	33	5	0	4	21	16	0	22	10	5	0	7	31	4	0	159	
4:05 PM	2	28	4	0	4	29	21	0	24	11	3	0	5	31	8	0	170	
4:10 PM	3	28	3	0	4	16	12	0	19	17	5	0	7	24	4	0	142	
4:15 PM	2	17	1	0	6	28	18	0	22	9	8	0	7	23	7	0	148	
4:20 PM	4	23	7	0	5	19	17	0	18	7	5	0	8	30	3	0	146	
4:25 PM	3	28	1	0	6	25	16	0	17	9	3	0	7	39	6	0	160	
4:30 PM	1	36	7	0	2	30	16	0	22	13	3	0	6	45	3	0	184	
4:35 PM	2	39	5	0	3	27	19	0	24	12	5	0	5	36	5	0	182	
4:40 PM	5	32	4	0	2	24	27	0	12	13	6	0	5	37	10	0	177	
4:45 PM	1	43	3	0	3	27	17	0	21	18	9	0	4	45	10	0	201	
4:50 PM	2	32	5	0	4	24	14	0	22	12	4	0	6	37	8	0	170	
4:55 PM	2	30	3	0	3	25	20	0	20	15	5	0	4	47	14	0	188	2027
5:00 PM	3	29	7	0	4	23	15	0	17	23	7	0	5	44	9	0	186	2054
5:05 PM	6	14	3	0	4	15	15	0	5	12	6	0	4	46	2	0	132	2016
5:10 PM	2	31	7	0	5	23	19	0	5	25	11	0	5	51	7	0	191	2065
5:15 PM	2	12	13	0	2	32	18	0	5	26	10	0	2	34	4	0	160	2077
5:20 PM	9	15	7	0	4	29	16	0	8	19	9	0	0	51	11	0	178	2109
5:25 PM	9	25	9	0	2	29	19	0	7	16	6	0	4	52	10	0	188	2137
5:30 PM	3	21	4	0	1	37	19	0	5	19	12	0	5	41	4	0	171	2124
5:35 PM	7	14	6	0	8	21	14	0	1	36	7	0	2	52	7	0	175	2117
5:40 PM	8	19	6	0	6	17	21	0	5	26	5	0	7	34	4	0	158	2098
5:45 PM	2	6	4	0	3	17	11	0	7	20	10	0	9	38	3	0	130	2027
5:50 PM	3	19	8	0	7	22	9	0	1	29	8	0	9	38	1	0	154	2011
5:55 PM	5	10	2	0	4	50	22	0	5	19	11	0	5	30	3	0	166	1989

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	32	456	48	0	32	312	252	0	228	172	80	0	56	472	100	0	2240
Heavy Trucks	0	20	0		4	8	4		8	0	0		0	16	4		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	6	0		1	5	0		0	1	0		13
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/30/2012 7:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

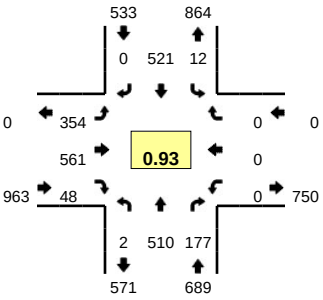
Type of peak hour being reported: Intersection Peak

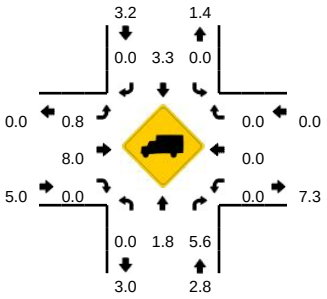
Method for determining peak hour: Total Entering Volume

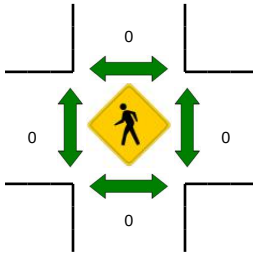
LOCATION: 2nd St -- Bryant St
CITY/STATE: San Francisco, CA

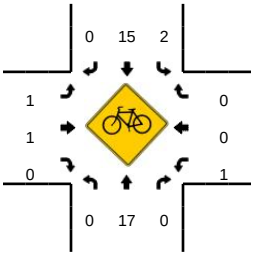
QC JOB #: 10850452
DATE: Thu, Nov 15 2012

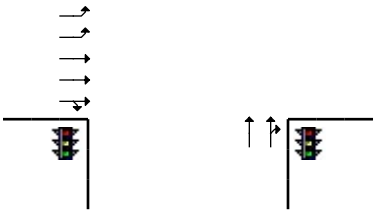
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:05 PM -- 4:20 PM

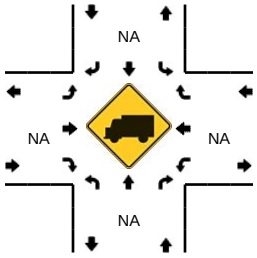


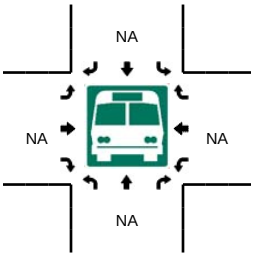












5-Min Count Period Beginning At	2nd St (Northbound)				2nd St (Southbound)				Bryant St (Eastbound)				Bryant St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	37	13	0	0	43	0	0	29	43	3	0	0	0	0	0	168	
4:05 PM	0	41	23	0	3	51	0	0	35	43	3	0	0	0	0	0	199	
4:10 PM	0	47	11	0	0	31	0	0	22	50	5	0	0	0	0	0	166	
4:15 PM	0	47	16	0	2	52	0	0	36	62	6	0	0	0	0	0	221	
4:20 PM	0	42	14	0	2	44	0	0	22	44	2	0	0	0	0	0	170	
4:25 PM	0	47	7	0	2	38	0	0	28	50	5	0	0	0	0	0	177	
4:30 PM	0	45	15	0	1	47	0	0	22	56	5	0	0	0	0	0	191	
4:35 PM	0	51	21	0	2	41	0	0	38	49	8	0	0	0	0	0	210	
4:40 PM	0	52	6	0	0	55	0	0	25	44	3	0	0	0	0	0	185	
4:45 PM	0	36	22	1	0	41	0	0	41	39	3	0	0	0	0	0	183	
4:50 PM	0	31	17	1	0	35	0	0	28	41	2	0	0	0	0	0	155	
4:55 PM	0	34	12	0	0	43	0	0	28	40	3	0	0	0	0	0	160	2185
5:00 PM	0	27	17	0	0	34	0	0	23	46	2	0	0	0	0	0	149	2166
5:05 PM	0	7	13	0	0	30	0	0	14	41	2	0	0	0	0	0	107	2074
5:10 PM	0	80	29	0	0	40	0	0	23	58	1	0	0	0	0	0	231	2139
5:15 PM	0	19	7	0	1	44	0	0	28	34	1	0	0	0	0	0	134	2052
5:20 PM	0	17	21	0	1	39	0	0	32	51	3	0	0	0	0	0	164	2046
5:25 PM	0	26	24	0	0	39	0	0	20	44	7	0	0	0	0	0	160	2029
5:30 PM	0	17	13	0	0	53	0	0	28	38	4	0	0	0	0	0	153	1991
5:35 PM	0	17	12	0	2	39	0	0	19	36	5	0	0	0	0	0	130	1911
5:40 PM	0	11	8	0	0	35	0	0	14	38	1	0	0	0	0	0	107	1833
5:45 PM	0	18	7	0	2	32	0	0	22	36	1	0	0	0	0	0	118	1768
5:50 PM	0	18	15	0	0	31	0	0	17	38	3	0	0	0	0	0	122	1735
5:55 PM	0	10	16	0	3	75	0	0	22	31	2	0	0	0	0	0	159	1734

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	0	540	200	0	20	536	0	0	372	620	56	0	0	0	0	0	2344
Heavy Trucks	0	8	16		0	24	0		4	44	0		0	0	0		96
Pedestrians		0				0				0				0			0
Bicycles	0	2	0		0	0	0		0	0	0		1	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/30/2012 7:18 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: System Peak

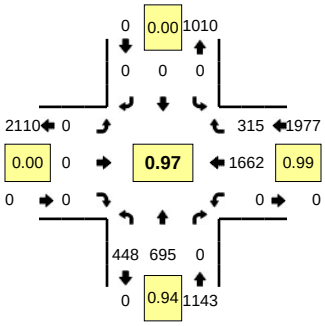
Method for determining peak hour: Total Entering Volume

LOCATION: Bryant St -- 3rd St

QC JOB #: 10473327

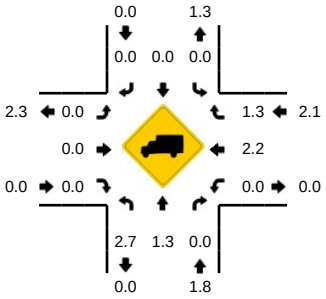
CITY/STATE: San Francisco, CA

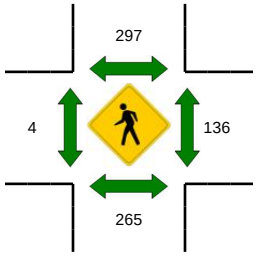
DATE: 1/13/2010

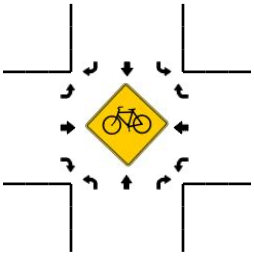


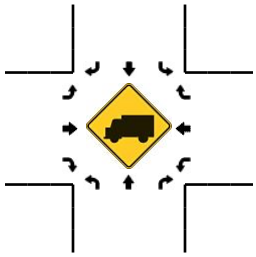
Peak-Hour: 5:00 PM -- 6:00 PM

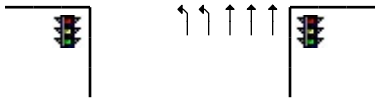
Peak 15-Min: 5:20 PM -- 5:35 PM

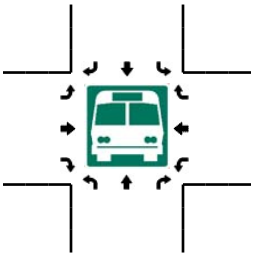












5-Min Count Period Beginning At	Bryant St (Northbound)			Bryant St (Southbound)			3rd St (Eastbound)			3rd St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	31	48	0	0	0	0	0	0	0	0	103	22	204	
4:05 PM	27	51	0	0	0	0	0	0	0	0	108	31	217	
4:10 PM	29	51	0	0	0	0	0	0	0	0	119	38	237	
4:15 PM	29	58	0	0	0	0	0	0	0	0	99	39	225	
4:20 PM	39	54	0	0	0	0	0	0	0	0	107	37	237	
4:25 PM	32	54	0	0	0	0	0	0	0	0	113	25	224	
4:30 PM	29	66	0	0	0	0	0	0	0	0	95	30	220	
4:35 PM	35	50	0	0	0	0	0	0	0	0	129	34	248	
4:40 PM	31	50	0	0	0	0	0	0	0	0	117	35	233	
4:45 PM	33	55	0	0	0	0	0	0	0	0	133	29	250	
4:50 PM	34	71	0	0	0	0	0	0	0	0	133	16	254	
4:55 PM	40	53	0	0	0	0	0	0	0	0	122	24	239	2788
5:00 PM	33	49	0	0	0	0	0	0	0	0	132	22	236	2820
5:05 PM	46	57	0	0	0	0	0	0	0	0	144	31	278	2881
5:10 PM	43	43	0	0	0	0	0	0	0	0	120	26	232	2876
5:15 PM	43	61	0	0	0	0	0	0	0	0	152	32	288	2939
5:20 PM	43	65	0	0	0	0	0	0	0	0	154	37	299	3001
5:25 PM	44	58	0	0	0	0	0	0	0	0	125	25	252	3029
5:30 PM	38	56	0	0	0	0	0	0	0	0	138	21	253	3062
5:35 PM	33	73	0	0	0	0	0	0	0	0	128	21	255	3069
5:40 PM	32	67	0	0	0	0	0	0	0	0	145	21	265	3101
5:45 PM	29	61	0	0	0	0	0	0	0	0	147	23	260	3111
5:50 PM	34	56	0	0	0	0	0	0	0	0	144	30	264	3121
5:55 PM	30	49	0	0	0	0	0	0	0	0	133	26	238	3120

Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
All Vehicles	500	716	0	0	0	0	0	0	0	0	1668	332	3216
Heavy Trucks	8	4	0	0	0	0	0	0	0	0	36	0	48
Pedestrians		240			256			4			136		636
Bicycles													
Railroad													
Stopped Buses													

Comments:

Report generated on 1/21/2010 2:20 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: System Peak

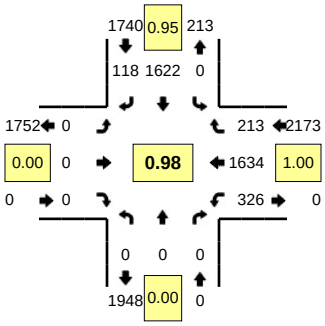
Method for determining peak hour: Total Entering Volume

LOCATION: Harrison St -- 3rd St

QC JOB #: 10473334

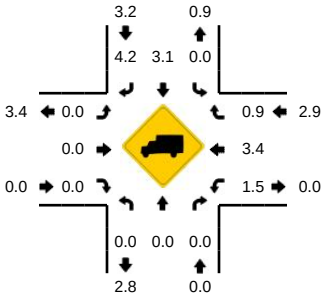
CITY/STATE: San Francisco, CA

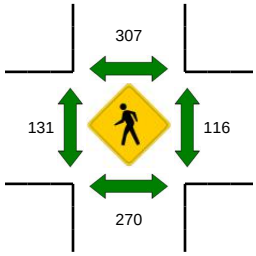
DATE: 1/14/2010

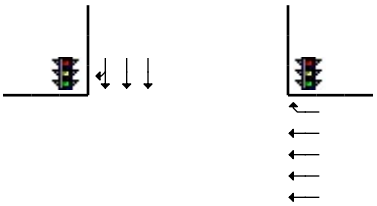


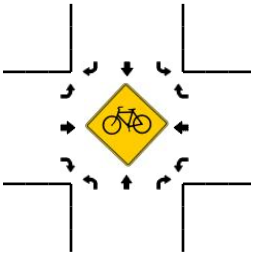
Peak-Hour: 5:00 PM -- 6:00 PM

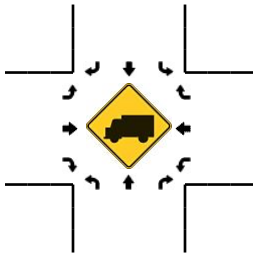
Peak 15-Min: 5:20 PM -- 5:35 PM

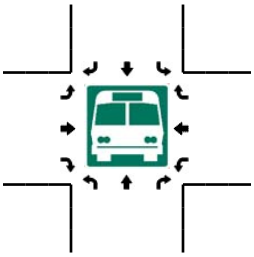












5-Min Count Period Beginning At	Harrison St (Northbound)			Harrison St (Southbound)			3rd St (Eastbound)			3rd St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	0	0	0	0	93	3	0	0	0	21	96	22	235	
4:05 PM	0	0	0	0	93	7	0	0	0	23	95	18	236	
4:10 PM	0	0	0	0	104	6	0	0	0	20	98	19	247	
4:15 PM	0	0	0	0	107	11	0	0	0	21	121	21	281	
4:20 PM	0	0	0	0	95	5	0	0	0	23	116	14	253	
4:25 PM	0	0	0	0	99	6	0	0	0	14	104	21	244	
4:30 PM	0	0	0	0	94	9	0	0	0	24	108	17	252	
4:35 PM	0	0	0	0	110	10	0	0	0	24	125	21	290	
4:40 PM	0	0	0	0	103	1	0	0	0	17	127	23	271	
4:45 PM	0	0	0	0	105	12	0	0	0	31	127	21	296	
4:50 PM	0	0	0	0	123	13	0	0	0	31	127	22	316	
4:55 PM	0	0	0	0	103	12	0	0	0	24	116	17	272	3193
5:00 PM	0	0	0	0	115	6	0	0	0	21	131	14	287	3245
5:05 PM	0	0	0	0	112	12	0	0	0	23	129	14	290	3299
5:10 PM	0	0	0	0	139	8	0	0	0	28	139	28	342	3394
5:15 PM	0	0	0	0	144	10	0	0	0	24	115	20	313	3426
5:20 PM	0	0	0	0	148	10	0	0	0	38	134	19	349	3522
5:25 PM	0	0	0	0	147	8	0	0	0	24	149	16	344	3622
5:30 PM	0	0	0	0	136	10	0	0	0	27	122	12	307	3677
5:35 PM	0	0	0	0	128	12	0	0	0	25	151	24	340	3727
5:40 PM	0	0	0	0	148	6	0	0	0	28	134	15	331	3787
5:45 PM	0	0	0	0	129	14	0	0	0	32	148	21	344	3835
5:50 PM	0	0	0	0	133	15	0	0	0	34	156	12	350	3869
5:55 PM	0	0	0	0	143	7	0	0	0	22	126	18	316	3913

Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
All Vehicles	0	0	0	0	1724	112	0	0	0	356	1620	188	4000
Heavy Trucks	0	0	0	0	92	8	0	0	0	4	44	0	148
Pedestrians		204			288			124			88		704
Bicycles													
Railroad													
Stopped Buses													

Comments:

Report generated on 1/21/2010 2:20 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: System Peak

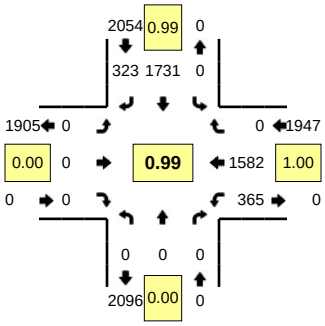
Method for determining peak hour: Total Entering Volume

LOCATION: Howard St -- 3rd St

CITY/STATE: San Francisco, CA

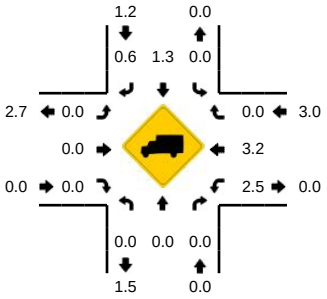
QC JOB #: 10473325

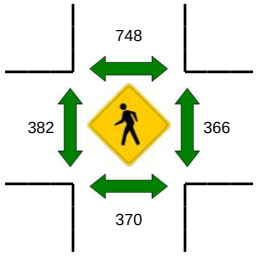
DATE: 1/14/2010

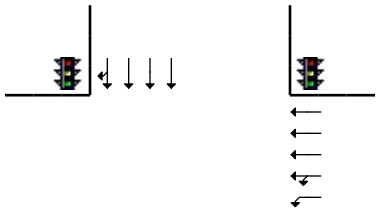


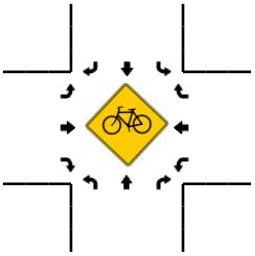
Peak-Hour: 5:00 PM -- 6:00 PM

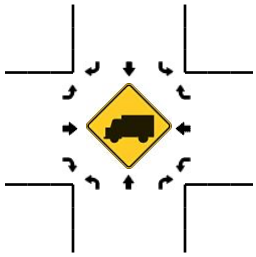
Peak 15-Min: 5:20 PM -- 5:35 PM

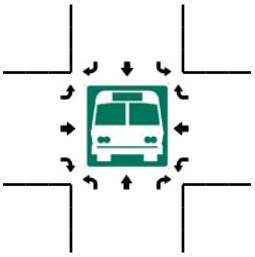












5-Min Count Period Beginning At	Howard St (Northbound)			Howard St (Southbound)			3rd St (Eastbound)			3rd St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	0	0	0	0	107	27	0	0	0	18	101	0	253	
4:05 PM	0	0	0	0	101	19	0	0	0	16	91	0	227	
4:10 PM	0	0	0	0	105	23	0	0	0	24	103	0	255	
4:15 PM	0	0	0	0	110	20	0	0	0	18	114	0	262	
4:20 PM	0	0	0	0	99	22	0	0	0	15	134	0	270	
4:25 PM	0	0	0	0	119	21	0	0	0	14	125	0	279	
4:30 PM	0	0	0	0	106	26	0	0	0	22	107	0	261	
4:35 PM	0	0	0	0	124	34	0	0	0	17	137	0	312	
4:40 PM	0	0	0	0	115	26	0	0	0	31	134	0	306	
4:45 PM	0	0	0	0	129	25	0	0	0	15	139	0	308	
4:50 PM	0	0	0	0	123	24	0	0	0	14	132	0	293	
4:55 PM	0	0	0	0	126	18	0	0	0	29	142	0	315	3341
5:00 PM	0	0	0	0	114	26	0	0	0	29	126	0	295	3383
5:05 PM	0	0	0	0	147	34	0	0	0	26	143	0	350	3506
5:10 PM	0	0	0	0	122	27	0	0	0	41	125	0	315	3566
5:15 PM	0	0	0	0	143	29	0	0	0	34	117	0	323	3627
5:20 PM	0	0	0	0	137	23	0	0	0	33	138	0	331	3688
5:25 PM	0	0	0	0	153	19	0	0	0	34	122	0	328	3737
5:30 PM	0	0	0	0	165	21	0	0	0	29	132	0	347	3823
5:35 PM	0	0	0	0	127	32	0	0	0	27	133	0	319	3830
5:40 PM	0	0	0	0	165	28	0	0	0	22	145	0	360	3884
5:45 PM	0	0	0	0	153	34	0	0	0	41	129	0	357	3933
5:50 PM	0	0	0	0	155	27	0	0	0	26	153	0	361	4001
5:55 PM	0	0	0	0	150	23	0	0	0	23	119	0	315	4001

Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
All Vehicles	0	0	0	0	1820	252	0	0	0	384	1568	0	4024
Heavy Trucks	0	0	0	0	28	0	0	0	0	0	48	0	76
Pedestrians		372			752			404			364		1892
Bicycles													
Railroad													
Stopped Buses													

Comments:

Report generated on 1/21/2010 2:20 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
503-620-4242
www.qualitycounts.net

Site Code: 10934202
Location: Bryant St & 4th St
Date: 4/17/2013

	Bryant St (Southbound)					4th St (Westbound)					Bryant St (Northbound)					Off Ramp (North-Eastbound)					4th St (Eastbound)					Interval Totals	15-min
	U-Turns	Right to 4th St	Thru to Off Ramp	Thru to Bryant St	Left to 4th St	U-Turns	Right to Bryant St	Thru to 4th St	Left to Off Ramp	Left to Bryant St	U-Turns	Right to 4th St	Thru to Bryant St	Left to 4th St	Left to Off Ramp	U-Turns	Right to Bryant St	Right to 4th St	Thru to Bryant St	Left to 4th St	U-Turns	Right to Off Ramp	Right to Bryant St	Thru to 4th St	Left to Bryant St		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	7	50	0	0	0	0	1	7	0	0	0	0	24	3	92	307
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	8	49	0	0	0	0	2	1	0	0	0	0	23	7	90	295
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	7	89	0	0	0	0	1	5	0	0	0	0	17	6	125	310
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	44	0	0	0	0	2	5	0	0	0	0	15	9	80	303
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	5	56	0	0	0	0	0	7	0	0	0	0	24	13	105	315
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	12	69	0	0	0	0	1	5	0	0	0	0	21	10	118	319
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	9	48	0	0	0	0	1	6	0	0	0	0	23	5	92	312
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	8	56	0	0	0	0	1	5	0	0	0	0	25	14	109	322
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	6	64	0	0	0	0	1	7	0	0	0	0	26	7	111	298
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	56	0	0	0	0	3	9	0	0	0	0	17	12	102	293
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	9	43	0	0	0	0	0	4	0	0	0	0	21	8	85	291
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	4	52	0	0	0	0	0	14	0	0	0	0	26	10	106	315
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	6	54	0	0	0	0	0	8	0	0	0	0	22	10	100	339
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	8	46	0	0	0	0	0	20	0	0	0	0	27	8	109	366
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	16	65	0	0	0	0	2	8	0	0	0	0	33	6	130	386
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	4	63	0	0	0	0	3	12	0	0	0	0	38	7	127	396
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	6	59	0	0	0	0	0	4	0	0	0	0	47	13	129	389
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	9	81	0	0	0	0	1	9	0	0	0	0	31	9	140	387
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	9	59	0	0	0	0	0	14	0	0	0	0	25	13	120	365
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	10	57	0	0	0	0	3	10	0	0	0	0	37	10	127	345
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	13	64	0	0	0	0	1	11	0	0	0	0	25	4	118	336
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	43	0	0	0	0	2	14	0	0	0	0	30	5	100	350
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	7	56	0	0	0	0	0	10	0	0	0	0	36	9	118	
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	13	71	0	0	0	0	2	12	0	0	0	0	28	6	132	
Totals	0	0	0	0	0	0	0	0	0	0	0	192	1394	0	0	0	0	27	207	0	0	0	0	641	204		

Traffic Data Service

Campbell, CA

(408) 377-2988

tdsbay@cs.com

File Name : 6pm 4-6P FINAL
Site Code : 00000006
Start Date : 11/14/2012
Page No : 1

Groups Printed- Vehicles - Motor Bikes

	FOURTH ST Southbound						HARRISON ST Westbound						FOURTH ST Northbound					I-80 WB ON-RAMP Northeastbound					HARRISON ST Eastbound					
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	79	131	0	0	33	243	0	150	213	0	115	478	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	726
04:15 PM	68	138	0	0	33	239	0	158	215	0	102	475	0	0	0	1	1	0	0	0	0	0	0	0	0	6	6	721
04:30 PM	92	139	0	0	37	268	0	161	219	0	135	515	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	791
04:45 PM	103	139	0	0	41	283	0	205	240	0	164	609	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	897
Total	342	547	0	0	144	1033	0	674	887	0	516	2077	0	0	0	1	1	0	0	0	0	0	0	0	0	24	24	3135
05:00 PM	83	144	0	0	36	263	0	240	251	0	237	728	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	994
05:15 PM	80	157	0	0	38	275	0	258	237	0	240	735	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	1016
05:30 PM	86	132	0	0	30	248	0	289	209	0	222	720	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	976
05:45 PM	78	151	0	0	38	267	0	280	208	0	220	708	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	978
Total	327	584	0	0	142	1053	0	1067																				
Grand Total	669	1131	0	0	286	2086	0	1741	1792	0	1435	4968	0	0	0	1	1	0	0	0	0	0	0	0	0	44	44	7099
Apprch %	32.1	54.2	0	0	13.7		0	35	36.1	0	28.9		0	0	0	100		0	0	0	0		0	0	0	100		
Total %	9.4	15.9	0	0	4	29.4	0	24.5	25.2	0	20.2	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.6	
Vehicles	654	1124	0	0	286	2064	0	1698	1748	0	1435	4881	0	0	0	1	1	0	0	0	0	0	0	0	0	44	44	6990
% Vehicles	97.8	99.4			100	98.9	0	97.5	97.5		100	98.2	0	0	0	100	100	0	0	0	0	0	0	0	0	100	100	98.5
Motor Bikes																												
% Motor Bikes	2.2	0.6	0	0	0	1.1	0	2.5	2.5	0	0	1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5

	FOURTH ST Southbound						HARRISON ST Westbound						FOURTH ST Northbound					I-80 WB ON-RAMP Northeastbound					HARRISON ST Eastbound					
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																												
Peak Hour for Entire Intersection Begins at 05:00 PM																												
05:00 PM	83	144	0	0	36	263	0	240	**251**	**0**	237	728	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	994
05:15 PM		**157**	**0**	**0**	**38**	**275**		258	237	0	**240**	**735**																**1016**
05:30 PM	**86**	132	0	0	30	248	0	**289**	209	0	222	720	0	0	0	0	0	0	0	0	0	0	0	0	0	**8**	**8**	
05:45 PM	78	151	0	0	38	267	0	280	208	0	220	708	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	978
Total Volume	327	584	0	0	142	1053	0	1067	905	0	919	2891	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20	3964
% App. Total	31.1	55.5			13.5			36.9	31.3		31.8															100		
PHF	.951	.930	.000	.000	.934	.957	.000	.923	.901	.000	.957	.983	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625	.625	.975

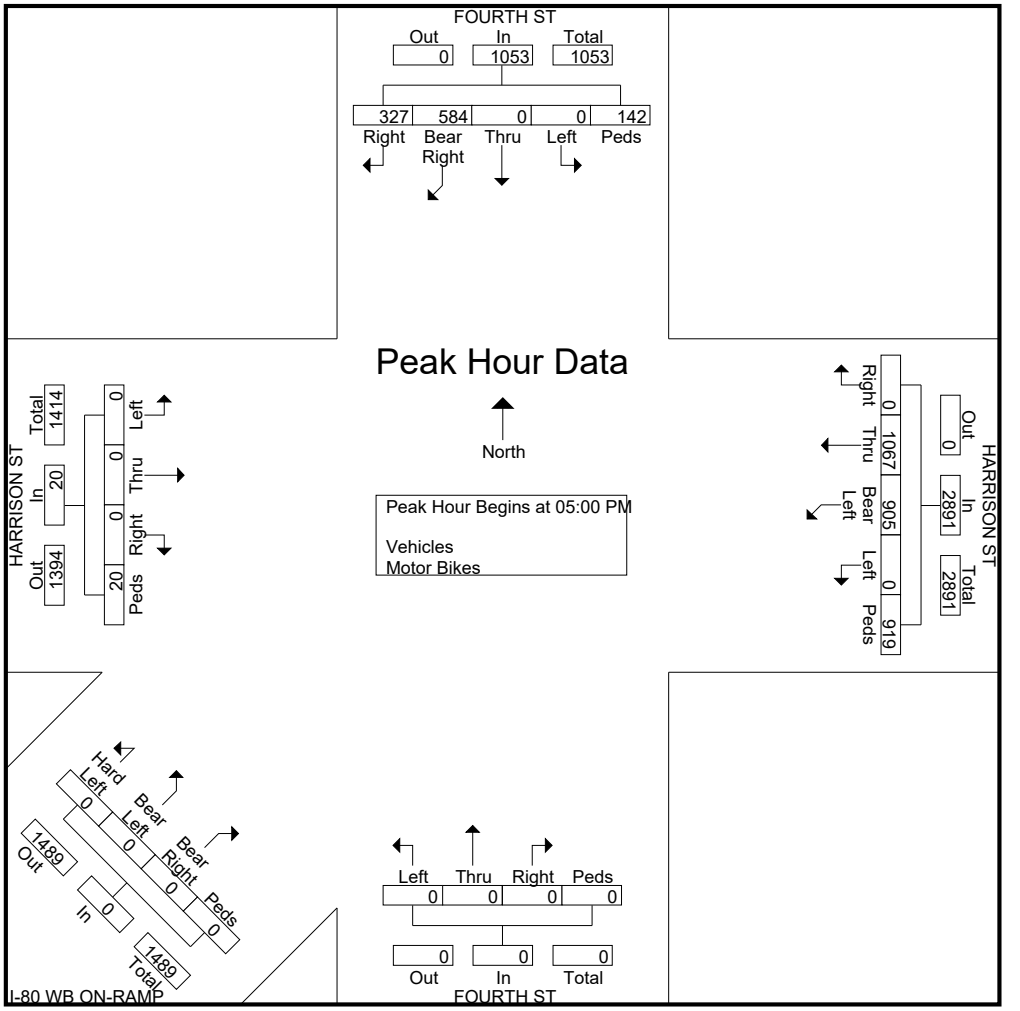
Traffic Data Service

Campbell, CA

(408) 377-2988

tdsbay@cs.com

File Name : 6pm 4-6P FINAL
Site Code : 00000006
Start Date : 11/14/2012
Page No : 2



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

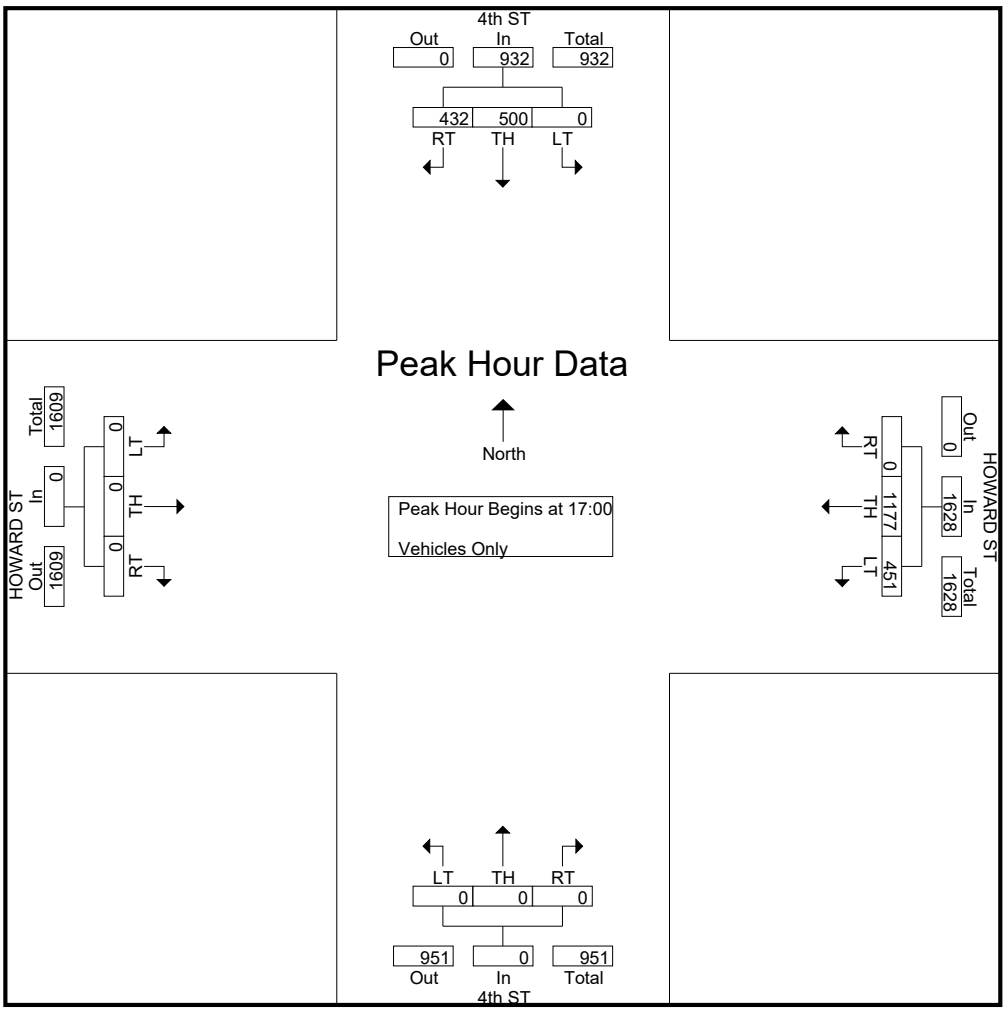
CITY OF SAN FRANCISCO

File Name : 4-howard-p
Site Code : 3
Start Date : 9/11/2012
Page No : 1

Groups Printed- Vehicles Only

	4th ST Southbound				HOWARD ST Westbound				4th ST Northbound				HOWARD ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	99	134	0	233	0	228	107	335	0	0	0	0	0	0	0	0	568
16:15	79	132	0	211	0	222	118	340	0	0	0	0	0	0	0	0	551
16:30	90	149	0	239	0	212	96	308	0	0	0	0	0	0	0	0	547
16:45	97	131	0	228	0	235	110	345	0	0	0	0	0	0	0	0	573
Total	365	546	0	911	0	897	431	1328	0	0	0	0	0	0	0	0	2239
17:00	114	125	0	239	0	258	120	378	0	0	0	0	0	0	0	0	617
17:15	113	117	0	230	0	329	107	436	0	0	0	0	0	0	0	0	666
17:30	105	129	0	234	0	304	111	415	0	0	0	0	0	0	0	0	649
17:45	100	129	0	229	0	286	113	399	0	0	0	0	0	0	0	0	628
Total	432	500	0	932	0	1177	451	1628	0	0	0	0	0	0	0	0	2560
Grand Total	797	1046	0	1843	0	2074	882	2956	0	0	0	0	0	0	0	0	4799
Apprch %	43.2	56.8	0		0	70.2	29.8		0	0	0		0	0	0		
Total %	16.6	21.8	0	38.4	0	43.2	18.4	61.6	0	0	0	0	0	0	0	0	

	4th ST Southbound				HOWARD ST Westbound				4th ST Northbound				HOWARD ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**114**	125	0	**239**	0	258	**120**	378	0	0	0	0	0	0	0	0	617
17:15	113	117	0	230	0	**329**	107	**436**	0	0	0	0	0	0	0	0	**666**
17:30	105	**129**	0	234	0	304	111	415	0	0	0	0	0	0	0	0	649
17:45	100	129	0	229	0	286	113	399	0	0	0	0	0	0	0	0	628
Total Volume	432	500	0	932	0	1177	451	1628	0	0	0	0	0	0	0	0	2560
% App. Total	46.4	53.6	0		0	72.3	27.7		0	0	0		0	0	0		
PHF	.947	.969	.000	.975	.000	.894	.940	.933	.000	.000	.000	.000	.000	.000	.000	.000	.961



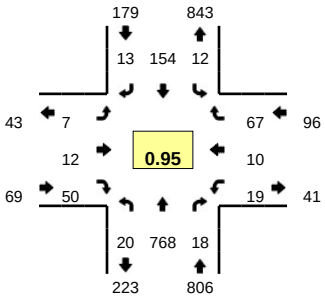
Type of peak hour being reported: Intersection Peak

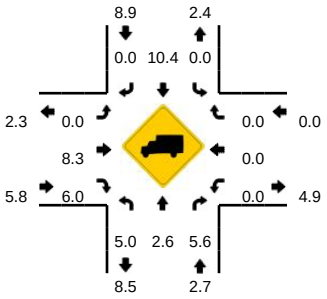
Method for determining peak hour: Total Entering Volume

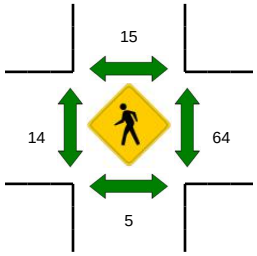
LOCATION: 3rd St -- Channel St
CITY/STATE: San Francisco, CA

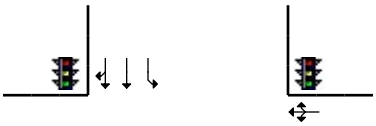
QC JOB #: 10972601
DATE: Tue, Jun 11 2013

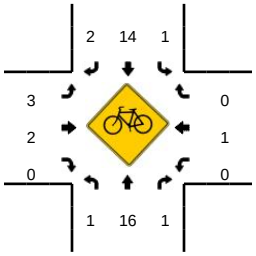
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

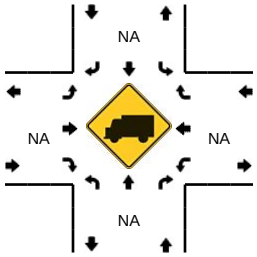


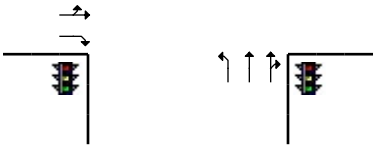


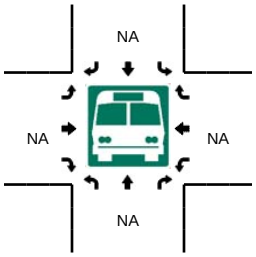












15-Min Count Period Beginning At	3rd St (Northbound)				3rd St (Southbound)				Channel St (Eastbound)				Channel St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	180	1	0	0	42	4	0	2	1	6	0	3	0	16	0	259	
4:15 PM	5	206	1	0	3	33	3	0	1	2	16	0	2	3	13	0	288	
4:30 PM	5	175	3	0	0	37	3	0	1	4	14	0	6	2	14	0	264	
4:45 PM	5	190	4	0	5	30	6	0	1	4	10	0	2	2	10	0	269	1080
5:00 PM	5	214	2	0	2	31	1	0	3	2	17	0	8	5	13	0	303	1124
5:15 PM	5	194	9	0	3	36	3	0	2	3	12	0	4	2	24	0	297	1133
5:30 PM	5	170	3	0	1	57	3	1	1	3	11	0	5	1	20	0	281	1150
5:45 PM	4	162	4	0	7	33	5	0	2	0	10	0	4	0	13	0	244	1125

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	856	8	0	8	124	4	0	12	8	68	0	32	20	52	0	1212
Heavy Trucks	0	28	0		0	8	0		0	0	0		0	0	0		36
Pedestrians		8				12				24				32			76
Bicycles	1	4	1		0	2	1		1	1	0		0	0	0		11
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 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: 3rd St -- Mission Rock St

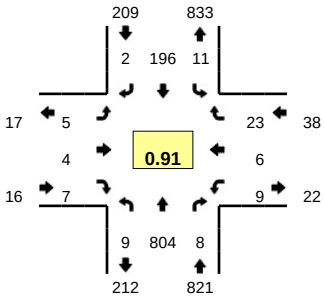
CITY/STATE: San Francisco, CA

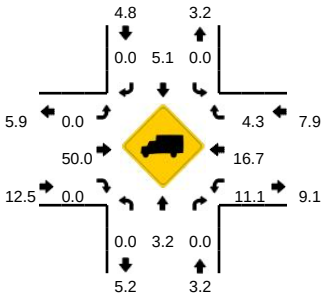
QC JOB #: 10972603

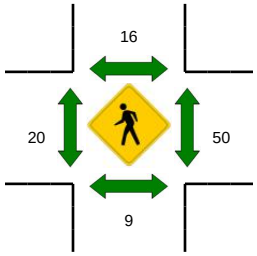
DATE: Tue, Jun 11 2013

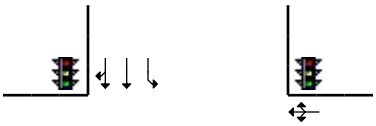
Peak-Hour: 4:15 PM -- 5:15 PM

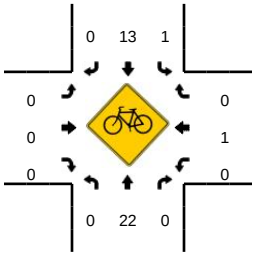
Peak 15-Min: 5:00 PM -- 5:15 PM

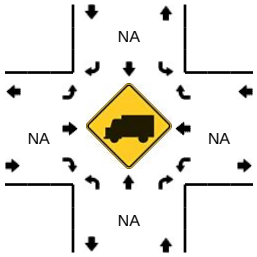


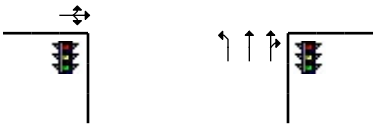


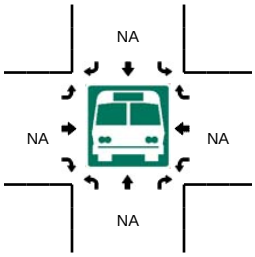












15-Min Count Period Beginning At	3rd St (Northbound)				3rd St (Southbound)				Mission Rock St (Eastbound)				Mission Rock St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	183	1	0	1	49	0	0	2	0	4	0	2	1	3	0	246	
4:15 PM	3	211	6	0	5	46	1	0	1	0	1	0	3	2	5	0	284	
4:30 PM	2	192	2	0	2	51	1	1	0	2	3	0	3	3	5	0	267	
4:45 PM	1	176	0	0	1	43	0	0	2	0	2	0	3	0	7	0	235	1032
5:00 PM	3	225	0	0	2	56	0	0	2	2	1	0	0	1	6	0	298	1084
5:15 PM	1	204	2	0	1	48	0	0	2	0	1	0	2	1	3	0	265	1065
5:30 PM	0	162	0	0	4	63	2	0	2	2	4	0	2	2	5	0	248	1046
5:45 PM	5	176	3	0	2	48	0	0	1	1	2	0	2	1	5	0	246	1057

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	12	900	0	0	8	224	0	0	8	8	4	0	0	4	24	0	1192
Heavy Trucks	0	20	0		0	8	0		0	4	0		0	4	4		40
Pedestrians		4				24				28				52			108
Bicycles	0	6	0		0	5	0		0	0	0		0	0	0		11
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

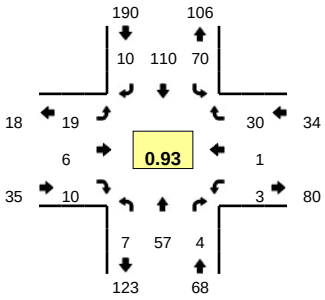
Type of peak hour being reported: Intersection Peak

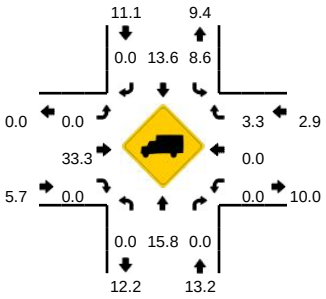
Method for determining peak hour: Total Entering Volume

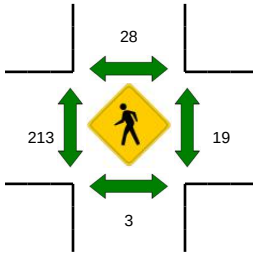
LOCATION: 4th St -- Channel St
CITY/STATE: San Francisco, CA

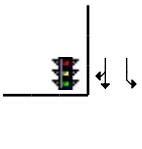
QC JOB #: 10972609
DATE: Wed, Jun 12 2013

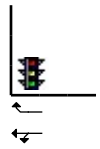
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

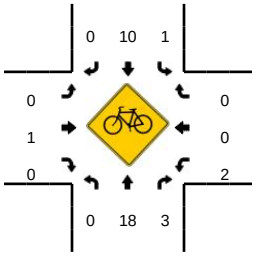


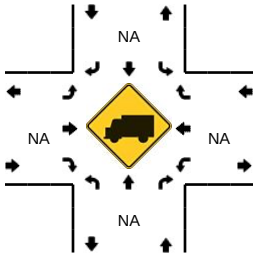


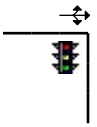


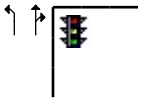


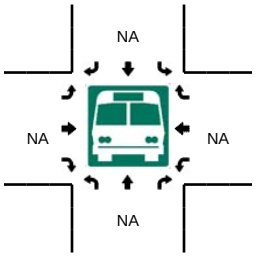












15-Min Count Period Beginning At	4th St (Northbound)				4th St (Southbound)				Channel St (Eastbound)				Channel St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	17	1	0	13	21	0	0	3	0	1	0	2	1	8	0	71	
4:15 PM	4	14	0	0	9	24	5	0	1	1	4	0	0	1	14	0	77	
4:30 PM	2	15	0	0	14	15	3	0	4	6	5	0	0	1	9	0	74	
4:45 PM	3	14	2	0	20	27	1	0	5	5	4	0	0	0	5	0	86	308
5:00 PM	0	16	2	0	14	26	2	0	6	0	2	0	1	0	7	0	76	313
5:15 PM	2	17	0	0	12	28	5	0	3	0	1	0	0	1	8	0	77	313
5:30 PM	2	10	0	0	24	29	2	0	5	1	3	0	2	0	10	0	88	327
5:45 PM	1	17	2	0	12	30	2	0	1	0	1	0	0	0	8	0	74	315

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	8	40	0	0	96	116	8	0	20	4	12	0	8	0	40	0	352
Heavy Trucks	0	8	0		4	36	0		0	4	0		0	0	0		52
Pedestrians		0				56				200				24			280
Bicycles	0	4	0		0	2	0		0	0	0		0	0	0		6
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

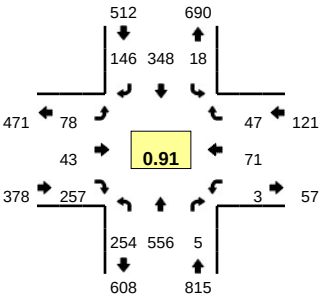
Type of peak hour being reported: Intersection Peak

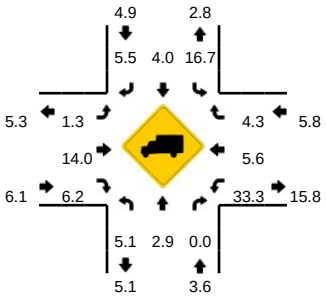
Method for determining peak hour: Total Entering Volume

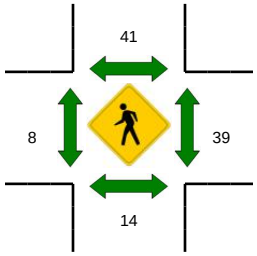
LOCATION: 3rd St -- 16th St
CITY/STATE: San Francisco, CA

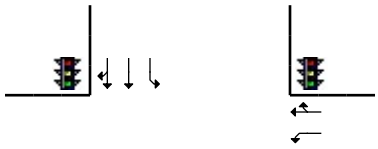
QC JOB #: 10972605
DATE: Tue, Jun 11 2013

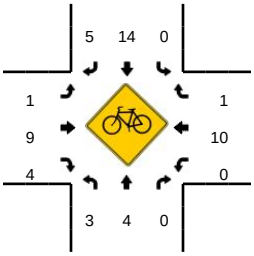
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

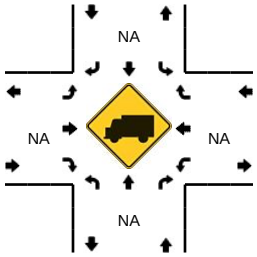


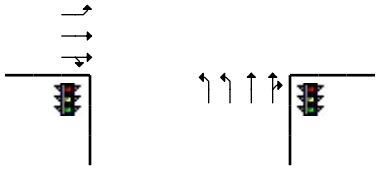


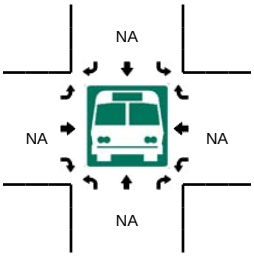












15-Min Count Period Beginning At	3rd St (Northbound)				3rd St (Southbound)				16th St (Eastbound)				16th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	55	165	1	0	0	60	30	0	20	6	72	0	1	5	2	0	417	
4:15 PM	60	164	2	1	1	67	29	0	21	12	49	0	1	6	5	0	418	
4:30 PM	66	163	2	0	1	69	17	0	19	6	65	0	0	5	2	0	415	
4:45 PM	64	147	2	0	0	78	24	0	22	12	54	0	2	7	5	0	417	1667
5:00 PM	75	149	1	0	2	90	44	5	22	11	79	0	1	13	11	0	503	1753
5:15 PM	56	145	0	0	4	84	42	2	23	11	57	0	0	17	12	0	453	1788
5:30 PM	59	115	2	0	3	96	36	2	11	9	67	0	0	34	19	0	453	1826
5:45 PM	51	131	1	0	0	81	29	2	26	8	63	0	1	10	8	0	411	1820

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	300	596	4	0	8	360	176	20	88	44	316	0	4	52	44	0	2012
Heavy Trucks	8	8	0		0	8	4		0	12	4		0	8	0		52
Pedestrians		8				24				8				52			92
Bicycles	0	1	0		0	4	1		0	3	1		0	3	0		13
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

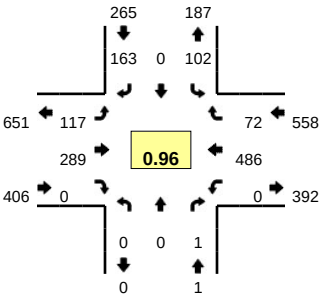
Type of peak hour being reported: Intersection Peak

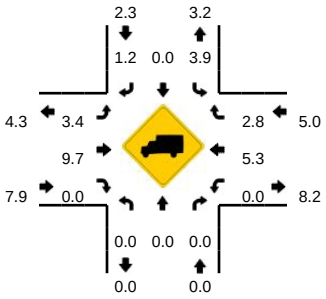
Method for determining peak hour: Total Entering Volume

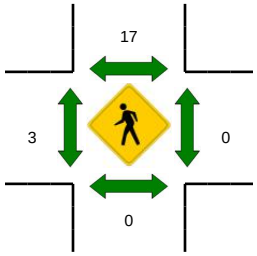
LOCATION: Owens St -- 16th St
CITY/STATE: San Francisco, CA

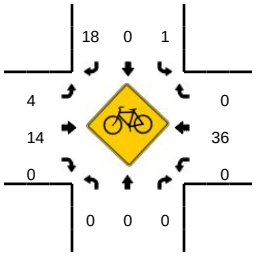
QC JOB #: 10972611
DATE: Tue, Jun 11 2013

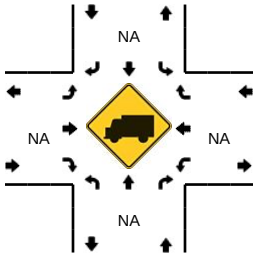
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

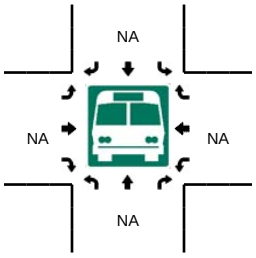












15-Min Count Period Beginning At	Owens St (Northbound)				Owens St (Southbound)				16th St (Eastbound)				16th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	1	0	17	0	26	0	21	59	0	0	1	95	11	0	231	
4:15 PM	0	0	0	0	18	0	22	1	27	71	0	0	0	88	9	0	236	
4:30 PM	0	0	0	0	20	0	27	0	25	73	0	0	0	102	18	0	265	
4:45 PM	0	0	0	0	16	0	40	0	30	72	0	0	0	81	13	0	252	984
5:00 PM	0	0	0	0	30	0	40	0	22	79	0	0	0	132	17	0	320	1073
5:15 PM	0	0	0	0	20	0	36	0	32	76	0	1	0	132	16	0	313	1150
5:30 PM	0	0	0	0	27	0	40	0	35	64	0	0	0	114	23	0	303	1188
5:45 PM	0	0	1	0	25	0	47	0	26	70	0	1	0	108	16	0	294	1230

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	0	0	0	0	120	0	160	0	88	316	0	0	0	528	68	0	1280
Heavy Trucks	0	0	0		4	0	0		0	24	0		0	24	0		52
Pedestrians		0				20				8				0			28
Bicycles	0	0	0		0	0	2		1	3	0		0	7	0		13
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 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: 7th St/Mississippi St -- 16th St

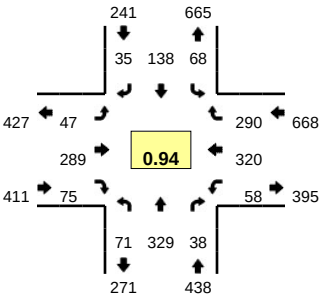
CITY/STATE: San Francisco, CA

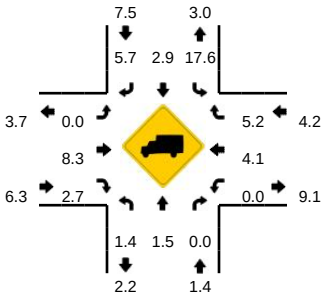
QC JOB #: 10972615

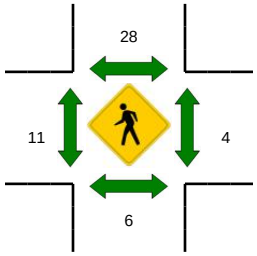
DATE: Tue, Jun 11 2013

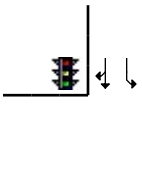
Peak-Hour: 5:00 PM -- 6:00 PM

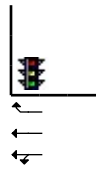
Peak 15-Min: 5:00 PM -- 5:15 PM

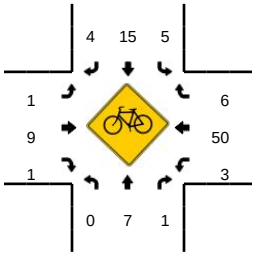


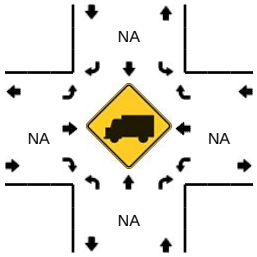


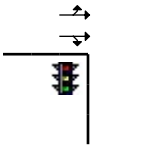


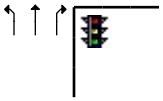


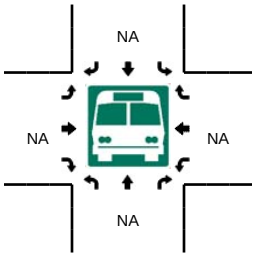












15-Min Count Period Beginning At	7th St/Mississippi St (Northbound)				7th St/Mississippi St (Southbound)				16th St (Eastbound)				16th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	19	85	4	0	14	28	6	0	5	53	18	0	10	61	61	0	364	
4:15 PM	21	73	6	0	23	34	11	0	9	63	29	0	14	61	44	0	388	
4:30 PM	20	110	11	0	17	32	3	0	6	64	20	0	13	58	56	0	410	
4:45 PM	10	86	11	0	13	21	8	0	7	73	22	0	17	74	40	0	382	1544
5:00 PM	15	92	12	0	15	33	5	0	11	74	18	0	16	77	99	0	467	1647
5:15 PM	16	73	5	0	26	35	8	0	16	71	14	0	15	80	61	0	420	1679
5:30 PM	21	82	12	0	12	36	9	0	12	82	19	1	12	88	75	0	461	1730
5:45 PM	19	82	9	0	15	34	13	0	7	62	24	0	15	75	55	0	410	1758

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	60	368	48	0	60	132	20	0	44	296	72	0	64	308	396	0	1868
Heavy Trucks	4	0	0		8	0	4		0	12	4		0	8	20		60
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		3	1	0		0	1	0		0	11	2		18
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 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: 7th St -- Mission Bay Dr

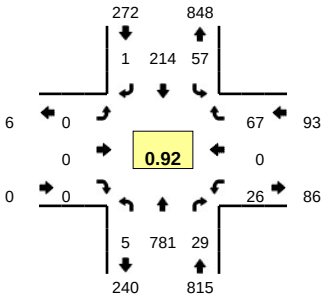
CITY/STATE: San Francisco, CA

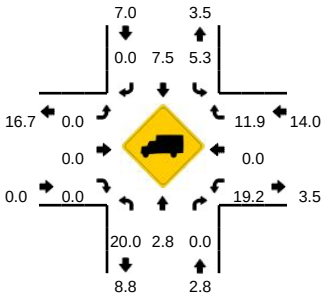
QC JOB #: 10972613

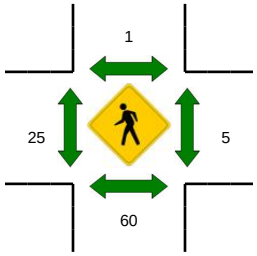
DATE: Tue, Jun 11 2013

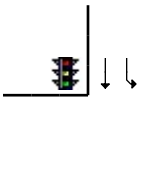
Peak-Hour: 5:00 PM -- 6:00 PM

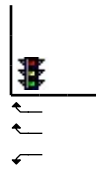
Peak 15-Min: 5:00 PM -- 5:15 PM

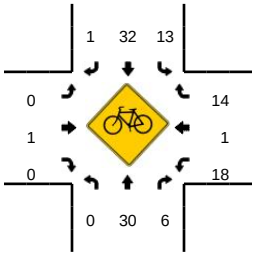


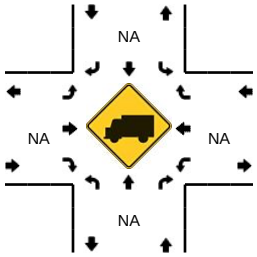


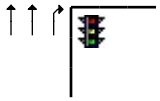


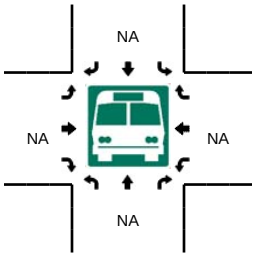












15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				Mission Bay Dr (Eastbound)				Mission Bay Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	166	3	0	9	51	0	0	0	0	0	0	6	0	12	0	247	
4:15 PM	0	125	5	0	8	53	0	0	0	0	0	0	3	0	18	0	212	
4:30 PM	0	208	7	0	8	41	0	0	0	0	0	0	6	0	17	0	287	
4:45 PM	0	145	4	0	16	53	0	0	0	0	0	0	5	0	12	0	235	981
5:00 PM	1	235	8	0	8	47	0	0	0	0	0	0	5	0	16	0	320	1054
5:15 PM	3	178	7	0	19	58	1	0	0	0	0	0	5	0	16	0	287	1129
5:30 PM	0	201	8	0	13	46	0	0	0	0	0	0	9	0	15	0	292	1134
5:45 PM	1	167	6	0	17	63	0	0	0	0	0	0	7	0	20	0	281	1180

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	4	940	32	0	32	188	0	0	0	0	0	0	20	0	64	0	1280
Heavy Trucks	0	12	0		0	16	0		0	0	0		4	0	8		40
Pedestrians		60				0				48				4			112
Bicycles	0	4	1		5	5	1		0	1	0		4	0	4		25
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

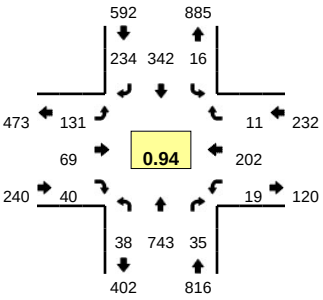
Type of peak hour being reported: Intersection Peak

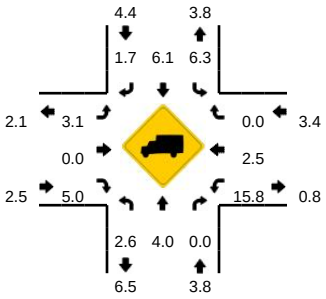
Method for determining peak hour: Total Entering Volume

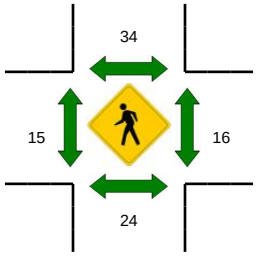
LOCATION: 3rd St -- Mariposa St
CITY/STATE: San Francisco, CA

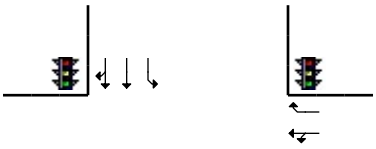
QC JOB #: 10972607
DATE: Tue, Jun 11 2013

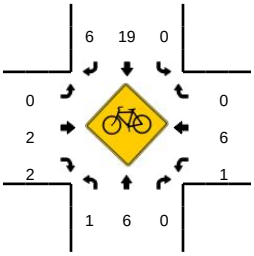
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

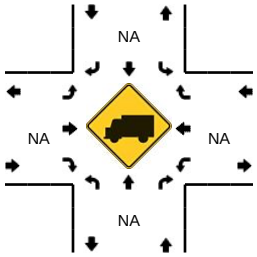


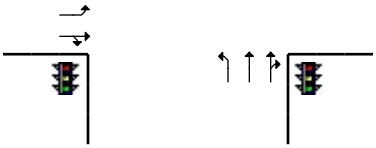


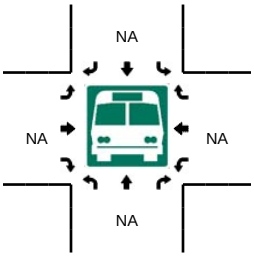












15-Min Count Period Beginning At	3rd St (Northbound)				3rd St (Southbound)				Mariposa St (Eastbound)				Mariposa St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	18	199	7	0	8	77	49	0	22	16	19	0	9	37	5	0	466	
4:15 PM	10	205	5	0	2	72	42	0	31	14	7	0	8	29	1	0	426	
4:30 PM	10	214	9	0	4	79	51	0	31	23	7	0	6	47	1	0	482	
4:45 PM	7	181	11	1	4	79	51	0	31	15	12	0	6	43	1	0	442	1816
5:00 PM	8	178	10	0	3	94	79	0	34	17	12	0	3	57	6	0	501	1851
5:15 PM	12	170	5	0	5	90	53	0	35	14	9	0	4	55	3	0	455	1880
5:30 PM	4	124	3	0	8	102	59	0	35	13	10	0	1	49	10	0	418	1816
5:45 PM	5	128	3	1	10	88	46	0	37	20	8	0	2	48	2	0	398	1772

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	32	712	40	0	12	376	316	0	136	68	48	0	12	228	24	0	2004
Heavy Trucks	0	12	0		0	12	0		0	0	0		4	4	0		32
Pedestrians		24				48				36				28			136
Bicycles	0	2	0		0	5	0		0	1	0		1	3	0		12
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 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: I-280 NB Off-Ramp -- Mariposa St

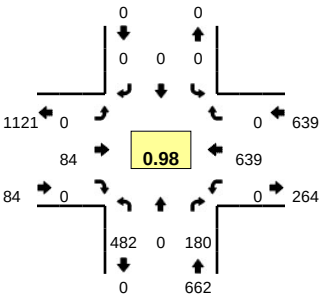
QC JOB #: 10972619

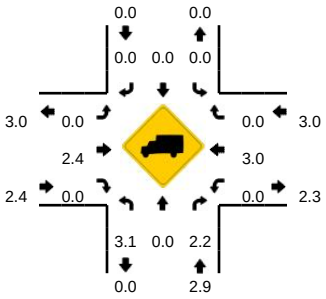
CITY/STATE: San Francisco, CA

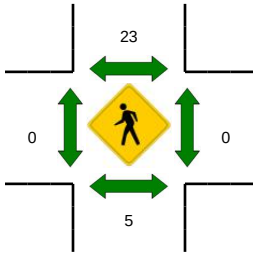
DATE: Tue, Jun 11 2013

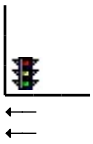
Peak-Hour: 4:30 PM -- 5:30 PM

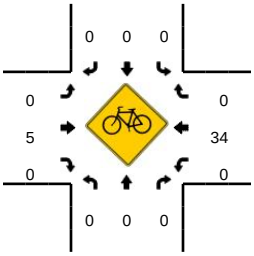
Peak 15-Min: 5:15 PM -- 5:30 PM

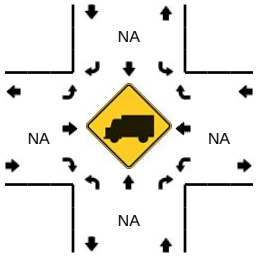


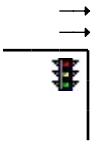


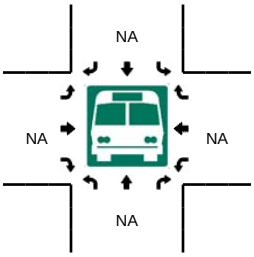












15-Min Count Period Beginning At	I-280 NB Off-Ramp (Northbound)				I-280 NB Off-Ramp (Southbound)				Mariposa St (Eastbound)				Mariposa St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	124	0	34	0	0	0	0	0	0	28	0	0	0	138	0	0	324	
4:15 PM	129	0	44	0	0	0	0	0	0	18	0	0	0	120	0	0	311	
4:30 PM	132	0	39	0	0	0	0	0	0	27	0	0	0	145	0	0	343	
4:45 PM	130	0	54	0	0	0	0	0	0	17	0	0	0	143	0	0	344	1322
5:00 PM	95	0	48	0	0	0	0	0	0	17	0	0	0	184	0	0	344	1342
5:15 PM	125	0	39	0	0	0	0	0	0	23	0	0	0	167	0	0	354	1385
5:30 PM	113	0	42	0	0	0	0	0	0	29	0	0	0	147	0	0	331	1373
5:45 PM	116	0	37	0	0	0	0	0	0	27	0	0	0	144	0	0	324	1353

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	500	0	156	0	0	0	0	0	0	92	0	0	0	668	0	0	1416
Heavy Trucks	24	0	4		0	0	0		0	4	0		0	16	0		48
Pedestrians		0				12				0				0			12
Bicycles	0	0	0		0	0	0		0	1	0		0	12	0		13
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 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: I-280 SB On-Ramp -- Mariposa St

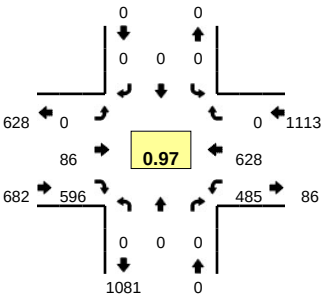
QC JOB #: 10972617

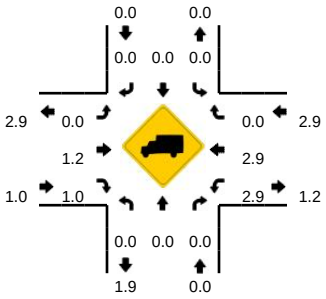
CITY/STATE: San Francisco, CA

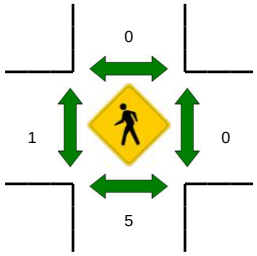
DATE: Tue, Jun 11 2013

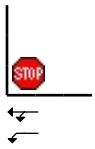
Peak-Hour: 4:30 PM -- 5:30 PM

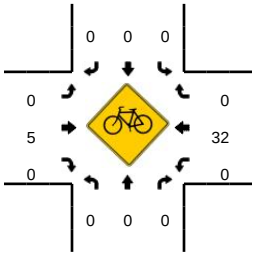
Peak 15-Min: 5:15 PM -- 5:30 PM

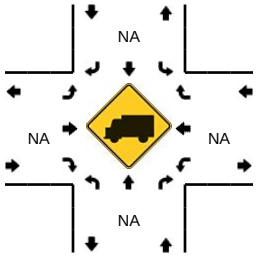


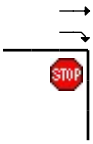


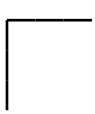


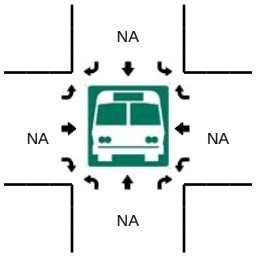












15-Min Count Period Beginning At	I-280 SB On-Ramp (Northbound)				I-280 SB On-Ramp (Southbound)				Mariposa St (Eastbound)				Mariposa St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	28	125	0	102	164	0	0	419	
4:15 PM	0	0	0	0	0	0	0	0	0	20	134	0	90	153	0	0	397	
4:30 PM	0	0	0	0	0	0	0	0	0	27	148	0	112	170	0	0	457	
4:45 PM	0	0	0	0	0	0	0	0	0	16	140	0	104	165	0	0	425	1698
5:00 PM	0	0	0	0	0	0	0	0	0	17	156	0	152	127	0	0	452	1731
5:15 PM	0	0	0	0	0	0	0	0	0	26	152	0	117	166	0	0	461	1795
5:30 PM	0	0	0	0	0	0	0	0	0	31	122	0	106	156	0	0	415	1753
5:45 PM	0	0	0	0	0	0	0	0	0	29	116	0	93	158	0	0	396	1724

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	0	0	0	0	0	0	0	0	0	104	608	0	468	664	0	0	1844
Heavy Trucks	0	0	0		0	0	0		0	4	0		16	24	0		44
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	10	0		10
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/28/2013 9:51 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

New Intersectiosn Summary
PM Peak Hour
Vehicles

			TIME END	NBL	NBT	NBTR	NBLR	EBL	EBT	EBTR	SBL	SBT	SBTR	WBL	WBT	WBTR	WBLR			
			TIME END	**NBL**	**NBT**	**NBR**	NBU	**EBL**	**EBT**	**EBR**	**SBL**	**SBT**	**SBR**	**WBL**	**WBT**	**WBR**	WBU		**Sum 15**	**Sum hour**	**PHF**
Intersection 23																				
Street N	Third Street		16:15	0	245	1	0	0	0	0	11	43	0	1	0	40	0		341	
Street N2		0	16:30	0	202	0	0	0	0	0	11	32	0	0	0	38	0		283	
Street E	Terry A Francois Street		16:45	0	232	2	0	0	0	0	15	30	0	2	0	33	0		314	
Street E2		0	17:00	0	224	1	0	0	0	0	8	30	0	1	0	41	0		305	1243	
Street S	Third Street		17:15	0	276	0	0	0	0	0	3	32	0	2	0	40	0		353	1255	
Street S2		0	17:30	0	240	1	0	0	0	0	6	34	0	3	0	32	0		316	1288	
Street W	Terry A Francois Street		17:45	0	202	2	0	0	0	0	4	45	0	0	0	16	0		269	1243	
Street W2		0	18:00	0	222	1	0	0	0	0	6	51	0	1	0	16	0		297	1235	
			Peak	0	972	4	0	0	0	0	32	126	0	8	0	146	0		353	1288	0.91
Intersection 27																				
Street N	Terry A Francois Boulevard		16:15	4	36	1	0	2	0	4	0	37	7	0	0	0	0		91		
Street N2		0	16:30	2	29	0	0	0	1	6	1	22	0	0	0	0	0		61		
Street E	Mission Rock Street		16:45	6	35	0	1	0	0	5	1	31	3	0	0	0	0		82		
Street E2		0	17:00	7	31	0	0	0	0	5	0	26	1	2	0	0	0		72	306	
Street S	Terry A Francois Boulevard		17:15	9	33	1	0	0	0	5	0	34	1	0	0	1	0		84	299	
Street S2		0	17:30	4	25	3	0	2	1	5	1	23	2	1	0	0	0		67	305	
Street W	Mission Rock Street		17:45	5	17	0	0	1	1	5	0	8	2	2	0	0	0		41	264	
Street W2		0	18:00	9	11	0	0	2	0	5	0	25	4	0	0	0	0		56	248	
			Peak	19	131	1	1	2	1	20	2	116	11	2	0	0	0		91	306	0.84
Intersection 28																				
Street N	Terry A Francois Boulevard		16:15	0	38	0	0	0	0	0	0	64	0	0	0	0	0		102		
Street N2		0	16:30	0	30	0	0	0	0	0	0	45	0	0	0	0	0		75		
Street E	16th Street		16:45	0	41	0	0	0	0	0	0	44	0	0	0	0	0		85		
Street E2		0	17:00	0	41	0	0	0	0	0	0	44	0	0	0	0	0		85	347	
Street S	Terry A Francois Boulevard		17:15	0	38	0	0	0	0	0	0	54	0	0	0	0	0		92	337	
Street S2		0	17:30	0	25	0	0	0	0	0	0	44	0	0	0	0	0		69	331	
Street W	16th Street		17:45	0	18	0	0	0	0	0	0	26	0	0	0	0	0		44	290	
Street W2		0	18:00	0	17	0	0	0	0	0	0	32	0	0	0	0	0		49	254	
			Peak	0	150	0	0	0	0	0	0	197	0	0	0	0	0		102	347	0.85
Intersection 33																				
Street N	Illinois Street		16:15	8	28	32	0	4	14	10	1	9	4	17	49	1	1		178	
Street N2		0	16:30	10	22	13	0	1	21	10	0	10	4	13	35	2	0		141	
Street E	Mariposa Street/Terry A Francois Street		16:45	11	26	24	0	3	18	6	3	10	8	10	36	3	0		158	
Street E2		0	17:00	8	34	32	0	2	14	8	1	21	7	7	48	2	0		184	661	
Street S	Illinois Street		17:15	9	22	24	0	2	12	9	3	8	14	9	47	1	0		160	643	
Street S2		0	17:30	7	38	18	0	2	10	7	3	19	8	9	39	1	0		161	663	
Street W	Mariposa Street/Terry A Francois Street		17:45	7	22	13	0	2	7	7	2	20	10	5	20	1	0		116	621	
Street W2		0	18:00	8	23	10	0	2	17	10	4	10	4	10	27	4	0		129	566	
			Peak	35	120	98	0	9	54	30	10	58	37	35	170	7	0		184	663	0.90

Peak Hour
Non-standard movement
Peak period
Not included in Synchro

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: The Embarcadero -- Folsom St

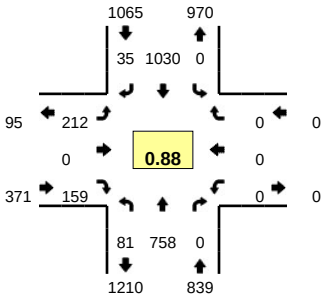
QC JOB #: 10972505

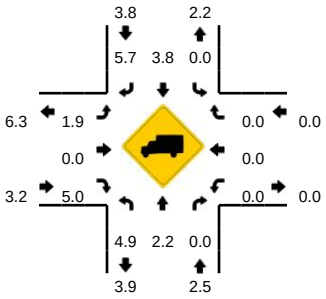
CITY/STATE: San Francisco, CA

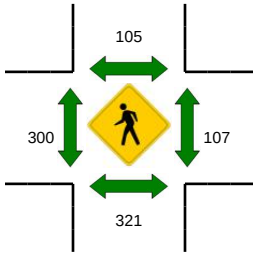
DATE: Tue, Jun 04 2013

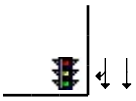
Peak-Hour: 4:00 PM -- 5:00 PM

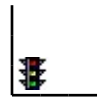
Peak 15-Min: 4:00 PM -- 4:15 PM

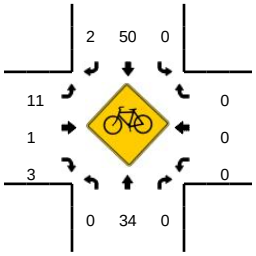


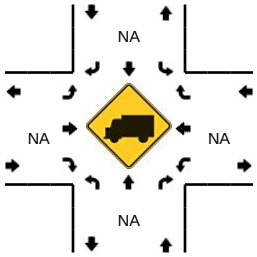


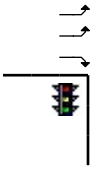


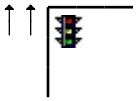


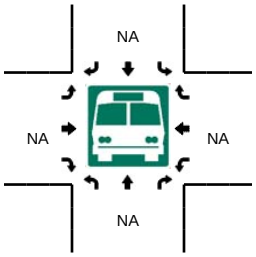












15-Min Count Period Beginning At	The Embarcadero (Northbound)				The Embarcadero (Southbound)				Folsom St (Eastbound)				Folsom St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	18	245	0	6	0	273	10	0	56	0	37	0	0	0	0	0	645	
4:15 PM	14	192	0	5	0	271	10	0	55	0	42	0	0	0	0	0	589	
4:30 PM	11	131	0	7	0	259	7	0	40	0	38	0	0	0	0	0	493	
4:45 PM	17	190	0	3	0	227	8	0	61	0	42	0	0	0	0	0	548	2275
5:00 PM	11	208	0	2	0	207	7	0	60	0	55	0	0	0	0	0	550	2180
5:15 PM	18	215	0	5	0	181	14	0	65	0	45	0	0	0	0	0	543	2134
5:30 PM	23	227	0	8	0	222	15	0	43	0	38	0	0	0	0	0	576	2217
5:45 PM	25	222	0	4	0	200	11	0	66	0	40	0	0	0	0	0	568	2237

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	72	980	0	24	0	1092	40	0	224	0	148	0	0	0	0	0	2580
Heavy Trucks	4	24	0		0	40	4		0	0	8		0	0	0		80
Pedestrians		400				68				340				104			912
Bicycles	0	7	0		0	11	1		1	0	1		0	0	0		21
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

Tigard, OR 97224
503-620-4242
www.qualitycounts.net

Site Codes: 10972523,24
Location: Beale St--Bryant St/Delancey St
Date: 6/4/13

Peak Hour: Highlighted in Blue
Peak 15-minutes: Highlighted in Orange

10972523	Beale St (Southbound)					Bryant St (Westbound)					Beale St (Northbound)					Bryant St (Eastbound)					Delancey St (Eastbound)					Interval Totals	Hourly Totals
	U-Turns	Right to Bryant St	Right to Delancey St	Thru to Beale St	Left to Bryant St	U-Turns	Right to Beale St	Thru to Bryant St	Thru to Delancey St	Left to Beale St	U-Turns	Right to Bryant St	Thru to Beale St	Left to Bryant St	Left to Delancey St	U-Turns	Right to Beale St	Right to Delancey St	Thru to Bryant St	Left to Beale St	U-Turns	Right to Beale St	Thru to Bryant St	Left to Beale St	Left to Bryant St		
4:00 PM	0	37	34	1	15	0	6	16	5	2	0	4	3	0	0	0	0	2	27	5	0	3	34	10	1	205	
4:15 PM	0	48	44	3	27	0	7	11	10	5	0	6	2	1	3	0	4	1	19	3	0	2	34	11	0	241	
4:30 PM	1	47	39	3	21	0	12	11	15	5	0	9	3	0	2	0	3	1	19	4	0	6	19	8	1	229	
4:45 PM	0	55	45	5	23	0	11	14	13	4	0	6	5	1	5	0	2	2	22	5	0	0	22	10	0	250	925
5:00 PM	1	63	41	5	24	0	12	17	7	5	0	7	1	0	3	0	0	1	22	11	0	2	26	11	0	259	979
5:15 PM	0	71	29	10	16	0	6	24	22	6	0	8	3	0	3	0	1	1	31	9	0	1	27	18	1	287	1025
5:30 PM	0	74	34	4	20	0	10	31	19	2	0	5	3	0	1	0	2	0	27	8	0	6	23	12	0	281	1077
5:45 PM	0	78	29	4	25	0	13	21	20	4	0	4	1	2	6	0	4	2	24	14	0	3	26	10	0	290	1117
Totals	2	473	295	35	171	0	77	145	111	33	0	49	21	4	23	0	16	10	191	59	0	23	211	90	3		

10972524	Beale St (Southbound)					Bryant St (Westbound)					Beale St (Northbound)					Bryant St (Eastbound)					Delancey St (Eastbound)					Interval Totals	Hourly Totals
	U-Turns	Right to Bryant St	Right to Delancey St	Thru to Beale St	Left to Bryant St	U-Turns	Right to Beale St	Thru to Bryant St	Thru to Delancey St	Left to Beale St	U-Turns	Right to Bryant St	Thru to Beale St	Left to Bryant St	Left to Delancey St	U-Turns	Right to Beale St	Right to Delancey St	Thru to Bryant St	Left to Beale St	U-Turns	Right to Beale St	Thru to Bryant St	Left to Beale St	Left to Bryant St		
9:00 PM	1	4	5	2	6	0	1	15	4	2	0	2	1	0	2	0	2	2	17	8	0	0	5	9	4	92	
9:15 PM	0	9	6	4	3	0	3	29	1	0	0	3	3	1	2	0	5	0	20	13	0	2	6	2	3	115	
9:30 PM	0	7	9	4	11	1	1	26	1	3	0	1	6	0	0	0	2	0	19	8	0	4	6	6	3	118	
9:45 PM	1	16	3	1	4	0	3	78	0	1	0	4	1	5	0	0	0	1	32	11	0	2	16	11	18	208	533
10:00 PM	1	10	5	3	9	0	9	94	2	0	0	3	4	1	0	0	4	0	21	7	0	1	17	11	10	212	653
10:15 PM	1	10	3	3	8	0	2	36	1	1	0	1	0	1	3	0	4	0	17	6	0	1	8	2	4	112	650
10:30 PM	0	6	3	4	6	0	4	19	1	1	0	5	2	2	0	0	2	0	21	1	0	1	2	2	0	82	614
10:45 PM	0	5	2	2	2	0	1	15	0	1	0	0	2	0	3	0	2	2	14	3	0	1	5	2	0	62	468
Totals	4	67	36	23	49	1	24	312	10	9	0	19	19	10	10	0	21	5	161	57	0	12	65	45	42		

Traffic Data Service

Campbell, CA
(408) 377-2988
tdsbay@cs.com

File Name : 3PM FINAL 1
Site Code : 00000003
Start Date : 6/18/2013
Page No : 1

Groups Printed- Vehicles

	FREMONT ST Southbound					HARRISON ST Westbound					I-80 WB OFF-RAMP Northbound					HARRISON ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	60	0	2	13	75	5	171	0	16	192	53	36	31	0	120	0	27	7	1	35	422
04:15 PM	52	0	0	15	67	8	192	0	8	208	60	34	34	1	129	0	20	9	3	32	436
04:30 PM	58	0	1	16	75	11	189	0	13	213	78	27	33	2	140	0	15	6	1	22	450
04:45 PM	71	0	2	11	84	9	184	0	11	204	72	41	38	5	156	0	7	9	1	17	461
Total	241	0	5	55	301	33	736	0	48	817	263	138	136	8	545	0	69	31	6	106	1769
05:00 PM	49	0	1	19	69	12	209	0	5	226	75	39	30	1	145	0	12	14	4	30	470
05:15 PM	80	0	3	24	107	7	181	0	15	203	63	36	33	0	132	0	17	7	3	27	469
05:30 PM	67	0	2	27	96	14	197	0	27	238	82	37	37	0	156	0	20	4	1	25	515
05:45 PM	85	0	3	19	107	14	168	0	27	209	96	54	43	0	193	0	26	5	0	31	540
Total	281	0	9	89	379	47	755	0	74	876	316	166	143	1	626	0	75	30	8	113	1994
Grand Total	522	0	14	144	680	80	1491	0	122	1693	579	304	279	9	1171	0	144	61	14	219	3763
Apprch %	76.8	0	2.1	21.2		4.7	88.1	0	7.2		49.4	26	23.8	0.8		0	65.8	27.9	6.4		
Total %	13.9	0	0.4	3.8	18.1	2.1	39.6	0	3.2	45	15.4	8.1	7.4	0.2	31.1	0	3.8	1.6	0.4	5.8	

	FREMONT ST Southbound				HARRISON ST Westbound				I-80 WB OFF-RAMP Northbound				HARRISON ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	49	0	1	50	12	**209**	0	**221**	75	39	30	144	0	12	**14**	26	441
05:15 PM	80	0	**3**	83	7	181	0	188	63	36	33	132	0	17	7	24	427
05:30 PM	67	0	2	69	**14**	197	0	211	82	37	37	156	0	20	4	24	460
05:45 PM	**85**	0	3	**88**	14	168	0	182	**96**	**54**	**43**	**193**	0	**26**	5	**31**	**494**
Total Volume	281	0	9	290	47	755	0	802	316	166	143	625	0	75	30	105	1822
% App. Total	96.9	0	3.1		5.9	94.1	0		50.6	26.6	22.9		0	71.4	28.6		
PHF	.826	.000	.750	.824	.839	.903	.000	.907	.823	.769	.831	.810	.000	.721	.536	.847	.922

Traffic Data Service

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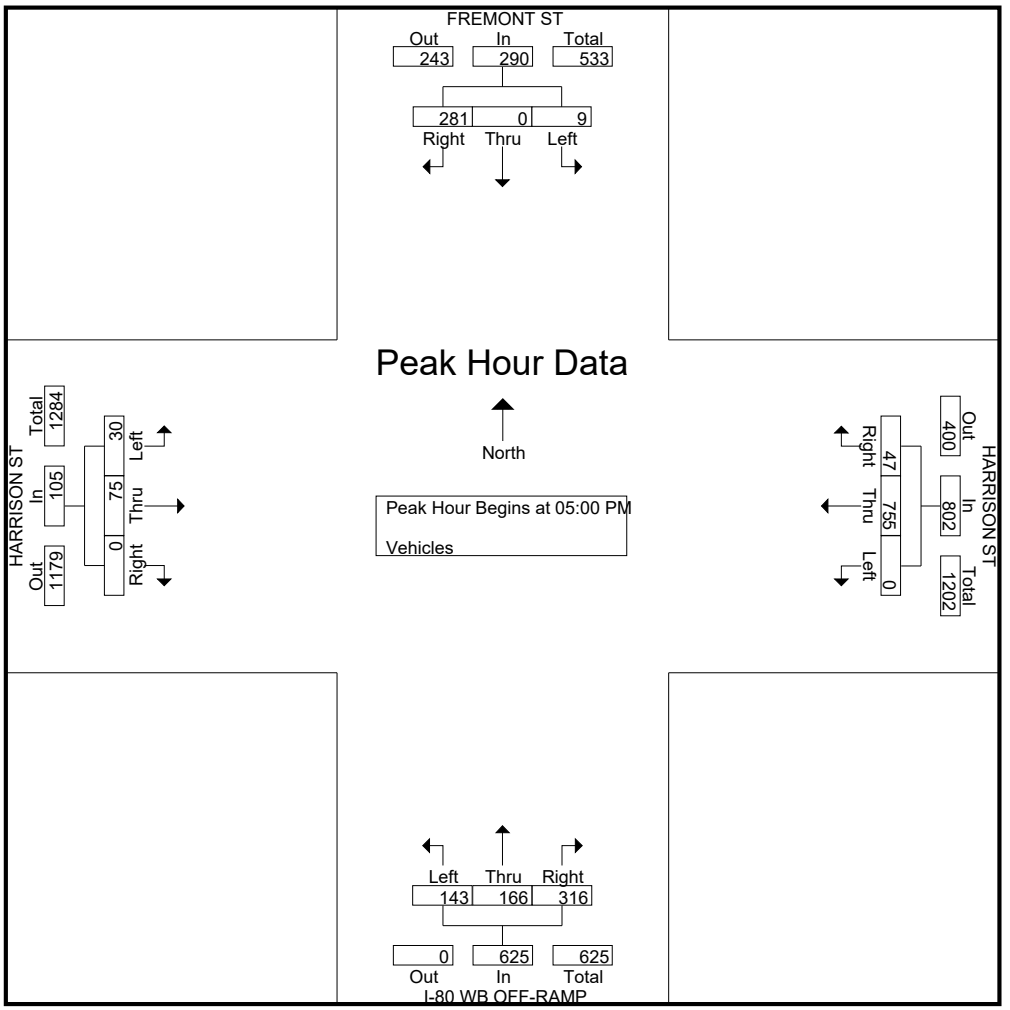
tdsbay@cs.com

File Name : 3PM FINAL 1
Site Code : 00000003
Start Date : 6/18/2013
Page No : 2



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File Name : 4PM FINAL 1
Site Code : 00000004
Start Date : 6/18/2013
Page No : 1

Groups Printed- Vehicles

	I-80 WB OFF-RAMP- FREMONT ST Southbound					FOLSOM ST Westbound					FREMONT ST Northbound					FOLSOM ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	9	43	35	87	30	17	2	15	64	18	29	0	9	56	44	66	53	9	172	379
04:15 PM	1	7	55	39	102	21	21	5	15	62	22	23	1	29	75	39	63	33	2	137	376
04:30 PM	0	21	65	39	125	20	18	2	14	54	27	21	0	19	67	32	57	47	3	139	385
04:45 PM	1	10	75	48	134	19	34	3	11	67	28	24	0	27	79	49	54	37	4	144	424
Total	2	47	238	161	448	90	90	12	55	247	95	97	1	84	277	164	240	170	18	592	1564
05:00 PM	0	10	60	75	145	32	23	1	10	66	29	27	0	26	82	32	45	45	5	127	420
05:15 PM	0	24	62	64	150	30	40	6	13	89	21	25	0	25	71	56	73	49	10	188	498
05:30 PM	1	21	45	44	111	37	21	9	23	90	32	30	2	35	99	47	77	46	5	175	475
05:45 PM	1	25	67	63	156	30	26	5	28	89	35	32	0	44	111	47	80	48	2	177	533
Total	2	80	234	246	562	129	110	21	74	334	117	114	2	130	363	182	275	188	22	667	1926
Grand Total	4	127	472	407	1010	219	200	33	129	581	212	211	3	214	640	346	515	358	40	1259	3490
Apprch %	0.4	12.6	46.7	40.3		37.7	34.4	5.7	22.2		33.1	33	0.5	33.4		27.5	40.9	28.4	3.2		
Total %	0.1	3.6	13.5	11.7	28.9	6.3	5.7	0.9	3.7	16.6	6.1	6	0.1	6.1	18.3	9.9	14.8	10.3	1.1	36.1	

	I-80 WB OFF-RAMP- FREMONT ST Southbound				FOLSOM ST Westbound				FREMONT ST Northbound				FOLSOM ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	10	60	70	32	23	1	56	29	27	0	56	32	45	45	122	304
05:15 PM	0	24	62	86	30	**40**	6	**76**	21	25	0	46	**56**	73	**49**	**178**	386
05:30 PM	**1**	21	45	67	**37**	21	**9**	67	32	30	**2**	64	47	77	46	170	368
05:45 PM	1	**25**	**67**	**93**	30	26	5	61	**35**	**32**	0	**67**	47	**80**	48	175	**396**
Total Volume	2	80	234	316	129	110	21	260	117	114	2	233	182	275	188	645	1454
% App. Total	0.6	25.3	74.1		49.6	42.3	8.1		50.2	48.9	0.9		28.2	42.6	29.1		
PHF	.500	.800	.873	.849	.872	.688	.583	.855	.836	.891	.250	.869	.813	.859	.959	.906	.918

Traffic Data Service

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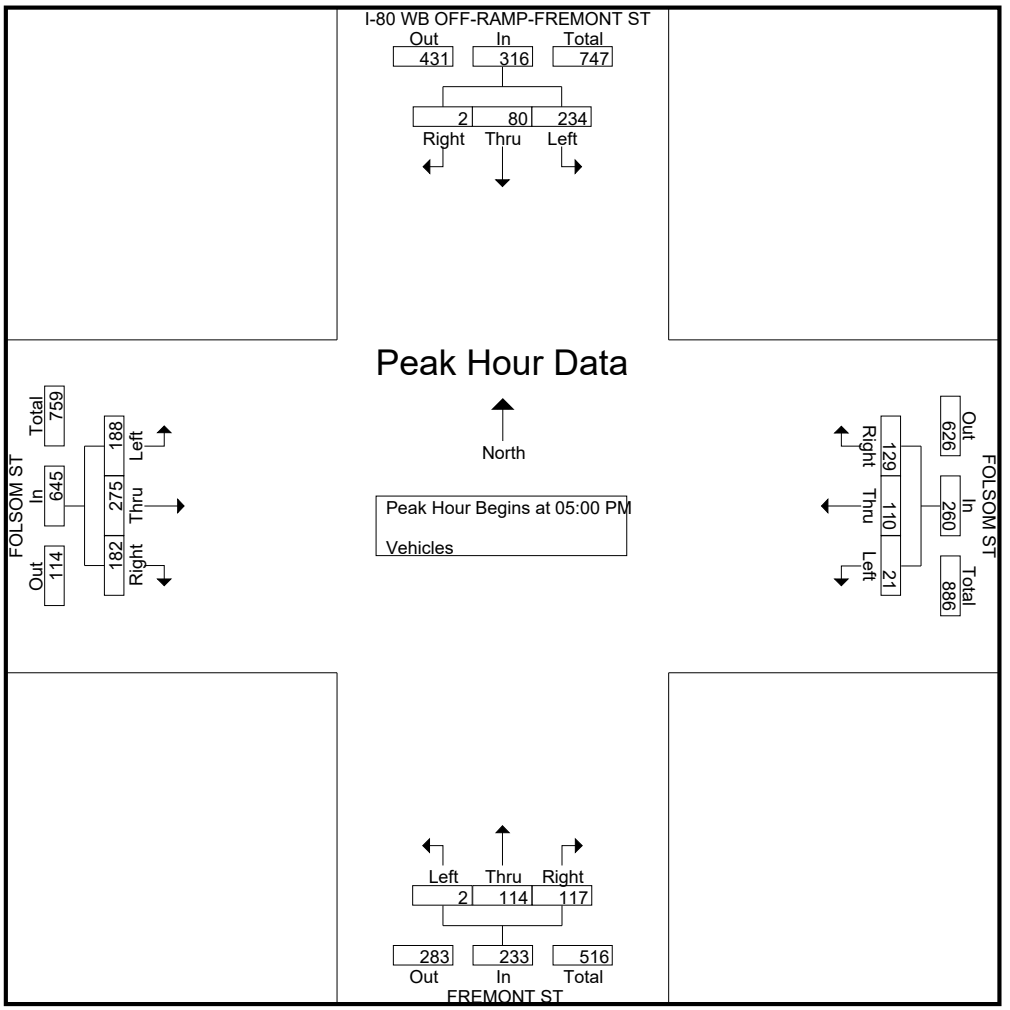
File Name : 4PM FINAL 1
Site Code : 00000004
Start Date : 6/18/2013
Page No : 2



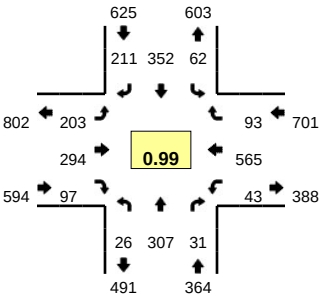
Type of peak hour being reported: Intersection Peak

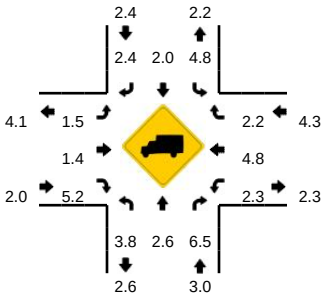
Method for determining peak hour: Total Entering Volume

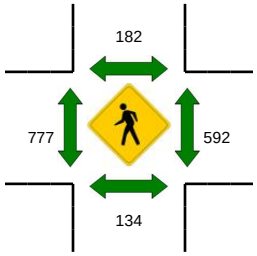
LOCATION: 2nd St -- Brannan St
CITY/STATE: San Francisco, CA

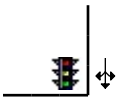
QC JOB #: 10972527
DATE: Tue, Jun 04 2013

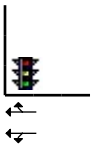
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

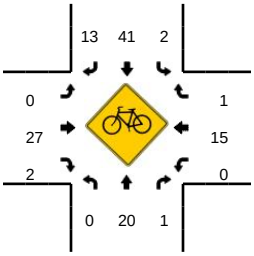


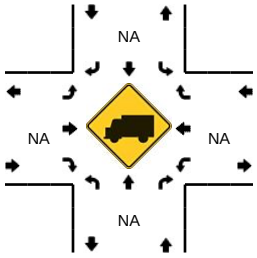


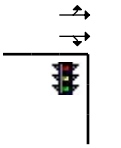


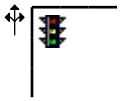


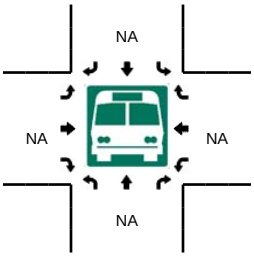












15-Min Count Period Beginning At	2nd St (Northbound)				2nd St (Southbound)				Brannan St (Eastbound)				Brannan St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	23	50	16	0	6	71	41	0	29	65	27	0	4	95	17	0	444	
4:15 PM	20	51	21	0	14	66	36	1	38	52	20	0	8	124	30	0	481	
4:30 PM	18	51	9	0	8	71	44	0	47	63	23	0	12	140	31	0	517	
4:45 PM	3	55	7	0	14	67	39	0	52	76	27	0	5	141	44	0	530	1972
5:00 PM	7	79	6	0	15	78	42	0	55	81	26	0	10	140	27	1	567	2095
5:15 PM	7	90	10	0	14	90	40	0	56	77	18	0	11	139	20	0	572	2186
5:30 PM	4	66	11	0	15	95	67	0	39	63	31	0	7	154	25	0	577	2246
5:45 PM	8	72	4	0	18	89	62	0	53	73	22	0	14	132	21	0	568	2284

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	16	264	44	0	60	380	268	0	156	252	124	0	28	616	100	0	2308
Heavy Trucks	0	0	0		0	4	4		4	0	8		0	36	0		56
Pedestrians		140				160				756				688			1744
Bicycles	0	5	0		1	6	1		0	5	0		0	6	0		24
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

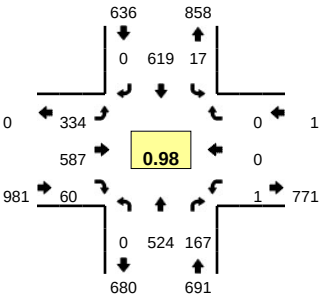
Type of peak hour being reported: Intersection Peak

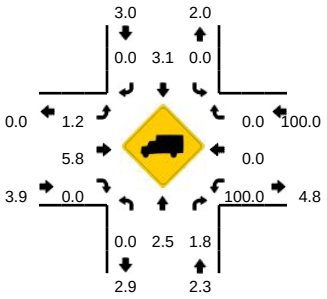
Method for determining peak hour: Total Entering Volume

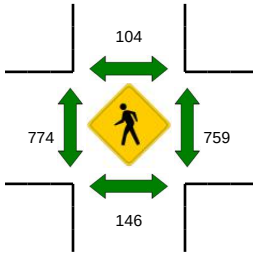
LOCATION: 2nd St -- Bryant St
CITY/STATE: San Francisco, CA

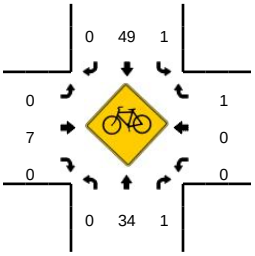
QC JOB #: 10972529
DATE: Tue, Jun 04 2013

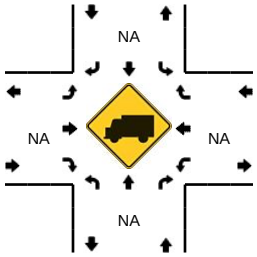
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:45 PM -- 6:00 PM

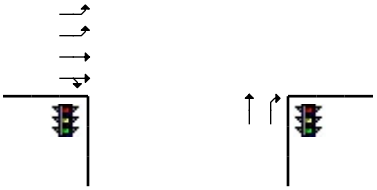


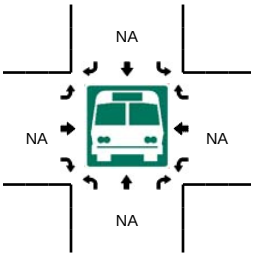












15-Min Count Period Beginning At	2nd St (Northbound)				2nd St (Southbound)				Bryant St (Eastbound)				Bryant St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	79	47	0	1	83	0	0	83	167	22	0	0	0	0	0	482	
4:15 PM	0	59	53	0	4	108	0	0	82	149	15	0	0	0	0	0	470	
4:30 PM	0	117	48	0	0	113	0	0	83	148	9	0	0	0	0	0	518	
4:45 PM	0	71	44	0	3	112	0	0	55	100	13	0	0	0	0	0	398	1868
5:00 PM	0	128	53	0	6	129	0	0	83	132	23	0	0	0	0	0	554	1940
5:15 PM	0	144	40	0	6	143	0	0	80	155	14	0	0	0	0	0	582	2052
5:30 PM	0	120	33	0	2	165	0	0	83	169	14	0	0	0	0	0	586	2120
5:45 PM	0	132	41	0	3	182	0	0	88	131	9	0	1	0	0	0	587	2309

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	0	528	164	0	12	728	0	0	352	524	36	0	4	0	0	0	2348
Heavy Trucks	0	12	0		0	24	0		4	20	0		4	0	0		64
Pedestrians		164				160				924				972			2220
Bicycles	0	10	0		0	13	0		0	3	0		0	0	0		26
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Traffic Data Service

Campbell, CA
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tdsbay@cs.com

File Name : 7PM FINAL 1
Site Code : 00000007
Start Date : 6/18/2013
Page No : 1

Groups Printed- Vehicles

	4TH ST Southbound						BRYANT ST Westbound		4TH ST Northbound		BRYANT ST Eastbound						I-80 EB OFF-RAMP Southeastbound						
Start Time	Hard Right	Right	Thru	Left	Peds	App. Total	Peds	App. Total	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Int. Total
04:00 PM	0	0	87	25	3	115	127	127	53	53	37	181	0	0	3	221	0	2	28	0	1	31	547
04:15 PM	0	0	128	19	0	147	114	114	42	42	42	165	0	0	10	217	0	4	17	0	0	21	541
04:30 PM	0	0	93	26	0	119	141	141	43	43	37	172	0	0	4	213	0	3	17	0	0	20	536
04:45 PM	0	0	117	29	0	146	122	122	38	38	26	175	0	0	10	211	0	4	30	0	0	34	551
Total	0	0	425	99	3	527	504	504	176	176	142	693	0	0	27	862	0	13	92	0	1	106	2175
05:00 PM	0	0	136	21	11	168	236	236	72	72	38	196	0	0	8	242	0	9	21	0	3	33	751
05:15 PM	0	0	126	23	9	158	273	273	52	52	36	197	0	0	5	238	0	7	29	0	4	40	761
05:30 PM	0	0	123	29	4	156	219	219	71	71	46	188	0	0	9	243	0	10	31	0	0	41	730
05:45 PM	0	0	125	29	13	167	242	242	56	56	36	195	0	0	6	237	0	6	33	0	8	47	749
Total	0	0	510	102	37	649	970	970	251	251	156	776	0	0	28	960	0	32	114	0	15	161	2991
Grand Total	0	0	935	201	40	1176	1474	1474	427	427	298	1469	0	0	55	1822	0	45	206	0	16	267	5166
Apprch %	0	0	79.5	17.1	3.4		100		100		16.4	80.6	0	0	3		0	16.9	77.2	0	6		
Total %	0	0	18.1	3.9	0.8	22.8	28.5	28.5	8.3	8.3	5.8	28.4	0	0	1.1	35.3	0	0.9	4	0	0.3	5.2	

	4TH ST Southbound					Westbound	Northbound	BRYANT ST Eastbound					I-80 EB OFF-RAMP Southeastbound					
Start Time	Hard Right	Right	Thru	Left	App. Total	App. Total	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 05:00 PM																		
05:00 PM	0	0	**136**	21	**157**	0	0	38	196	0	0	**234**	0	9	21	0	30	421
05:15 PM	0	0	126	23	149	0	0	36	**197**	0	0	233	0	7	29	0	36	418
05:30 PM	0	0	123	**29**	152	0	0	**46**	188	0	0	234	0	**10**	31	0	**41**	**427**
05:45 PM	0	0	125	29	154	0	0	36	195	0	0	231	0	6	**33**	0	39	424
Total Volume	0	0	510	102	612	0	0	156	776	0	0	932	0	32	114	0	146	1690
% App. Total	0	0	83.3	16.7				16.7	83.3	0	0		0	21.9	78.1	0		
PHF	.000	.000	.938	.879	.975	.000	.000	.848	.985	.000	.000	.996	.000	.800	.864	.000	.890	.989

Traffic Data Service

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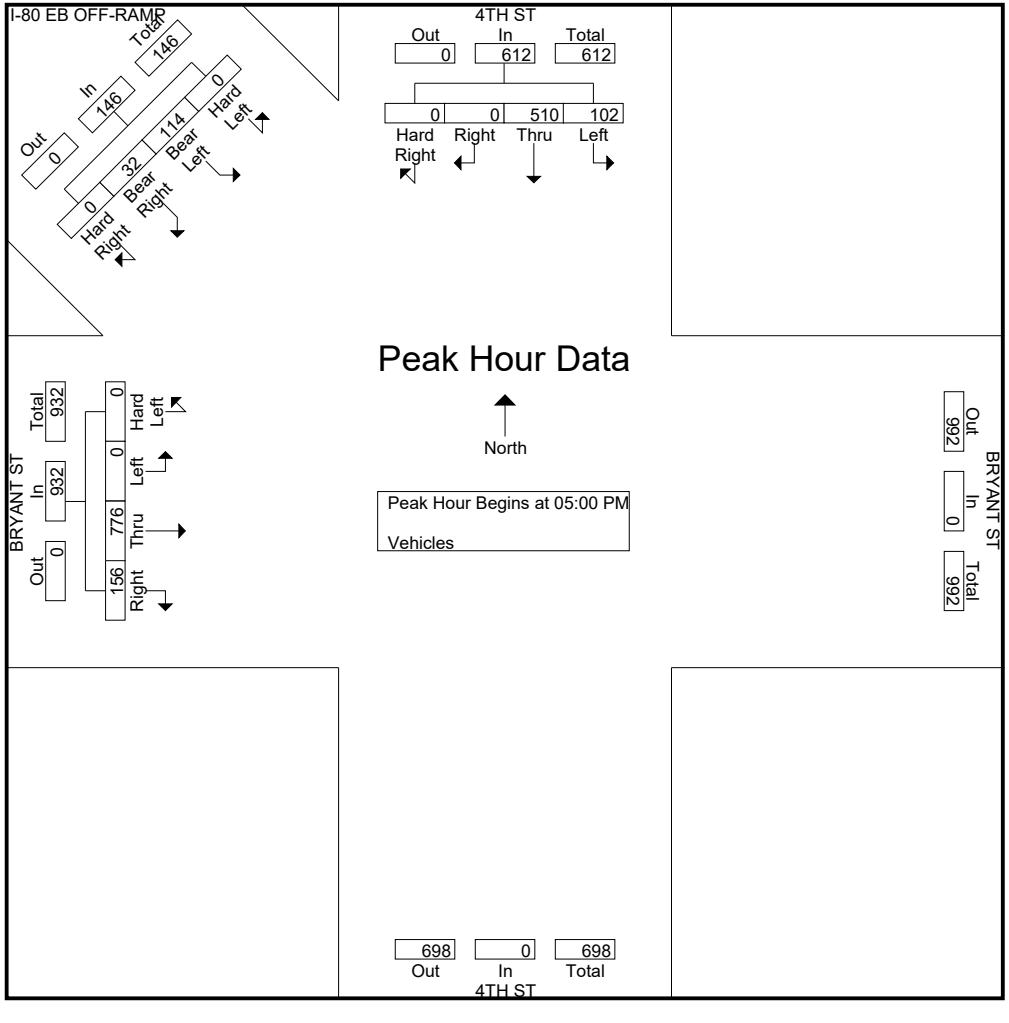
File Name : 7PM FINAL 1
Site Code : 00000007
Start Date : 6/18/2013
Page No : 2



Traffic Data Service

Campbell, CA
(408) 377-2988
tdsbay@cs.com

File Name : 6PM FINAL 1
Site Code : 00000006
Start Date : 6/18/2013
Page No : 1

Groups Printed- Vehicles

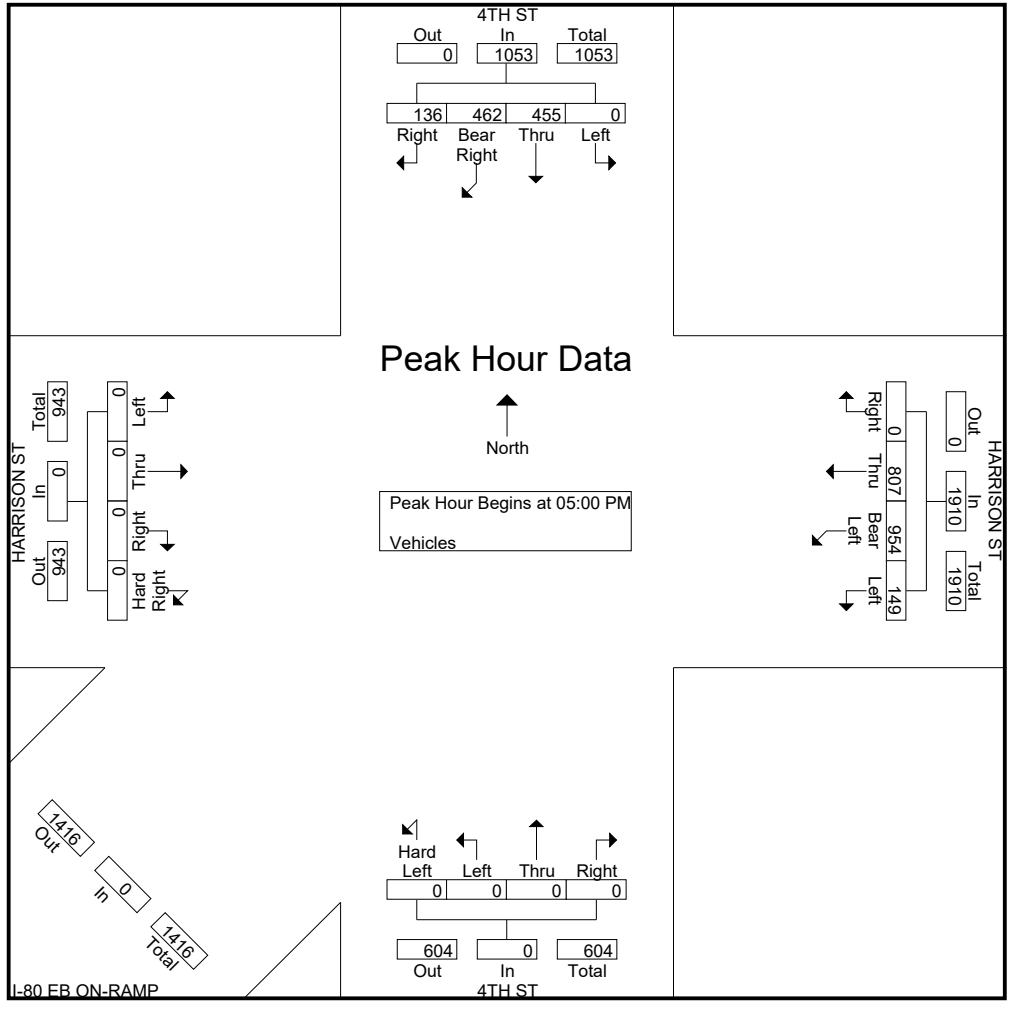
	4TH ST Southbound						HARRISON ST Westbound						4TH ST Northbound						I-80 EB ON-RAMP Northeastbound		HARRISON ST Eastbound						
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	44	136	86	0	54	320	0	135	225	30	151	541	0	0	0	0	0	0	2	2	0	0	0	0	9	9	872
04:15 PM	22	133	100	0	46	301	0	155	224	39	129	547	0	0	0	0	0	0	0	0	0	0	0	0	3	3	851
04:30 PM	32	142	83	0	56	313	0	170	209	37	131	547	0	0	0	0	0	0	0	0	0	0	0	0	5	5	865
04:45 PM	20	142	106	0	62	330	0	199	219	39	166	623	0	0	0	0	0	0	0	0	0	0	0	0	8	8	961
Total	118	553	375	0	218	1264	0	659	877	145	577	2258	0	0	0	0	0	0	2	2	0	0	0	0	25	25	3549
05:00 PM	43	118	106	0	57	324	0	196	258	47	311	812	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1136
05:15 PM	31	116	118	0	122	387	0	205	250	31	321	807	0	0	0	0	1	1	0	0	0	0	0	0	5	5	1200
05:30 PM	30	112	109	0	103	354	0	199	228	31	323	781	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1136
05:45 PM	32	116	122	0	96	366	0	207	218	40	278	743	0	0	0	0	0	0	0	0	0	0	0	0	8	8	1117
Total	136	462	455	0	378	1431	0	807	954	149	1233	3143	0	0	0	0	1	1	0	0	0	0	0	0	14	14	4589
Grand Total	254	1015	830	0	596	2695	0	1466	1831	294	1810	5401	0	0	0	0	1	1	2	2	0	0	0	0	39	39	8138
Apprch %	9.4	37.7	30.8	0	22.1		0	27.1	33.9	5.4	33.5		0	0	0	0	100		100		0	0	0	0	100		
Total %	3.1	12.5	10.2	0	7.3	33.1	0	18	22.5	3.6	22.2	66.4	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	

	4TH ST Southbound					HARRISON ST Westbound					4TH ST Northbound					Northeastbound	HARRISON ST Eastbound					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 05:00 PM																						
05:00 PM	**43**	**118**	106	0	267	0	196	**258**	**47**	**501**	0	0	0	0	0	0	0	0	0	0	0	**768**
05:15 PM	31	116	118	0	265	0	205	250	31	486	0	0	0	0	0	0	0	0	0	0	0	751
05:30 PM	30	112	109	0	251	0	199	228	31	458	0	0	0	0	0	0	0	0	0	0	0	709
05:45 PM	32	116	**122**	0	**270**	0	**207**	218	40	465	0	0	0	0	0	0	0	0	0	0	0	735
Total Volume	136	462	455	0	1053	0	807	954	149	1910	0	0	0	0	0	0	0	0	0	0	0	2963
% App. Total	12.9	43.9	43.2	0		0	42.3	49.9	7.8		0	0	0	0			0	0	0	0		
PHF	.791	.979	.932	.000	.975	.000	.975	.924	.793	.953	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.965

Traffic Data Service

Campbell, CA
(408) 377-2988
tdsbay@cs.com

File Name : 6PM FINAL 1
Site Code : 00000006
Start Date : 6/18/2013
Page No : 2



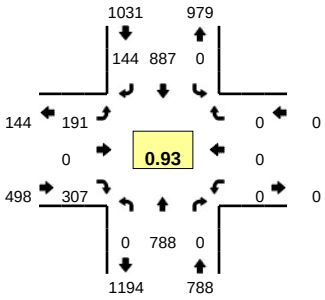
Type of peak hour being reported: Intersection Peak

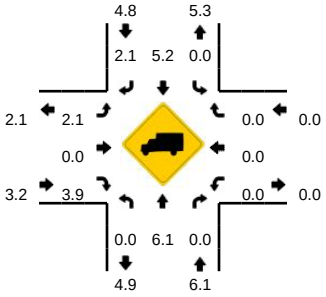
Method for determining peak hour: Total Entering Volume

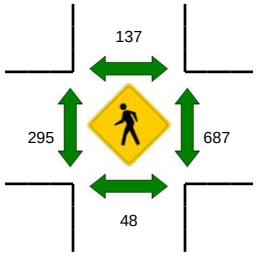
LOCATION: The Embarcadero -- Harrison St
CITY/STATE: San Francisco, CA

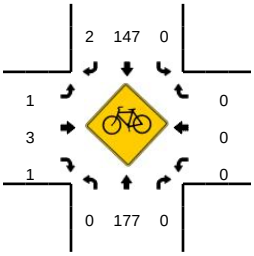
QC JOB #: 10972507
DATE: Tue, Jun 04 2013

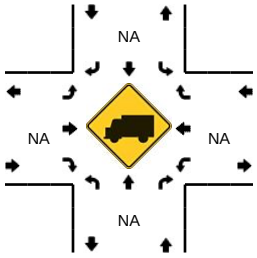
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:45 PM -- 6:00 PM

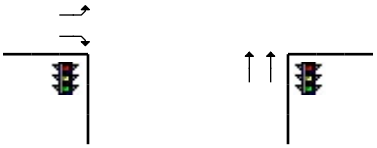


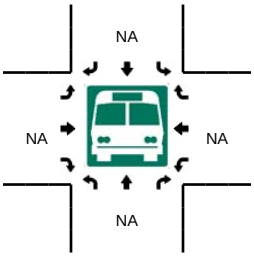












15-Min Count Period Beginning At	The Embarcadero (Northbound)				The Embarcadero (Southbound)				Harrison St (Eastbound)				Harrison St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	225	0	0	0	250	56	0	37	0	41	0	1	0	0	0	610	
4:15 PM	1	170	0	0	0	239	50	0	26	0	57	0	0	0	0	0	543	
4:30 PM	0	134	0	0	0	266	43	0	32	0	69	0	0	0	0	0	544	
4:45 PM	0	176	0	0	0	251	37	0	36	0	87	1	0	0	0	0	588	2285
5:00 PM	0	192	0	0	0	236	41	0	41	0	73	0	0	0	0	0	583	2258
5:15 PM	0	207	0	0	0	194	27	0	50	0	63	0	0	0	0	0	541	2256
5:30 PM	0	174	0	0	0	229	45	0	49	0	74	0	0	0	0	0	571	2283
5:45 PM	0	215	0	0	0	228	31	0	51	0	97	0	0	0	0	0	622	2317

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	0	860	0	0	0	912	124	0	204	0	388	0	0	0	0	0	2488
Heavy Trucks	0	40	0		0	40	0		0	0	4		0	0	0		84
Pedestrians		40				204				392				828			1464
Bicycles	0	50	0		0	54	0		0	0	0		0	0	0		104
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

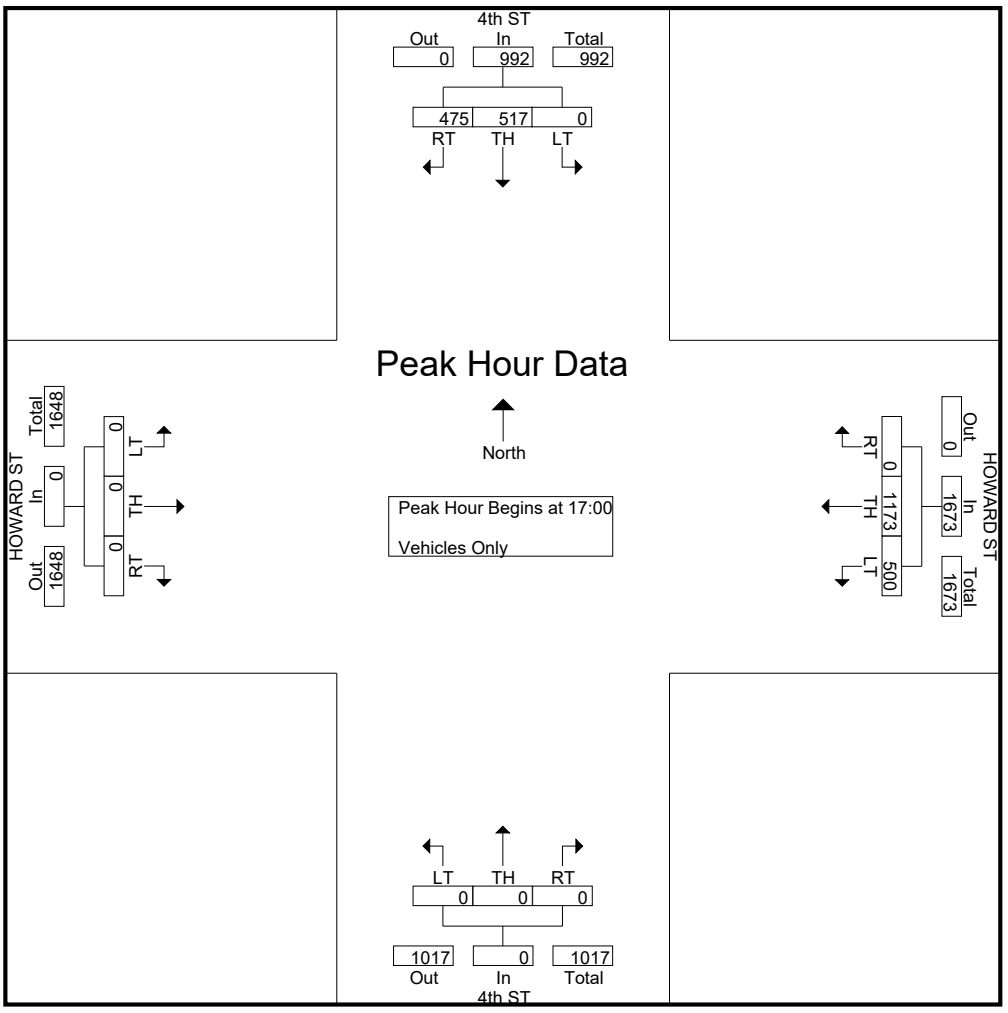
CITY OF SAN FRANCISCO
GS Warriors Project

File Name : 4-howard game-p
Site Code : 00000000
Start Date : 6/4/2013
Page No : 1

Groups Printed- Vehicles Only

	4th ST Southbound				HOWARD ST Westbound				4th ST Northbound				HOWARD ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	91	136	0	227	0	208	95	303	0	0	0	0	0	0	0	0	530
16:15	91	131	0	222	0	210	114	324	0	0	0	0	0	0	0	0	546
16:30	106	119	0	225	0	227	106	333	0	0	0	0	0	0	0	0	558
16:45	114	122	0	236	0	237	108	345	0	0	0	0	0	0	0	0	581
Total	402	508	0	910	0	882	423	1305	0	0	0	0	0	0	0	0	2215
17:00	122	129	0	251	0	294	123	417	0	0	0	0	0	0	0	0	668
17:15	114	132	0	246	0	274	114	388	0	0	0	0	0	0	0	0	634
17:30	132	131	0	263	0	310	132	442	0	0	0	0	0	0	0	0	705
17:45	107	125	0	232	0	295	131	426	0	0	0	0	0	0	0	0	658
Total	475	517	0	992	0	1173	500	1673	0	0	0	0	0	0	0	0	2665
Grand Total	877	1025	0	1902	0	2055	923	2978	0	0	0	0	0	0	0	0	4880
Apprch %	46.1	53.9	0		0	69	31		0	0	0		0	0	0		
Total %	18	21	0	39	0	42.1	18.9	61	0	0	0	0	0	0	0	0	

	4th ST Southbound				HOWARD ST Westbound				4th ST Northbound				HOWARD ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	122	129	0	251	0	294	123	417	0	0	0	0	0	0	0	0	668
17:15	114	**132**	0	246	0	274	114	388	0	0	0	0	0	0	0	0	634
17:30	**132**	131	0	**263**	0	**310**	**132**	**442**	0	0	0	0	0	0	0	0	**705**
17:45	107	125	0	232	0	295	131	426	0	0	0	0	0	0	0	0	658
Total Volume	475	517	0	992	0	1173	500	1673	0	0	0	0	0	0	0	0	2665
% App. Total	47.9	52.1	0		0	70.1	29.9		0	0	0		0	0	0		
PHF	.900	.979	.000	.943	.000	.946	.947	.946	.000	.000	.000	.000	.000	.000	.000	.000	.945



Traffic Data Service

Campbell, CA
(408) 377-2988
tdsbay@cs.com

File Name : 8PM FINAL 1
Site Code : 00000008
Start Date : 6/18/2013
Page No : 1

Groups Printed- Vehicles

	5TH ST Southbound						HARRISON ST Westbound						I-80 WB OFF-RAMP Northwestbound						5TH ST Northbound						HARRISON ST Eastbound		
Start Time	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Peds	App. Total	Int. Total
04:00 PM	71	149	0	0	30	250	20	143	21	0	18	202	0	63	152	60	11	286	0	0	52	3	0	55	36	36	829
04:15 PM	59	160	0	0	34	253	16	151	20	0	23	210	0	67	165	75	15	322	0	0	41	0	1	42	37	37	864
04:30 PM	70	136	0	0	25	231	28	159	20	0	12	219	0	56	175	59	11	301	0	0	50	0	0	50	60	60	861
04:45 PM	64	173	0	0	25	262	22	175	27	0	34	258	0	67	178	58	25	328	0	0	34	4	0	38	52	52	938
Total	264	618	0	0	114	996	86	628	88	0	87	889	0	253	670	252	62	1237	0	0	177	7	1	185	185	185	3492
05:00 PM	56	145	0	0	33	234	26	199	26	0	21	272	0	61	194	63	16	334	0	0	32	0	1	33	53	53	926
05:15 PM	43	165	0	0	33	241	21	213	17	0	28	279	0	69	190	58	30	347	0	0	45	0	0	45	57	57	969
05:30 PM	56	165	0	0	41	262	29	185	24	0	21	259	0	68	182	68	30	348	0	0	70	0	0	70	53	53	992
05:45 PM	50	186	0	0	50	286	23	197	21	0	30	271	0	63	189	66	13	331	0	0	80	0	2	82	49	49	1019
Total	205	661	0	0	157	1023	99	794	88	0	100	1081	0	261	755	255	89	1360	0	0	227	0	3	230	212	212	3906
Grand Total	469	1279	0	0	271	2019	185	1422	176	0	187	1970	0	514	1425	507	151	2597	0	0	404	7	4	415	397	397	7398
Apprch %	23.2	63.3	0	0	13.4		9.4	72.2	8.9	0	9.5		0	19.8	54.9	19.5	5.8		0	0	97.3	1.7	1		100		
Total %	6.3	17.3	0	0	3.7	27.3	2.5	19.2	2.4	0	2.5	26.6	0	6.9	19.3	6.9	2	35.1	0	0	5.5	0.1	0.1	5.6	5.4	5.4	

	5TH ST Southbound					HARRISON ST Westbound					I-80 WB OFF-RAMP Northwestbound					5TH ST Northbound					Eastbound	
Start Time	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 05:00 PM																						
05:00 PM	**56**	145	0	0	201	26	199	**26**	0	**251**	0	61	**194**	63	**318**	0	0	32	0	32	0	802
05:15 PM	43	165	0	0	208	21	**213**	17	0	251	0	**69**	190	58	317	0	0	45	0	45	0	821
05:30 PM	56	165	0	0	221	**29**	185	24	0	238	0	68	182	**68**	318	0	0	70	0	70	0	847
05:45 PM	50	**186**	0	0	**236**	23	197	21	0	241	0	63	189	66	318	0	0	**80**	0	**80**	0	**875**
Total Volume	205	661	0	0	866	99	794	88	0	981	0	261	755	255	1271	0	0	227	0	227	0	3345
% App. Total	23.7	76.3	0	0		10.1	80.9	9	0		0	20.5	59.4	20.1		0	0	100	0			
PHF	.915	.888	.000	.000	.917	.853	.932	.846	.000	.977	.000	.946	.973	.938	.999	.000	.000	.709	.000	.709	.000	.956

Traffic Data Service

Campbell, CA
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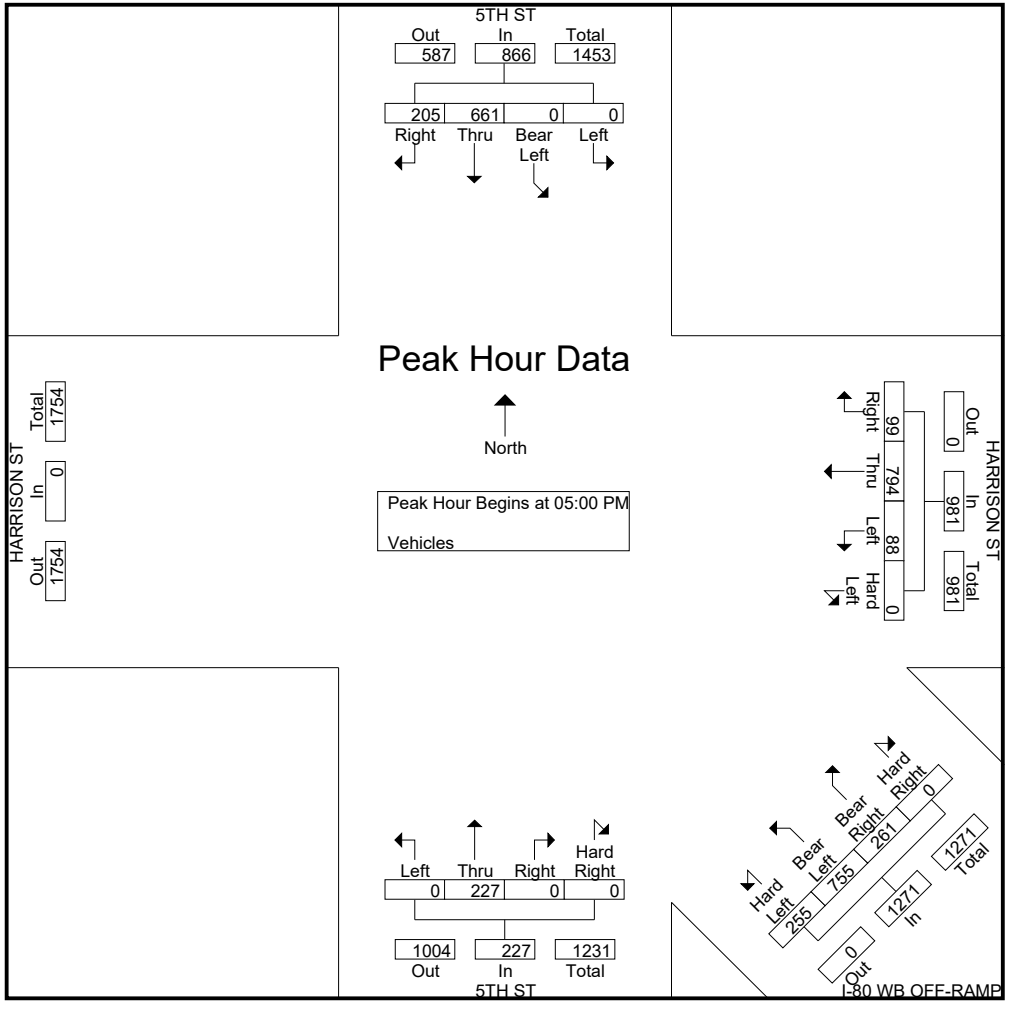
File Name : 8PM FINAL 1
Site Code : 00000008
Start Date : 6/18/2013
Page No : 2



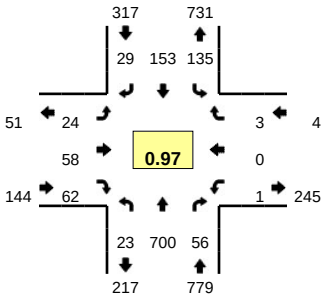
Type of peak hour being reported: Intersection Peak

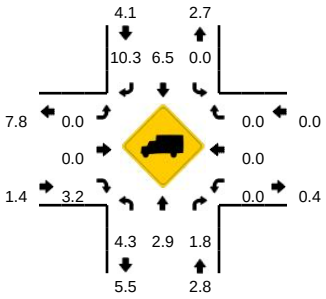
Method for determining peak hour: Total Entering Volume

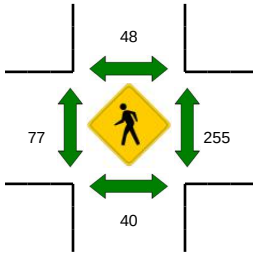
LOCATION: 3rd St -- Channel St
CITY/STATE: San Francisco, CA

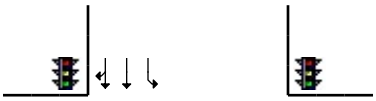
QC JOB #: 10972531
DATE: Tue, Jun 04 2013

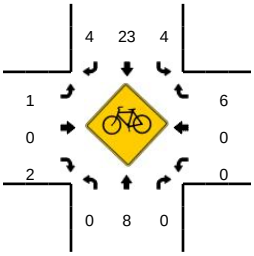
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

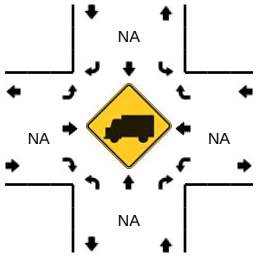


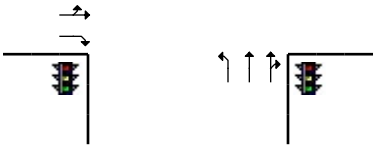


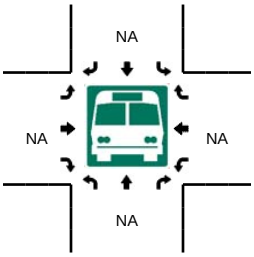












15-Min Count Period Beginning At	3rd St (Northbound)				3rd St (Southbound)				Channel St (Eastbound)				Channel St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	202	9	0	19	37	3	1	4	8	10	0	0	0	1	0	305	
4:15 PM	8	182	10	0	17	35	3	1	9	5	10	0	1	0	1	0	282	
4:30 PM	3	149	17	0	26	35	11	0	4	12	15	0	0	0	0	0	272	
4:45 PM	4	167	6	0	24	28	6	1	4	15	19	0	0	0	0	0	274	1133
5:00 PM	5	163	6	0	32	40	11	2	2	14	17	0	0	0	1	0	293	1121
5:15 PM	1	198	15	1	27	30	7	1	10	17	13	0	0	0	2	0	322	1161
5:30 PM	5	173	13	0	46	43	7	0	8	7	10	0	1	0	0	0	313	1202
5:45 PM	11	166	22	0	26	40	4	1	4	20	22	0	0	0	0	0	316	1244

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	4	792	60	4	108	120	28	4	40	68	52	0	0	0	8	0	1288
Heavy Trucks	0	32	0		0	8	8		0	0	4		0	0	0		52
Pedestrians		32				68				52				228			380
Bicycles	0	3	0		0	6	1		0	0	0		0	0	3		13
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 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: 3rd St -- Mission Rock St

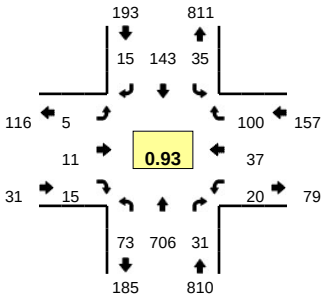
CITY/STATE: San Francisco, CA

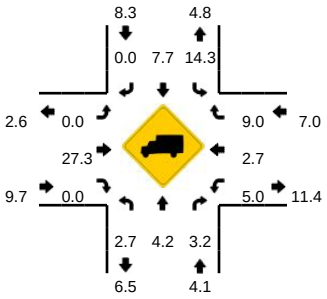
QC JOB #: 10972533

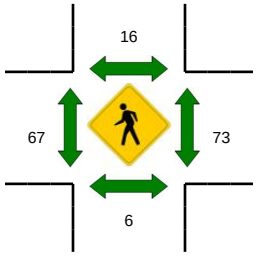
DATE: Tue, Jun 04 2013

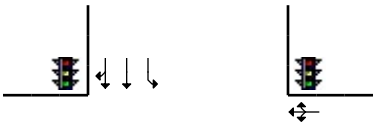
Peak-Hour: 4:00 PM -- 5:00 PM

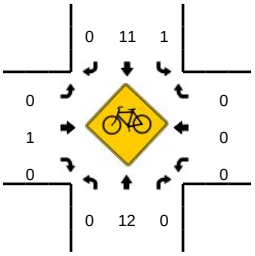
Peak 15-Min: 4:00 PM -- 4:15 PM

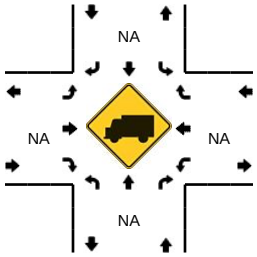


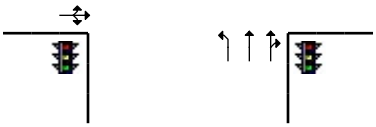


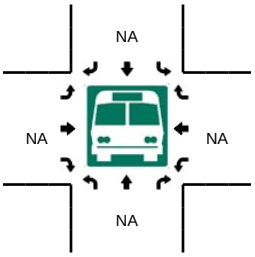












15-Min Count Period Beginning At	3rd St (Northbound)				3rd St (Southbound)				Mission Rock St (Eastbound)				Mission Rock St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	212	6	1	9	33	0	0	2	1	4	0	7	7	28	0	319	
4:15 PM	16	194	4	1	11	44	5	0	2	1	3	0	2	7	22	1	313	
4:30 PM	20	165	16	3	7	28	8	0	1	5	6	0	7	12	23	1	302	
4:45 PM	19	135	5	4	8	38	2	0	0	4	2	0	2	11	27	0	257	1191
5:00 PM	11	116	7	0	11	41	1	1	0	4	5	0	15	24	45	0	281	1153
5:15 PM	15	146	7	3	6	36	5	1	3	2	6	0	8	22	33	0	293	1133
5:30 PM	22	149	11	1	8	30	7	1	4	2	5	0	7	18	35	0	300	1131
5:45 PM	14	144	15	3	9	37	7	3	1	2	1	2	8	34	30	0	310	1184

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	36	848	24	4	36	132	0	0	8	4	16	0	28	28	112	0	1276
Heavy Trucks	8	48	0		0	12	0		0	0	0		4	0	4		76
Pedestrians		0				4				36				48			88
Bicycles	0	4	0		0	2	0		0	0	0		0	0	0		6
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

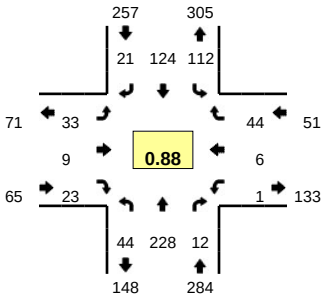
Method for determining peak hour: Total Entering Volume

LOCATION: 4th St -- Channel St

CITY/STATE: San Francisco, CA

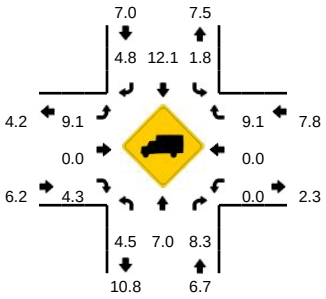
QC JOB #: 10972539

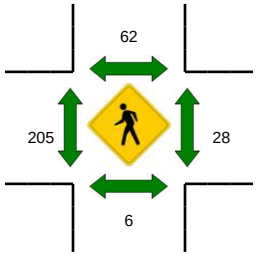
DATE: Wed, Jun 12 2013

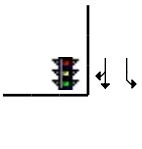


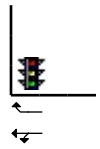
Peak-Hour: 5:00 PM -- 6:00 PM

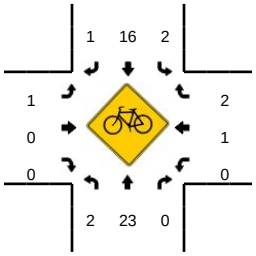
Peak 15-Min: 5:45 PM -- 6:00 PM

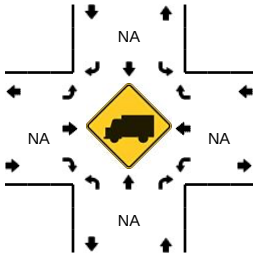


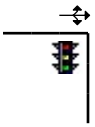


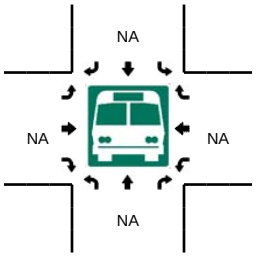












15-Min Count Period Beginning At	4th St (Northbound)				4th St (Southbound)				Channel St (Eastbound)				Channel St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	25	4	0	22	29	5	0	4	0	3	0	2	0	13	0	108	
4:15 PM	4	27	5	0	24	16	2	0	4	2	4	0	0	1	12	0	101	
4:30 PM	4	52	4	0	32	30	1	0	2	1	3	0	0	3	13	1	146	
4:45 PM	3	71	4	0	30	29	4	1	5	5	2	0	0	0	8	0	162	517
5:00 PM	3	70	3	0	31	26	7	0	5	1	5	0	0	1	16	0	168	577
5:15 PM	3	73	6	0	26	27	3	0	5	3	3	0	1	0	9	0	159	635
5:30 PM	20	37	1	0	19	35	5	0	11	2	6	0	0	1	7	0	144	633
5:45 PM	18	48	2	0	36	36	6	0	12	3	9	0	0	4	12	0	186	657

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	72	192	8	0	144	144	24	0	48	12	36	0	0	16	48	0	744
Heavy Trucks	0	20	0		0	12	0		8	0	0		0	0	0		40
Pedestrians		4				56				116				20			196
Bicycles	0	9	0		0	6	1		0	0	0		0	0	1		17
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

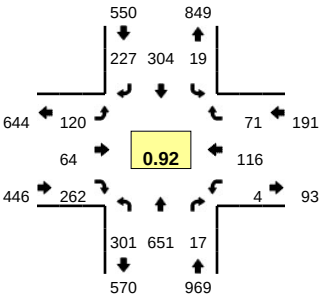
Type of peak hour being reported: Intersection Peak

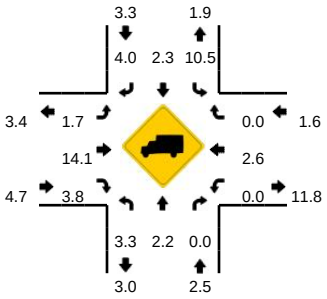
Method for determining peak hour: Total Entering Volume

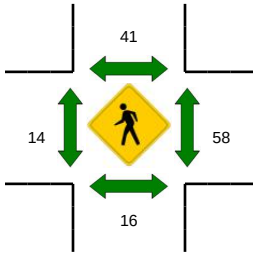
LOCATION: 3rd St -- 16th St
CITY/STATE: San Francisco, CA

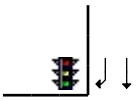
QC JOB #: 10972535
DATE: Tue, Jun 04 2013

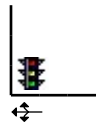
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

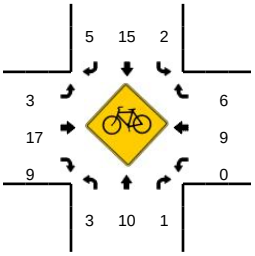


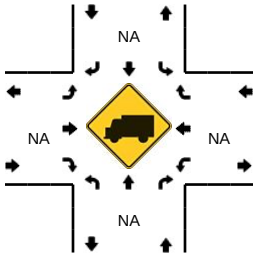


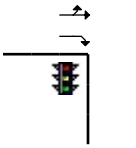


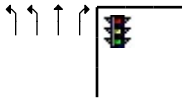


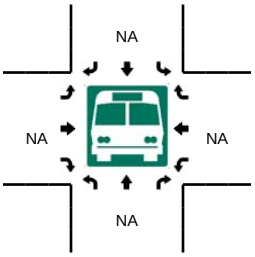












15-Min Count Period Beginning At	3rd St (Northbound)				3rd St (Southbound)				16th St (Eastbound)				16th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	56	164	2	0	2	60	15	2	33	10	58	0	0	18	16	0	436	
4:15 PM	53	179	1	0	1	69	22	2	25	12	40	0	0	14	9	0	427	
4:30 PM	50	214	4	0	0	55	28	0	25	20	52	0	0	27	20	0	495	
4:45 PM	60	172	3	1	0	65	38	0	25	9	65	0	1	27	15	0	481	1839
5:00 PM	96	175	3	0	3	80	60	2	35	16	75	0	1	25	16	0	587	1990
5:15 PM	75	150	8	0	2	77	61	0	23	19	66	0	1	37	23	0	542	2105
5:30 PM	58	161	2	0	3	64	56	1	30	18	64	0	1	33	17	0	508	2118
5:45 PM	72	165	4	0	4	83	50	4	32	11	57	0	1	21	15	0	519	2156

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	384	700	12	0	12	320	240	8	140	64	300	0	4	100	64	0	2348
Heavy Trucks	8	20	0		0	8	8		4	8	4		0	4	0		64
Pedestrians		20				52				28				56			156
Bicycles	1	2	0		1	4	2		1	6	3		0	2	3		25
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

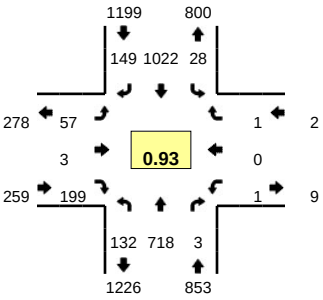
Type of peak hour being reported: Intersection Peak

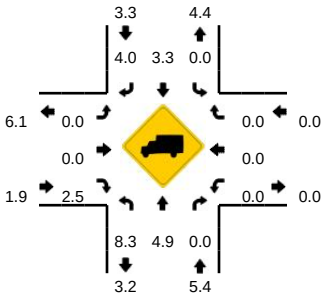
Method for determining peak hour: Total Entering Volume

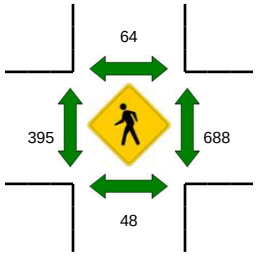
LOCATION: The Embarcadero -- Bryant St
CITY/STATE: San Francisco, CA

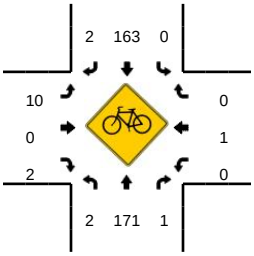
QC JOB #: 10972509
DATE: Tue, Jun 04 2013

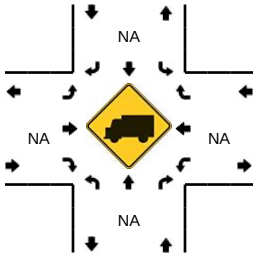
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

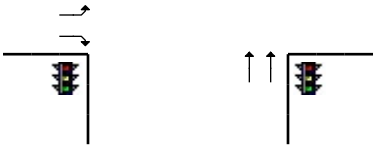


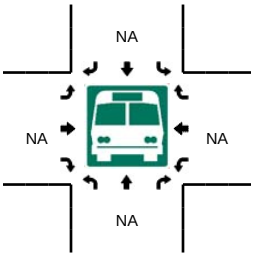












15-Min Count Period Beginning At	The Embarcadero (Northbound)				The Embarcadero (Southbound)				Bryant St (Eastbound)				Bryant St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	39	229	0	0	2	244	24	3	12	0	54	0	1	0	2	0	610	
4:15 PM	27	157	1	1	0	289	17	0	16	0	66	0	2	2	0	0	578	
4:30 PM	22	120	1	2	1	277	26	2	5	0	53	0	1	3	0	0	513	
4:45 PM	25	142	0	0	1	285	23	4	14	0	51	0	2	0	0	0	547	2248
5:00 PM	45	196	0	3	0	276	29	5	9	0	58	0	0	0	1	0	622	2260
5:15 PM	37	191	0	1	1	230	43	4	16	0	50	0	0	0	0	0	573	2255
5:30 PM	28	171	0	0	1	237	38	8	13	2	39	0	0	0	0	0	537	2279
5:45 PM	18	160	3	0	1	279	39	8	18	1	52	1	1	0	0	0	581	2313

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	180	784	0	12	0	1104	116	20	36	0	232	0	0	0	4	0	2488
Heavy Trucks	12	40	0		0	36	4		0	0	0		0	0	0		92
Pedestrians		52				16				344				568			980
Bicycles	1	43	0		0	40	0		0	0	1		0	0	0		85
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

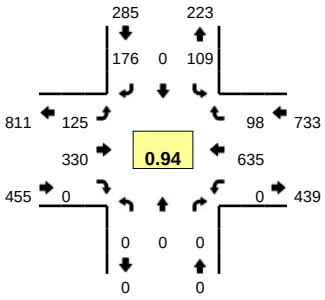
Type of peak hour being reported: Intersection Peak

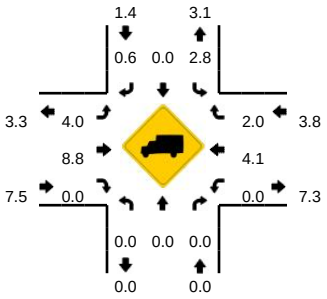
Method for determining peak hour: Total Entering Volume

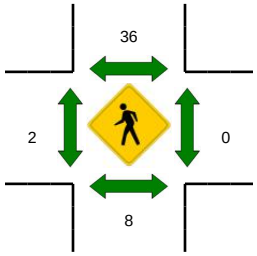
LOCATION: Owens St -- 16th St
CITY/STATE: San Francisco, CA

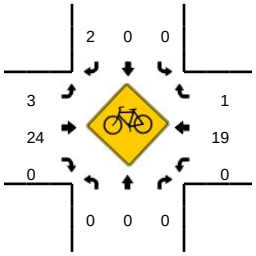
QC JOB #: 10972541
DATE: Tue, Jun 04 2013

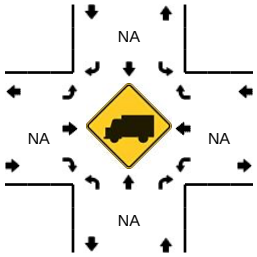
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

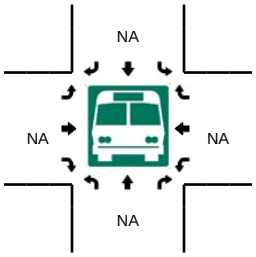












15-Min Count Period Beginning At	Owens St (Northbound)				Owens St (Southbound)				16th St (Eastbound)				16th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	23	0	28	0	21	65	0	0	0	102	15	0	254	
4:15 PM	0	0	0	0	8	0	33	0	21	70	0	1	0	91	11	0	235	
4:30 PM	0	0	0	0	22	0	33	0	31	82	0	0	0	109	18	1	296	
4:45 PM	0	0	0	0	20	0	38	0	29	79	0	0	0	127	23	0	316	1101
5:00 PM	0	0	0	0	38	0	45	0	28	72	0	0	0	157	26	0	366	1213
5:15 PM	0	0	0	0	27	0	33	0	44	88	0	0	0	169	30	0	391	1369
5:30 PM	0	0	0	0	24	0	44	0	18	80	0	0	0	168	21	0	355	1428
5:45 PM	0	0	0	0	20	0	54	0	35	90	0	0	0	141	21	0	361	1473

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	0	0	0	0	108	0	132	0	176	352	0	0	0	676	120	0	1564
Heavy Trucks	0	0	0		4	0	0		8	28	0		0	24	4		68
Pedestrians		16				32				4				0			52
Bicycles	0	0	0		0	0	0		1	3	0		0	3	0		7
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

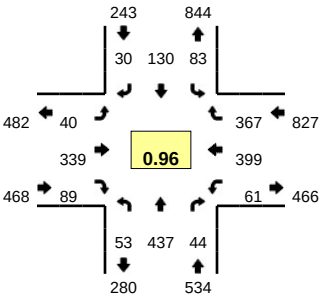
Method for determining peak hour: Total Entering Volume

LOCATION: 7th St/Mississippi St -- 16th St

QC JOB #: 10972545

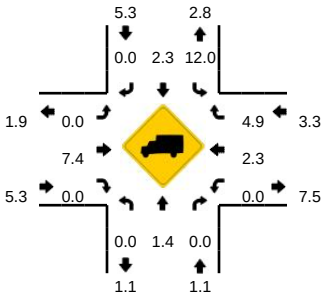
CITY/STATE: San Francisco, CA

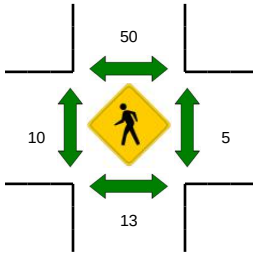
DATE: Tue, Jun 04 2013

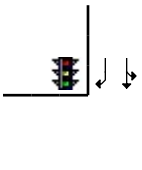


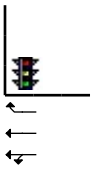
Peak-Hour: 5:00 PM -- 6:00 PM

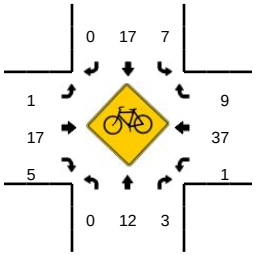
Peak 15-Min: 5:00 PM -- 5:15 PM

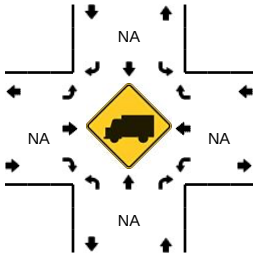


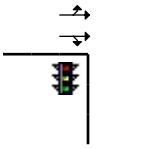


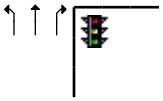


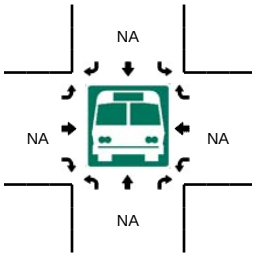












15-Min Count Period Beginning At	7th St/Mississippi St (Northbound)				7th St/Mississippi St (Southbound)				16th St (Eastbound)				16th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	18	89	10	0	11	33	2	0	4	64	22	0	14	61	60	0	388	
4:15 PM	16	80	12	0	12	32	8	0	5	71	22	0	10	58	52	0	378	
4:30 PM	8	106	19	0	24	34	1	0	13	65	30	0	7	77	80	0	464	
4:45 PM	11	119	8	0	17	30	4	0	6	84	23	0	18	67	83	0	470	1700
5:00 PM	22	136	13	0	21	32	6	0	11	74	22	0	25	86	92	0	540	1852
5:15 PM	7	88	10	0	14	27	10	0	10	110	21	0	7	106	97	0	507	1981
5:30 PM	10	99	8	0	28	34	8	0	8	64	15	0	10	102	99	0	485	2002
5:45 PM	14	114	13	0	20	37	6	0	11	91	31	0	19	105	79	0	540	2072

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	88	544	52	0	84	128	24	0	44	296	88	0	100	344	368	0	2160
Heavy Trucks	0	0	0		8	0	0		0	20	0		0	12	24		64
Pedestrians		12				80				8				4			104
Bicycles	0	2	1		5	2	0		0	2	1		0	7	4		24
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

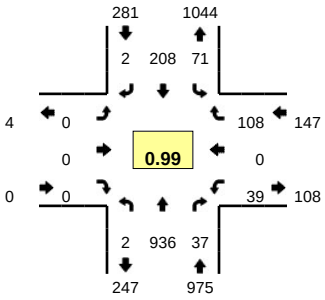
Type of peak hour being reported: Intersection Peak

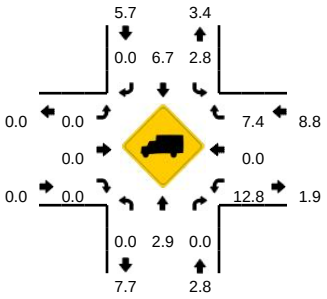
Method for determining peak hour: Total Entering Volume

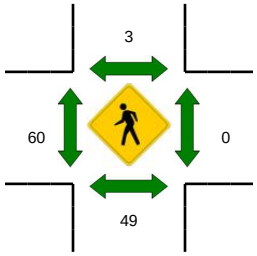
LOCATION: 7th St -- Mission Bay Dr
CITY/STATE: San Francisco, CA

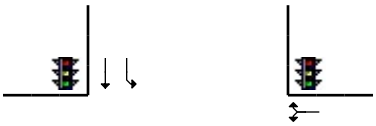
QC JOB #: 10972543
DATE: Tue, Jun 04 2013

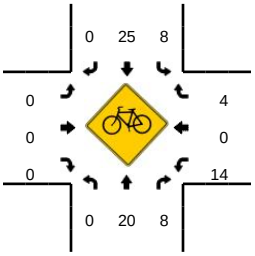
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

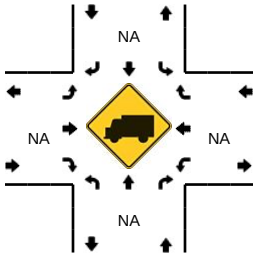


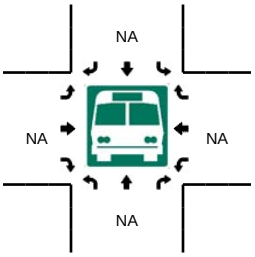












15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				Mission Bay Dr (Eastbound)				Mission Bay Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	179	6	0	14	37	1	0	0	0	0	0	5	0	16	0	259	
4:15 PM	0	145	7	0	8	47	0	0	0	0	0	0	4	0	17	0	228	
4:30 PM	0	217	11	0	15	53	0	0	0	0	0	0	6	0	18	0	320	
4:45 PM	1	254	6	0	18	44	1	0	0	0	0	0	9	0	22	0	355	1162
5:00 PM	1	235	11	0	16	54	1	0	0	0	0	0	4	0	32	0	354	1257
5:15 PM	0	216	13	0	18	51	0	0	0	0	0	0	14	0	27	0	339	1368
5:30 PM	0	231	7	0	19	59	0	0	0	0	0	0	12	0	27	0	355	1403
5:45 PM	0	197	11	0	22	63	1	0	0	0	0	0	12	0	27	0	333	1381

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	4	1016	24	0	72	176	4	0	0	0	0	0	36	0	88	0	1420
Heavy Trucks	0	32	0		0	8	0		0	0	0		4	0	8		52
Pedestrians		24				0				56				0			80
Bicycles	0	8	1		0	3	0		0	0	0		2	0	0		14
Railroad Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

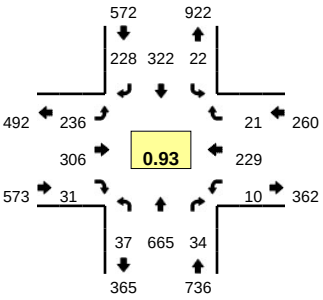
Type of peak hour being reported: Intersection Peak

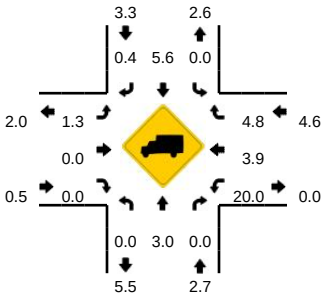
Method for determining peak hour: Total Entering Volume

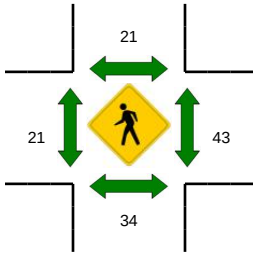
LOCATION: 3rd St -- Mariposa St
CITY/STATE: San Francisco, CA

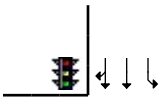
QC JOB #: 10972537
DATE: Tue, Jun 04 2013

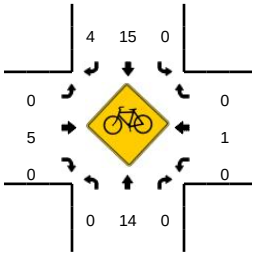
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

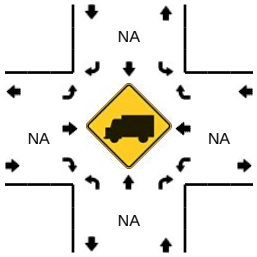


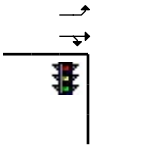


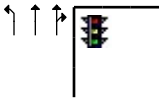


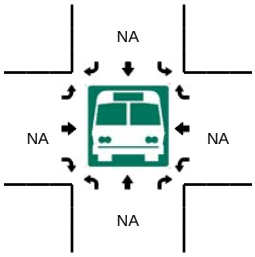












15-Min Count Period Beginning At	3rd St (Northbound)				3rd St (Southbound)				Mariposa St (Eastbound)				Mariposa St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	185	7	0	1	60	58	0	37	30	13	0	1	46	4	0	453	
4:15 PM	7	183	3	0	5	57	48	0	40	31	7	0	4	30	0	0	415	
4:30 PM	18	181	5	3	3	67	43	1	76	47	9	0	1	45	11	0	510	
4:45 PM	8	157	6	0	4	79	49	1	75	56	6	0	1	44	6	0	492	1870
5:00 PM	10	189	7	0	4	88	60	0	57	68	9	0	3	76	5	0	576	1993
5:15 PM	10	165	11	1	4	77	60	0	55	69	5	0	4	64	7	0	532	2110
5:30 PM	4	153	8	0	6	76	56	0	55	84	12	0	2	54	3	0	513	2113
5:45 PM	11	158	8	1	8	81	52	0	69	85	5	0	1	35	6	0	520	2141

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	40	756	28	0	16	352	240	0	228	272	36	0	12	304	20	0	2304
Heavy Trucks	0	20	0		0	16	0		8	0	0		0	16	4		64
Pedestrians		36				24				28				20			108
Bicycles	0	3	0		0	3	1		0	2	0		0	0	0		9
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 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: I-280 NB Off-Ramp -- Mariposa St

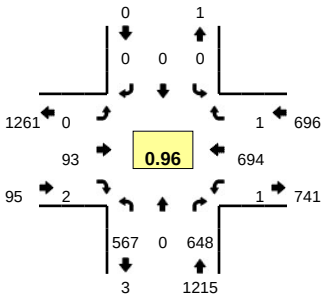
CITY/STATE: San Francisco, CA

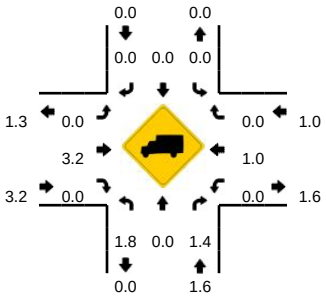
QC JOB #: 10972549

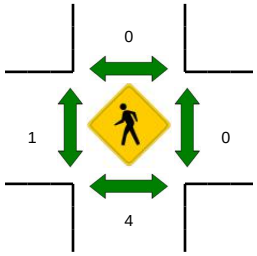
DATE: Tue, Jun 04 2013

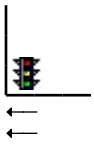
Peak-Hour: 4:45 PM -- 5:45 PM

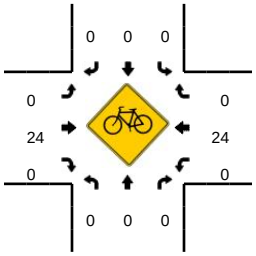
Peak 15-Min: 5:15 PM -- 5:30 PM

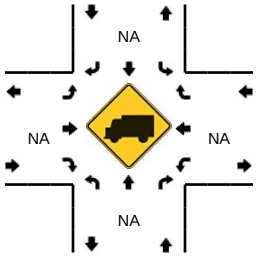


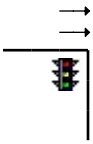


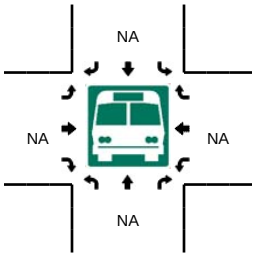












15-Min Count Period Beginning At	I-280 NB Off-Ramp (Northbound)				I-280 NB Off-Ramp (Southbound)				Mariposa St (Eastbound)				Mariposa St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	123	0	70	0	0	0	0	0	0	24	0	0	0	133	0	0	350	
4:15 PM	124	0	73	0	0	0	0	0	0	28	0	0	1	128	0	0	354	
4:30 PM	139	0	140	0	0	0	0	0	0	24	0	0	1	128	0	0	432	
4:45 PM	149	0	155	0	0	0	0	0	0	14	0	0	0	164	1	0	483	1619
5:00 PM	148	0	155	0	0	0	0	0	0	17	1	0	0	191	0	0	512	1781
5:15 PM	138	0	163	0	0	0	0	0	0	29	1	0	1	188	0	0	520	1947
5:30 PM	132	0	175	0	0	0	0	0	0	33	0	0	0	151	0	0	491	2006
5:45 PM	131	0	179	0	0	0	0	0	0	23	0	0	0	142	3	0	478	2001

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	552	0	652	0	0	0	0	0	0	116	4	0	4	752	0	0	2080
Heavy Trucks	16	0	12		0	0	0		0	8	0		0	4	0		40
Pedestrians		4				0				4				0			8
Bicycles	0	0	0		0	0	0		0	10	0		0	5	0		15
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 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: I-280 SB On-Ramp -- Mariposa St

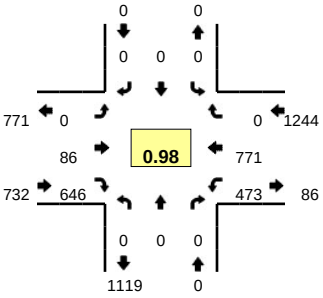
QC JOB #: 10972547

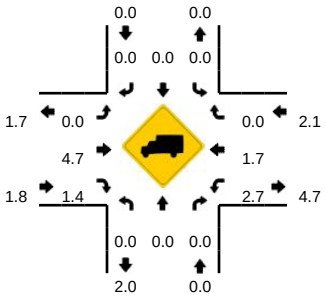
CITY/STATE: San Francisco, CA

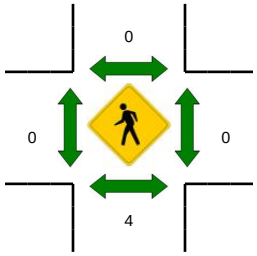
DATE: Tue, Jun 04 2013

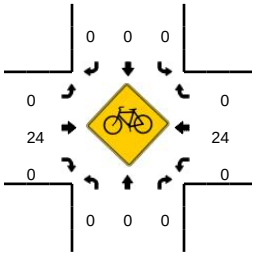
Peak-Hour: 4:30 PM -- 5:30 PM

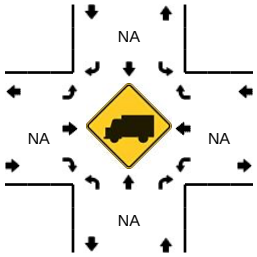
Peak 15-Min: 5:15 PM -- 5:30 PM

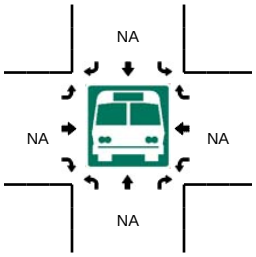












15-Min Count Period Beginning At	I-280 SB On-Ramp (Northbound)				I-280 SB On-Ramp (Southbound)				Mariposa St (Eastbound)				Mariposa St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	24	149	0	104	157	0	0	434	
4:15 PM	0	0	0	0	0	0	0	0	0	26	139	0	87	158	0	0	410	
4:30 PM	0	0	0	0	0	0	0	0	0	24	188	0	93	180	0	0	485	
4:45 PM	0	0	0	0	0	0	0	0	0	16	161	0	109	203	0	0	489	1818
5:00 PM	0	0	0	0	0	0	0	0	0	16	143	0	137	202	0	0	498	1882
5:15 PM	0	0	0	0	0	0	0	0	0	30	154	0	134	186	0	0	504	1976
5:30 PM	0	0	0	0	0	0	0	0	0	32	123	0	103	187	0	0	445	1936
5:45 PM	0	0	0	0	0	0	0	0	0	24	136	0	81	195	0	0	436	1883

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	0	0	0	0	0	0	0	0	0	120	616	0	536	744	0	0	2016
Heavy Trucks	0	0	0		0	0	0		0	8	4		24	24	0		60
Pedestrians		8				0				0				0			8
Bicycles	0	0	0		0	0	0		0	10	0		0	6	0		16
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 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: The Embarcadero -- Brannan St

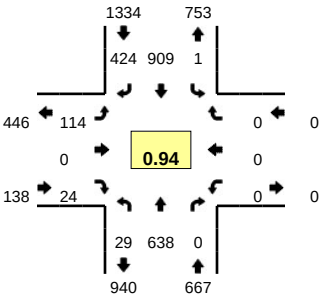
CITY/STATE: San Francisco, CA

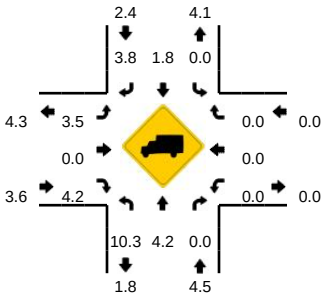
QC JOB #: 10972513

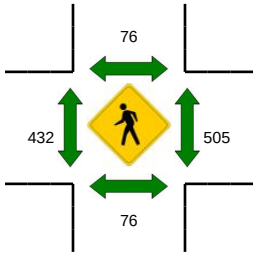
DATE: Tue, Jun 04 2013

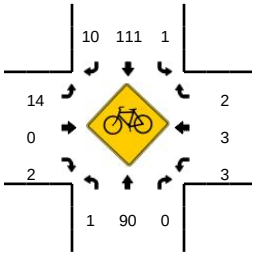
Peak-Hour: 4:15 PM -- 5:15 PM

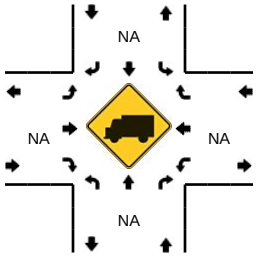
Peak 15-Min: 5:00 PM -- 5:15 PM

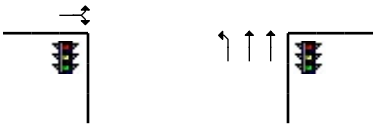


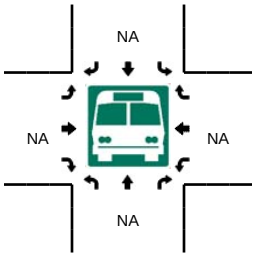












15-Min Count Period Beginning At	The Embarcadero (Northbound)				The Embarcadero (Southbound)				Brannan St (Eastbound)				Brannan St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	211	0	2	0	245	64	2	19	0	9	0	0	0	0	0	560	
4:15 PM	8	164	0	4	0	214	113	0	30	0	5	0	0	0	0	0	538	
4:30 PM	5	124	0	0	0	221	119	0	28	0	10	0	0	0	0	0	507	
4:45 PM	6	152	0	2	0	239	99	1	22	0	6	0	0	0	0	0	527	2132
5:00 PM	3	198	0	1	0	235	93	0	34	0	3	0	0	0	0	0	567	2139
5:15 PM	5	171	0	2	0	183	76	1	38	0	5	0	0	0	0	0	481	2082
5:30 PM	14	176	0	0	0	198	84	0	26	0	5	0	0	0	0	0	503	2078
5:45 PM	12	143	0	3	0	207	80	2	32	0	10	0	0	0	0	0	489	2040

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	12	792	0	4	0	940	372	0	136	0	12	0	0	0	0	0	2268
Heavy Trucks	0	52	0		0	16	4		0	0	0		0	0	0		72
Pedestrians		92				132				644				604			1472
Bicycles	0	42	0		0	48	5		6	0	1		1	2	0		105
Railroad Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

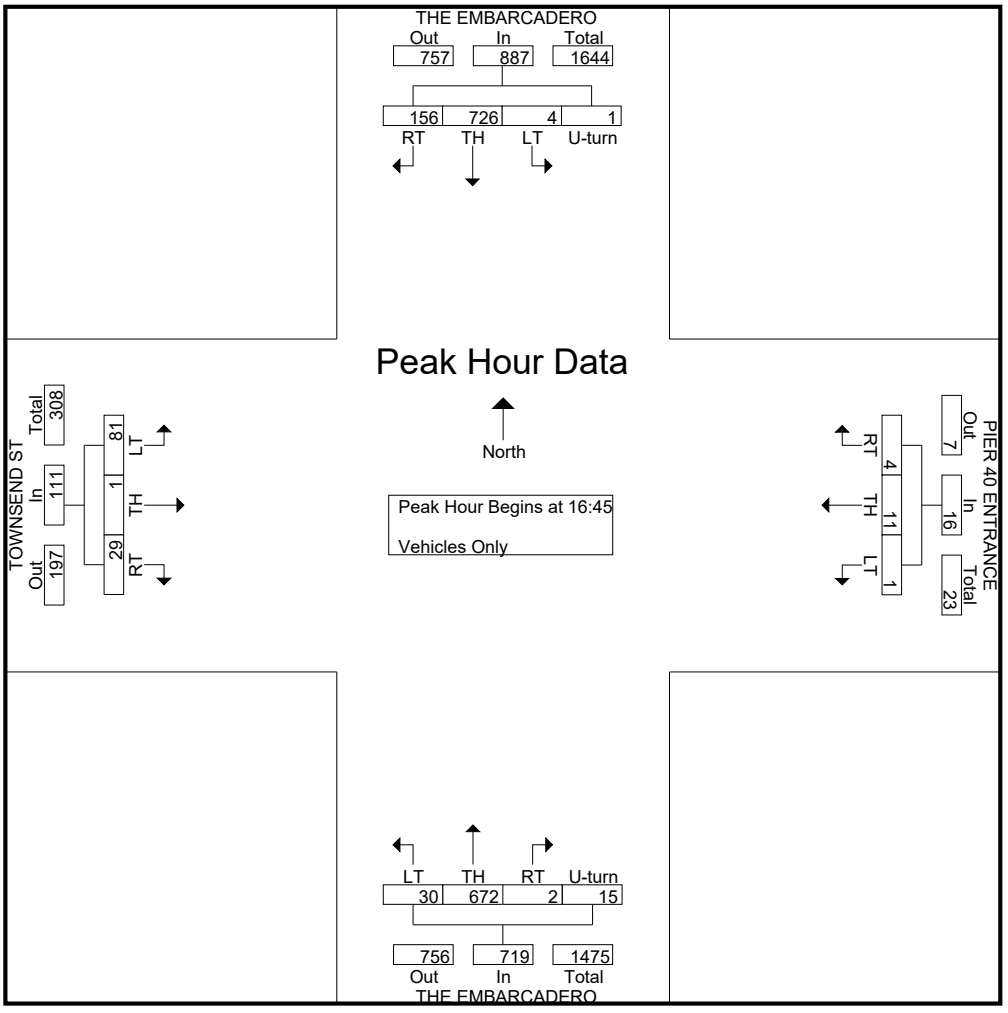
CITY OF SAN FRANCISCO
GS Warriors Project

File Name : embarcadero-townsend game-p
Site Code : 00000000
Start Date : 6/4/2013
Page No : 1

Groups Printed- Vehicles Only

	THE EMBARCADERO Southbound					PIER 40 ENTRANCE Westbound				THE EMBARCADERO Northbound					TOWNSEND ST Eastbound				
Start Time	RT	TH	LT	U-turn	App. Total	RT	TH	LT	App. Total	RT	TH	LT	U-turn	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	34	183	0	1	218	1	1	2	4	0	210	9	3	222	5	2	19	26	470
16:15	49	172	1	0	222	1	2	1	4	2	146	7	5	160	6	0	16	22	408
16:30	36	197	0	0	233	2	0	0	2	0	120	8	2	130	7	2	14	23	388
16:45	52	200	2	0	254	3	4	0	7	0	148	7	2	157	7	0	15	22	440
Total	171	752	3	1	927	7	7	3	17	2	624	31	12	669	25	4	64	93	1706
17:00	22	181	2	1	206	0	4	1	5	1	175	10	3	189	7	1	30	38	438
17:15	36	157	0	0	193	1	2	0	3	1	171	9	5	186	7	0	17	24	406
17:30	46	188	0	0	234	0	1	0	1	0	178	4	5	187	8	0	19	27	449
17:45	39	190	1	0	230	4	1	2	7	1	151	5	6	163	9	1	19	29	429
Total	143	716	3	1	863	5	8	3	16	3	675	28	19	725	31	2	85	118	1722
Grand Total	314	1468	6	2	1790	12	15	6	33	5	1299	59	31	1394	56	6	149	211	3428
Apprch %	17.5	82	0.3	0.1		36.4	45.5	18.2		0.4	93.2	4.2	2.2		26.5	2.8	70.6		
Total %	9.2	42.8	0.2	0.1	52.2	0.4	0.4	0.2	1	0.1	37.9	1.7	0.9	40.7	1.6	0.2	4.3	6.2	

	THE EMBARCADERO Southbound					PIER 40 ENTRANCE Westbound				THE EMBARCADERO Northbound					TOWNSEND ST Eastbound				
Start Time	RT	TH	LT	U-turn	App. Total	RT	TH	LT	App. Total	RT	TH	LT	U-turn	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 16:45																			
16:45	**52**	**200**	**2**	0	**254**	**3**	**4**	0	**7**	0	148	7	2	157	7	0	15	22	440
17:00	22	181	2	**1**	206	0	4	**1**	5	**1**	175	**10**	3	**189**	7	**1**	**30**	**38**	438
17:15	36	157	0	0	193	1	2	0	3	1	171	9	**5**	186	7	0	17	24	406
17:30	46	188	0	0	234	0	1	0	1	0	**178**	4	5	187	**8**	0	19	27	**449**
Total Volume	156	726	4	1	887	4	11	1	16	2	672	30	15	719	29	1	81	111	1733
% App. Total	17.6	81.8	0.5	0.1		25	68.8	6.2		0.3	93.5	4.2	2.1		26.1	0.9	73		
PHF	.750	.908	.500	.250	.873	.333	.688	.250	.571	.500	.944	.750	.750	.951	.906	.250	.675	.730	.965



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

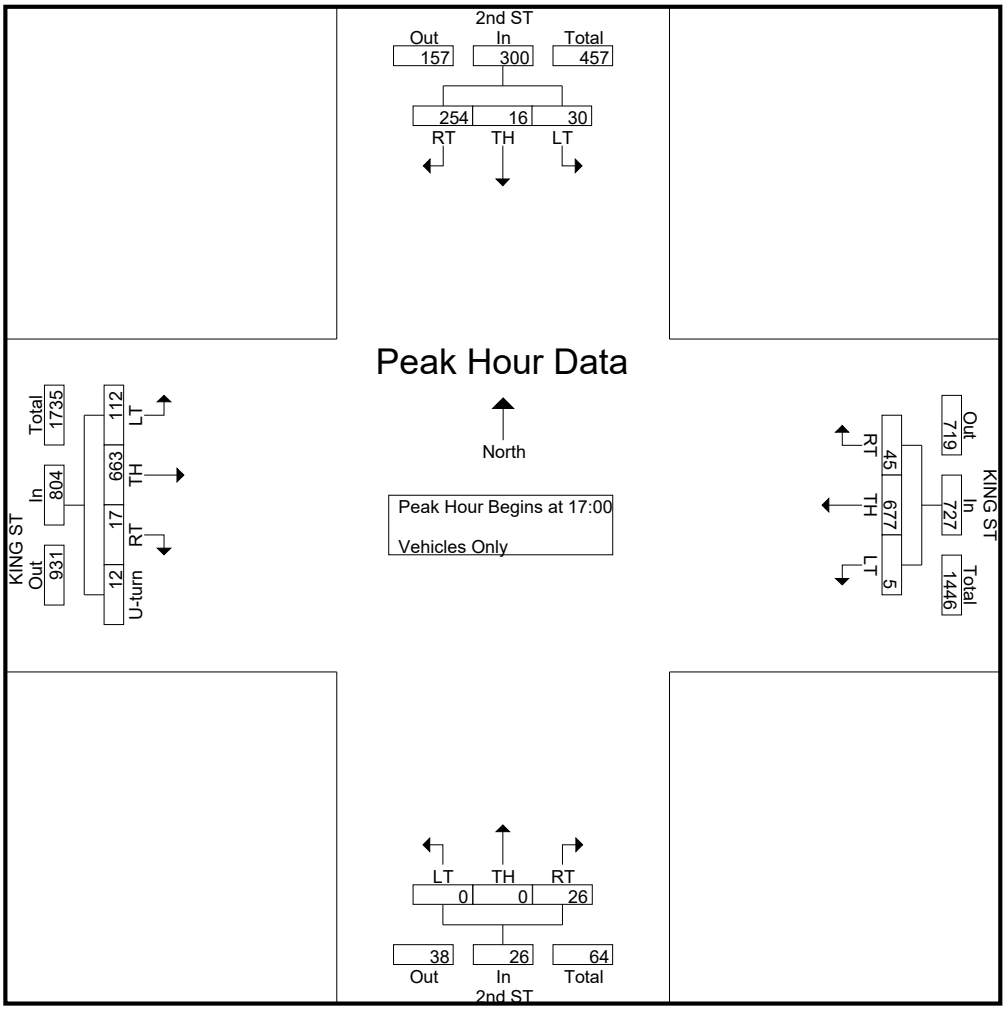
CITY OF SAN FRANCISCO
GS Warriors Project

File Name : 2-king game-p
Site Code : 00000000
Start Date : 6/4/2013
Page No : 1

Groups Printed- Vehicles Only

	2nd ST Southbound				KING ST Westbound				2nd ST Northbound				KING ST Eastbound					
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	U-turn	App. Total	Int. Total
16:00	54	5	5	64	3	174	18	195	11	1	1	13	6	210	27	0	243	515
16:15	61	2	4	67	9	163	0	172	3	0	0	3	3	142	27	4	176	418
16:30	56	3	4	63	6	199	0	205	4	0	0	4	1	114	14	0	129	401
16:45	59	2	8	69	8	176	1	185	5	0	1	6	3	145	16	1	165	425
Total	230	12	21	263	26	712	19	757	23	1	2	26	13	611	84	5	713	1759
17:00	65	4	12	81	7	179	2	188	6	0	0	6	3	166	31	5	205	480
17:15	67	7	6	80	17	158	1	176	6	0	0	6	4	170	37	1	212	474
17:30	73	2	5	80	14	171	1	186	5	0	0	5	5	171	18	2	196	467
17:45	49	3	7	59	7	169	1	177	9	0	0	9	5	156	26	4	191	436
Total	254	16	30	300	45	677	5	727	26	0	0	26	17	663	112	12	804	1857
Grand Total	484	28	51	563	71	1389	24	1484	49	1	2	52	30	1274	196	17	1517	3616
Apprch %	86	5	9.1		4.8	93.6	1.6		94.2	1.9	3.8		2	84	12.9	1.1		
Total %	13.4	0.8	1.4	15.6	2	38.4	0.7	41	1.4	0	0.1	1.4	0.8	35.2	5.4	0.5	42	

	2nd ST Southbound				KING ST Westbound				2nd ST Northbound				KING ST Eastbound					
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	U-turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 17:00																		
17:00	65	4	**12**	**81**	7	**179**	**2**	**188**	6	0	0	6	3	166	31	**5**	205	**480**
17:15	67	**7**	6	80	**17**	158	1	176	6	0	0	6	4	170	**37**	1	**212**	474
17:30	**73**	2	5	80	14	171	1	186	5	0	0	5	**5**	**171**	18	2	196	467
17:45	49	3	7	59	7	169	1	177	**9**	0	0	**9**	5	156	26	4	191	436
Total Volume	254	16	30	300	45	677	5	727	26	0	0	26	17	663	112	12	804	1857
% App. Total	84.7	5.3	10		6.2	93.1	0.7		100	0	0		2.1	82.5	13.9	1.5		
PHF	.870	.571	.625	.926	.662	.946	.625	.967	.722	.000	.000	.722	.850	.969	.757	.600	.948	.967



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

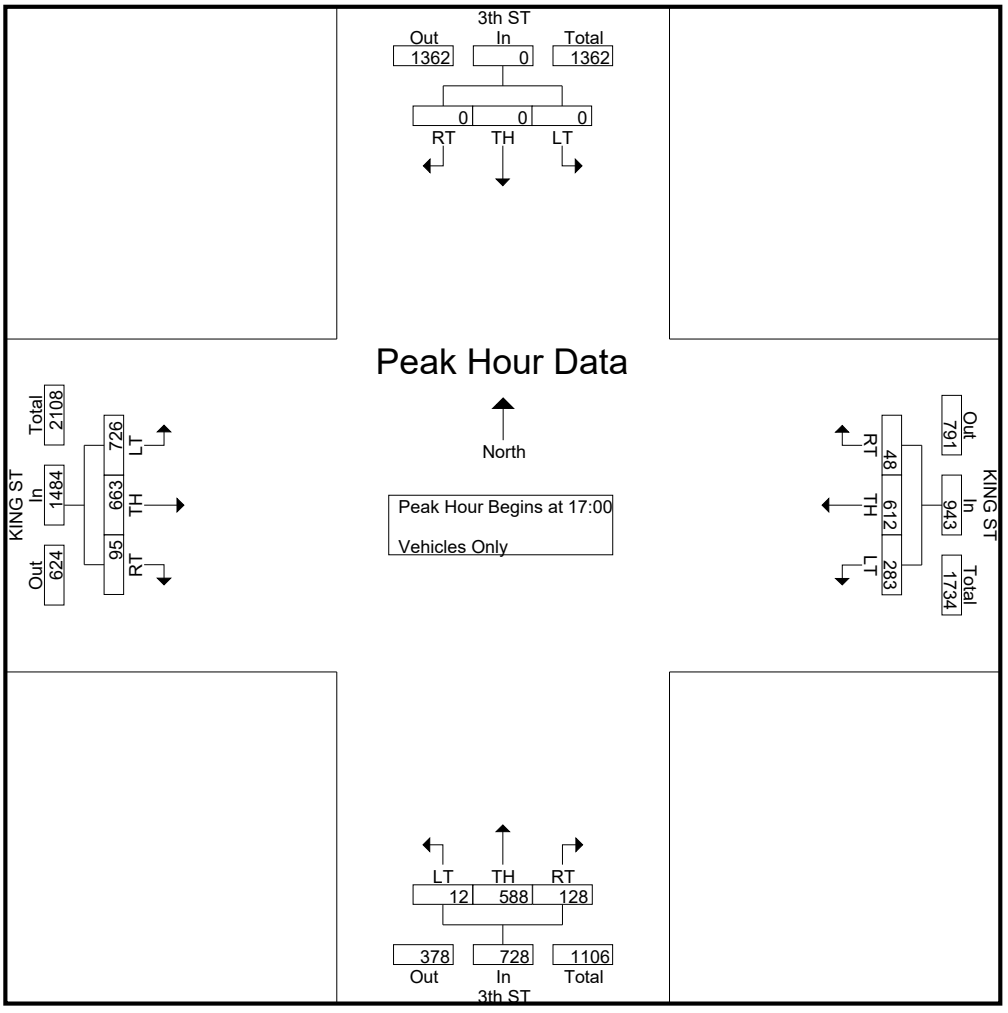
CITY OF SAN FRANCISCO
GS Warriors Project

File Name : 3-king game-p
Site Code : 00000000
Start Date : 6/4/2013
Page No : 1

Groups Printed- Vehicles Only

	3th ST Southbound				KING ST Westbound				3th ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	0	0	0	0	11	181	36	228	44	166	4	214	19	183	168	370	812
16:15	0	0	0	0	14	165	51	230	48	169	2	219	20	131	139	290	739
16:30	0	0	0	0	16	189	50	255	27	143	2	172	18	99	105	222	649
16:45	0	0	0	0	11	180	68	259	26	148	3	177	14	144	104	262	698
Total	0	0	0	0	52	715	205	972	145	626	11	782	71	557	516	1144	2898
17:00	0	0	0	0	15	173	70	258	42	158	4	204	28	170	158	356	818
17:15	0	0	0	0	11	156	63	230	27	132	5	164	22	178	191	391	785
17:30	0	0	0	0	12	150	76	238	28	155	0	183	24	159	187	370	791
17:45	0	0	0	0	10	133	74	217	31	143	3	177	21	156	190	367	761
Total	0	0	0	0	48	612	283	943	128	588	12	728	95	663	726	1484	3155
Grand Total	0	0	0	0	100	1327	488	1915	273	1214	23	1510	166	1220	1242	2628	6053
Apprch %	0	0	0		5.2	69.3	25.5		18.1	80.4	1.5		6.3	46.4	47.3		
Total %	0	0	0	0	1.7	21.9	8.1	31.6	4.5	20.1	0.4	24.9	2.7	20.2	20.5	43.4	

	3th ST Southbound				KING ST Westbound				3th ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	**15**	**173**	70	**258**	**42**	**158**	4	**204**	**28**	170	158	356	**818**
17:15	0	0	0	0	11	156	63	230	27	132	**5**	164	22	**178**	**191**	**391**	785
17:30	0	0	0	0	12	150	**76**	238	28	155	0	183	24	159	187	370	791
17:45	0	0	0	0	10	133	74	217	31	143	3	177	21	156	190	367	761
Total Volume	0	0	0	0	48	612	283	943	128	588	12	728	95	663	726	1484	3155
% App. Total	0	0	0		5.1	64.9	30		17.6	80.8	1.6		6.4	44.7	48.9		
PHF	.000	.000	.000	.000	.800	.884	.931	.914	.762	.930	.600	.892	.848	.931	.950	.949	.964



MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

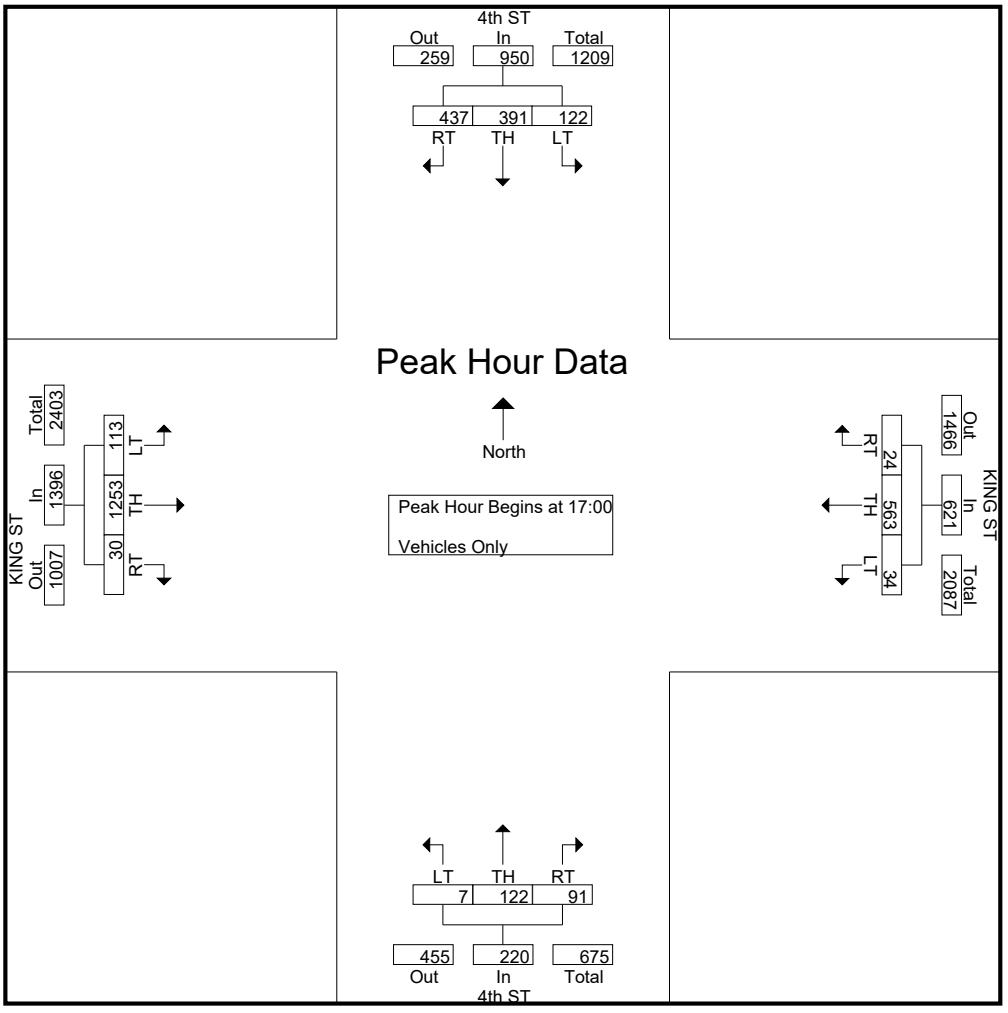
CITY OF SAN FRANCISCO
GS Warriors Project

File Name : 4-king game-p
Site Code : 00000000
Start Date : 6/4/2013
Page No : 1

Groups Printed- Vehicles Only

	4th ST Southbound				KING ST Westbound				4th ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
16:00	84	94	17	195	5	169	12	186	9	8	6	23	9	338	18	365	769
16:15	97	76	22	195	8	145	11	164	15	17	4	36	10	262	16	288	683
16:30	89	77	23	189	3	180	3	186	17	19	6	42	5	179	9	193	610
16:45	127	87	29	243	7	168	6	181	15	29	3	47	6	221	12	239	710
Total	397	334	91	822	23	662	32	717	56	73	19	148	30	1000	55	1085	2772
17:00	124	94	27	245	5	160	8	173	21	19	2	42	14	291	20	325	785
17:15	102	85	31	218	7	146	11	164	25	30	0	55	6	328	24	358	795
17:30	113	89	27	229	4	142	9	155	25	29	3	57	4	325	33	362	803
17:45	98	123	37	258	8	115	6	129	20	44	2	66	6	309	36	351	804
Total	437	391	122	950	24	563	34	621	91	122	7	220	30	1253	113	1396	3187
Grand Total	834	725	213	1772	47	1225	66	1338	147	195	26	368	60	2253	168	2481	5959
Apprch %	47.1	40.9	12		3.5	91.6	4.9		39.9	53	7.1		2.4	90.8	6.8		
Total %	14	12.2	3.6	29.7	0.8	20.6	1.1	22.5	2.5	3.3	0.4	6.2	1	37.8	2.8	41.6	

	4th ST Southbound				KING ST Westbound				4th ST Northbound				KING ST Eastbound				
Start Time	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	RT	TH	LT	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**124**	94	27	245	5	**160**	8	**173**	21	19	2	42	**14**	291	20	325	785
17:15	102	85	31	218	7	146	**11**	164	**25**	30	0	55	6	**328**	24	358	795
17:30	113	89	27	229	4	142	9	155	25	29	**3**	57	4	325	33	**362**	803
17:45	98	**123**	**37**	**258**	**8**	115	6	129	20	**44**	2	**66**	6	309	**36**	351	**804**
Total Volume	437	391	122	950	24	563	34	621	91	122	7	220	30	1253	113	1396	3187
% App. Total	46	41.2	12.8		3.9	90.7	5.5		41.4	55.5	3.2		2.1	89.8	8.1		
PHF	.881	.795	.824	.921	.750	.880	.773	.897	.910	.693	.583	.833	.536	.955	.785	.964	.991



Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: King St/I-280 On/Off Ramps -- 5th St

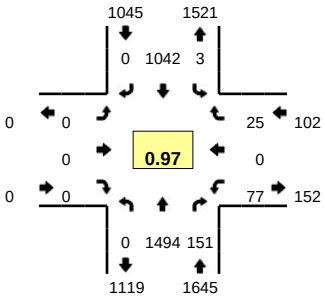
CITY/STATE: San Francisco, CA

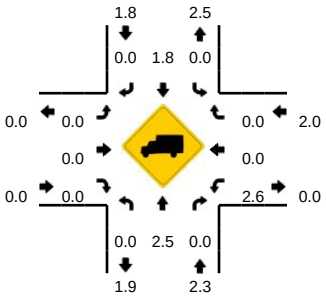
QC JOB #: 10972515

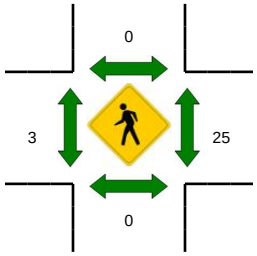
DATE: Tue, Jun 04 2013

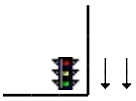
Peak-Hour: 5:00 PM -- 6:00 PM

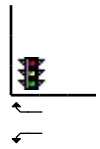
Peak 15-Min: 5:15 PM -- 5:30 PM

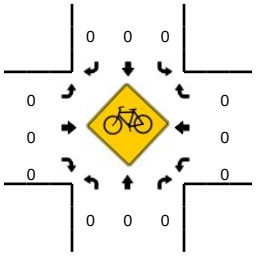


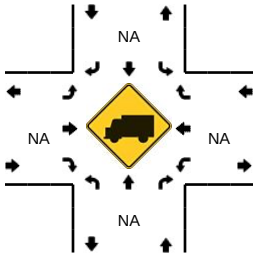


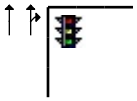


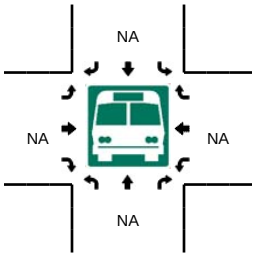












15-Min Count Period Beginning At	King St/I-280 On/Off Ramps (Northbound)				King St/I-280 On/Off Ramps (Southbound)				5th St (Eastbound)				5th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	370	19	0	0	305	0	0	0	0	0	0	20	0	1	0	715	
4:15 PM	0	243	9	0	1	243	0	0	0	0	0	0	11	0	4	0	511	
4:30 PM	0	179	12	0	3	273	0	1	0	0	0	0	7	0	13	0	488	
4:45 PM	0	272	18	0	1	332	0	2	0	0	0	0	21	0	7	0	653	2367
5:00 PM	0	341	28	0	0	291	0	0	0	0	0	0	23	0	10	0	693	2345
5:15 PM	0	407	34	0	1	256	0	1	0	0	0	0	20	0	4	0	723	2557
5:30 PM	0	358	47	0	0	272	0	1	0	0	0	0	17	0	7	0	702	2771
5:45 PM	0	388	42	0	0	223	0	0	0	0	0	0	17	0	4	0	674	2792

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	0	1628	136	0	4	1024	0	4	0	0	0	0	80	0	16	0	2892
Heavy Trucks	0	48	0		0	24	0		0	0	0		0	0	0		72
Pedestrians		0				0				0				24			24
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 3:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

New Intersectiosn Summary
PM Peak Hour with Giants game
Vehicles

			TIME END	NBL	NBT	NBLTR	NBTR	NBLR	EBL	EBLT	EBT	EBTR	EBLR	SBL	SBT	SBTR	SBLR	SBU	WBL	WBT	WBTR	WBLR			
			TIME END	**NBL**	**NBT**	NBT2	**NBR**	NBU	**EBL**	EBL2	**EBT**	**EBR**	EBU	**SBL**	**SBT**	**SBR**	SBU	SBU2	**WBL**	**WBT**	**WBR**	WBU		**Sum 15**	**Sum hour**	**PHF**
Intersection 15																									
Street N	Third Street		16:15	0	432	0	105	0	68	0	121	0	0	0	0	0	0	0	0	0	0	0		726	
Street N2		0	16:30	0	376	0	96	0	80	0	145	0	0	0	0	0	0	0	0	0	0	0		697	
Street E	Bryant Street		16:45	0	394	0	116	0	74	0	156	0	0	0	0	0	0	0	0	0	0	0		740	
Street E2		0	17:00	0	455	0	108	0	78	0	137	0	0	0	0	0	0	0	0	0	0	0		778	2941
Street S	Third Street		17:15	0	409	0	53	0	85	0	123	0	0	0	0	0	0	0	0	0	0	0		670	2885
Street S2		0	17:30	0	315	0	28	0	85	0	103	0	0	0	0	0	0	0	0	0	0	0		531	2719
Street W	Bryant Street		17:45	0	251	0	19	0	79	0	66	0	0	0	0	0	0	0	0	0	0	0		415	2394
Street W2		0	18:00	0	227	0	44	0	85	0	126	0	0	0	0	0	0	0	0	0	0	0		482	2098
			Peak	0	1657	0	425	0	300	0	559	0	0	0	0	0	0	0	0	0	0	0		778	2941	0.95
Intersection 16																									
Street N	Third Street		16:15	90	320	0	55	0	0	0	0	0	0	0	0	0	0	0	0	205	31	0		701	
Street N2		0	16:30	83	367	0	49	0	0	0	0	0	0	0	0	0	0	0	0	278	23	0		800	
Street E	Harrison Street		16:45	68	357	0	37	0	0	0	0	0	0	0	0	0	0	0	0	282	12	0		756	
Street E2		0	17:00	88	386	0	34	0	0	0	0	0	0	0	0	0	0	0	0	281	22	0		811	3068
Street S	Third Street		17:15	88	377	0	20	0	0	0	0	0	0	0	0	0	0	0	0	283	24	0		792	3159
Street S2		0	17:30	94	330	0	29	0	0	0	0	0	0	0	0	0	0	0	0	257	28	0		738	3097
Street W	Harrison Street		17:45	91	269	0	26	0	0	0	0	0	0	0	0	0	0	0	0	229	24	0		639	2980
Street W2		0	18:00	76	254	0	13	0	0	0	0	0	0	0	0	0	0	0	0	274	15	0		632	2801
			Peak	327	1487	0	140	0	0	0	0	0	0	0	0	0	0	0	0	1124	81	0		811	3159	0.97
Intersection 17																									
Street N	Third Street		16:15	0	229	0	42	0	64	0	312	0	0	0	0	0	0	0	0	0	0	0		647	
Street N2		0	16:30	0	264	0	48	0	94	0	388	0	0	0	0	0	0	0	0	0	0	0		794	
Street E	Howard Street		16:45	0	255	0	54	0	83	0	379	0	0	0	0	0	0	0	0	0	0	0		771	
Street E2		0	17:00	0	276	0	56	0	66	0	419	0	0	0	0	0	0	0	0	0	0	0		817	3029
Street S	Third Street		17:15	0	273	0	50	0	69	0	372	0	0	0	0	0	0	0	0	0	0	0		764	3146
Street S2		0	17:30	0	290	0	38	0	67	0	325	0	0	0	0	0	0	0	0	0	0	0		720	3072
Street W	Howard Street		17:45	0	286	0	70	0	70	0	316	0	0	0	0	0	0	0	0	0	0	0		742	3043
Street W2		0	18:00	0	237	0	36	0	72	0	293	0	0	0	0	0	0	0	0	0	0	0		638	2864
			Peak	0	1068	0	208	0	312	0	1558	0	0	0	0	0	0	0	0	0	0	0		817	3146	0.96
Intersection 21																									
Street N	Fifth Street		16:15	0	23	70	4	0	3	81	127	23	0	24	148	0	0	41	0	0	0	0		544	
Street N2	I-80 EB On Ramp		16:30	0	23	106	2	0	1	97	158	16	0	32	142	0	0	54	0	0	0	0		631	
Street E	Bryant Street		16:45	0	32	84	5	0	1	95	166	22	0	29	137	0	0	60	0	0	0	0		631	
Street E2		0	17:00	0	28	74	8	0	1	68	136	18	0	18	140	0	0	56	0	0	0	0		547	2353
Street S	Fifth Street		17:15	0	15	36	1	0	1	51	123	16	0	22	145	0	0	30	0	0	0	0		440	2249
Street S2		0	17:30	0	3	18	5	0	1	38	125	16	0	23	102	0	0	24	0	0	0	0		355	1973
Street W	Bryant Street		17:45	0	3	37	5	0	2	57	123	14	0	16	131	0	0	39	0	0	0	0		427	1769
Street W2		0	18:00	0	3	45	1	0	3	62	136	16	0	17	124	0	0	42	0	0	0	0		449	1671
			Peak	0	106	334	19	0	6	341	587	79	0	103	567	0	0	211	0	0	0	0		631	2353	0.93
Intersection 23																									
Street N	Third Street		16:15	0	212	0	5	0	0	0	0	0	0	8	54	0	0	0	1	0	21	0		301	
Street N2		0	16:30	0	176	0	0	0	0	0	0	0	0	2	87	0	0	0	0	0	4	1		270	
Street E	Terry A Francois Street		16:45	0	160	0	0	0	0	0	0	0	0	0	82	0	0	0	0	0	0	0		242	
Street E2		0	17:00	0	184	0	0	0	0	0	0	0	0	0	72	0	0	0	0	0	0	0		256	1069
Street S	Third Street		17:15	0	158	0	0	0	0	0	0	0	0	0	59	0	0	0	0	0	0	0		217	985
Street S2		0	17:30	0	179	0	0	0	0	0	0	0	0	0	56	0	0	0	0	0	0	0		235	950
Street W	Terry A Francois Street		17:45	0	164	0	1	0	0	0	0	0	0	0	59	0	0	0	0	0	0	0		224	932
Street W2		0	18:00	0	109	0	0	0	0	0	0	0	0	0	37	0	0	0	1	0	0	0		147	823
			Peak	0	732	0	5	0	0	0	0	0	0	10	295	0	0	0	1	0	25	1		301	1069	0.89

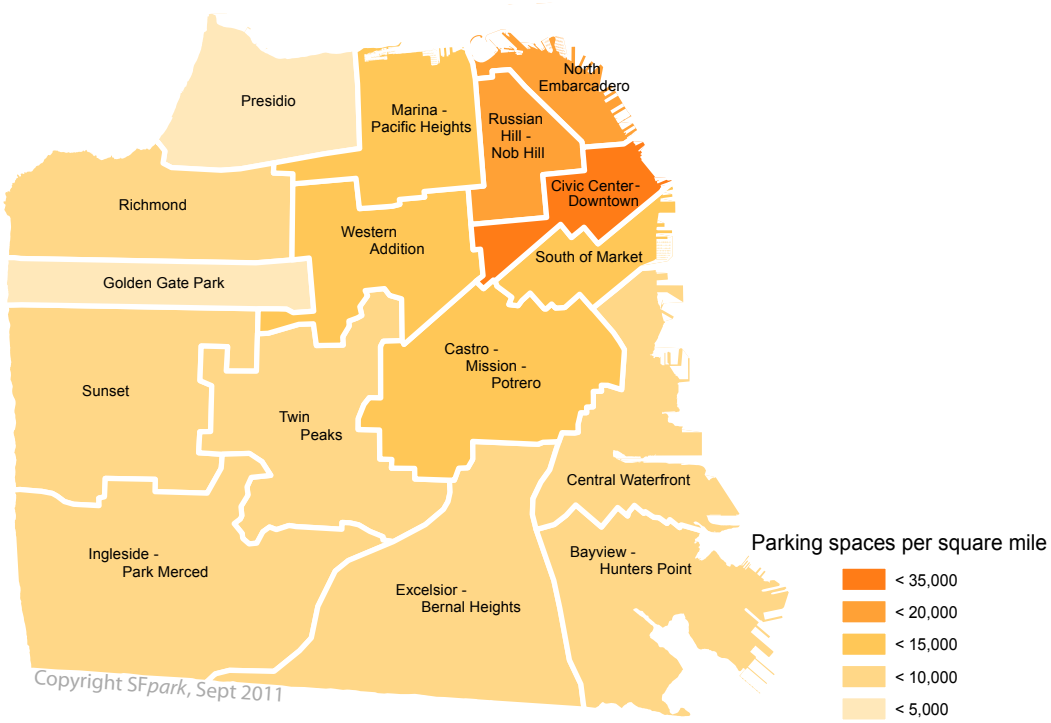
Intersection 27																										
Street N	Terry A Francois Boulevard			16:15	17	33	0	4	0	13	0	3	1	0	0	21	18	0	0	1	1	0	0	112		
Street N2		0		16:30	17	25	0	4	1	9	0	3	8	0	0	22	18	1	0	1	2	0	0	111		
Street E	Mission Rock Street			16:45	32	17	0	0	1	10	0	0	5	0	0	23	15	0	0	0	0	0	0	103		
Street E2		0		17:00	34	9	0	0	0	5	0	0	10	0	0	24	19	0	0	1	0	0	0	102	428	
Street S	Terry A Francois Boulevard			17:15	31	22	0	0	1	7	0	0	10	0	0	37	51	0	0	1	2	1	0	163	479	
Street S2		0		17:30	26	22	0	0	0	3	0	0	7	0	0	15	30	0	0	0	0	0	0	103	471	
Street W	Mission Rock Street			17:45	37	28	0	0	0	2	0	0	5	0	0	24	27	0	0	0	0	0	0	123	491	
Street W2		0		18:00	41	24	0	3	1	5	0	0	2	1	0	22	31	0	0	0	0	0	0	130	519	
			Peak		135	96	0	3	2	17	0	0	24	1	0	98	139	0	0	1	2	1	0	163	519	0.80
Intersection 28																										
Street N	Terry A Francois Boulevard			16:15	0	56	0	0	0	0	0	0	0	0	0	38	0	0	0	0	0	0	0	94		
Street N2		0		16:30	0	52	0	0	0	0	0	0	0	0	0	40	0	0	0	0	0	0	0	92		
Street E	16th Street			16:45	0	51	0	0	0	0	0	0	0	0	0	47	0	0	0	0	0	0	0	98		
Street E2		0		17:00	0	61	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	103	387	
Street S	Terry A Francois Boulevard			17:15	0	53	0	0	0	0	0	0	0	0	0	74	0	0	0	0	0	0	0	127	420	
Street S2		0		17:30	0	57	0	0	0	0	0	0	0	0	0	49	0	0	0	0	0	0	0	106	434	
Street W	16th Street			17:45	0	70	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	112	448	
Street W2		0		18:00	0	68	0	0	0	0	0	0	0	0	0	39	0	0	0	0	0	0	0	107	452	
			Peak		0	248	0	0	0	0	0	0	0	0	0	204	0	0	0	0	0	0	0	127	452	0.89
Intersection 33																										
Street N	Illinois Street			16:15	8	27	0	26	0	1	0	36	5	0	1	14	9	0	0	5	34	0	0	166		
Street N2		0		16:30	12	29	0	24	0	4	0	28	9	1	3	13	6	0	0	13	28	1	0	171		
Street E	Mariposa Street/Terry A Francois Street			16:45	12	21	0	27	0	7	0	22	6	0	1	15	6	0	0	15	32	2	1	167		
Street E2		0		17:00	7	27	0	29	0	2	0	38	6	0	5	18	2	0	0	9	43	3	0	189	693	
Street S	Illinois Street			17:15	7	29	0	19	0	3	0	41	7	0	4	12	16	0	0	18	55	5	0	216	743	
Street S2		0		17:30	5	30	0	22	1	3	0	34	13	0	5	16	6	0	0	5	43	4	0	187	759	
Street W	Mariposa Street/Terry A Francois Street			17:45	9	36	0	24	0	3	0	54	13	0	1	16	7	0	0	7	38	1	0	209	801	
Street W2		0		18:00	5	29	0	27	0	7	0	47	9	0	2	12	10	0	0	12	32	2	0	194	806	
			Peak		26	124	0	92	1	16	0	176	42	0	12	56	39	0	0	42	168	12	0	216	806	0.93

Peak Hour
Non-standard movement
Peak period
Not included in Synchro

APPENDIX F: PARKING SUPPLY AND OCCUPANCY DEMAND

Publicly available parking by neighborhood in San Francisco

SFMTA Parking Census, September 2011



Location	On-street		Off-street					
	Metered	Unmetered	Paid	Free	Customer	Permit	Spaces/sq mi	Total spaces
Bayview – Hunters Point	123	15,800	12,354	239	1,693	738	8,316	**30,947**
Castro – Mission – Potrero	3,008	27,600	6,917	82	3,397	3,558	11,865	**44,562**
Central Waterfront	33	10,400	7,367	0	2,273	6,509	9,039	**26,582**
Civic Center – Downtown	5,648	1,700	29,277	0	2,133	3,023	32,989	**41,781**
Excelsior – Bernal Heights	1,050	41,000	266	428	1,597	921	7,982	**45,262**
Golden Gate Park	0	3,800	1,124	900	0	234	3,726	**6,058**
Ingleside – Park Merced	568	30,500	2,567	651	6,149	4,199	7,113	**44,634**
Marina – Pacific Heights	1,622	14,300	5,034	1,032	1,735	839	10,675	**24,562**
North Embarcadero	2,608	3,400	10,997	30	951	970	15,945	**18,956**
Presidio	220	2,500	1,080	3,121	1,099	151	3,277	**8,171**
Richmond	1,563	18,100	860	879	1,772	318	7,110	**23,492**
Russian Hill – Nob Hill	4,117	6,400	10,486	0	1,515	202	17,751	**22,720**
South of Market	2,992	3,300	7,891	0	1,420	1,955	14,399	**17,558**
Sunset	1,137	31,600	212	37	622	363	7,553	**33,971**
Twin Peaks	281	25,700	371	126	386	1,187	7,120	**28,051**
Western Addition	1,807	18,800	5,093	0	2,948	2,241	12,153	**30,889**
Total	**26,777**	**254,900**	**101,896**	**7,525**	**29,690**	**27,408**	**9,333**	**448,000**

1. Neighborhood boundaries drawn to reflect similar land-use patterns. Civic Center—Downtown roughly corresponds to the C-3 planning district.
2. Unmetered parking figures are extrapolations based on a randomly selected sample of a minimum of 20% of city street segments per neighborhood. The SFMTA has surveyed 54% of all street segments.
3. 'Paid' is parking available on an hourly or daily basis for a price. 'Permit' is parking requiring some form of permission (e.g., employee only or company vehicles only). 'Free' is parking available without daytime cost or restrictions. 'Customer' is parking available to customers only.
4. Metered motorcycle spaces count as 1/5 of a metered automobile parking space.

1. Neighborhood boundaries drawn to reflect similar land-use patterns. Civic Center—Downtown roughly corresponds to the C-3 planning district.
2. Unmetered parking figures are extrapolations based on a randomly selected sample of a minimum of 20% of city street segments per neighborhood. The SFMTA has surveyed 54% of all street segments.
3. 'Paid' is parking available on an hourly or daily basis for a price. 'Permit' is parking requiring some form of permission (e.g., employee only or company vehicles only). 'Free' is parking available without daytime cost or restrictions. 'Customer' is parking available to customers only.
4. Metered motorcycle spaces count as 1/5 of a metered automobile parking space.

SFpark

SFMTA | Municipal Transportation Agency

Publicly Available Parking in San Francisco

On-Street

METERED
- General parking meter
- Commercial loading meter
- Short term meter
- Motorcycle meter
- Disabled parking (unmetered)

Off-Street

NUMBER OF SPACES
- 2501 - 9000
- 1501 - 2500
- 501 - 1500
- 101 - 500
- 26 - 100
- 4 - 25

TYPE OF PARKING
- General paid parking
- Permit holders only
- Free parking
- Customer parking only
- SFMTA-managed

SFpark

SFMTA | Municipal Transportation Agency

Parking Meters in San Francisco

SFMTA- and Port of San Francisco-owned meters
April 12, 2013
Dataset: ParkingMeters_20130412

Meter uses and regulations

- Purple - Boat trailer
- Brown - Tour bus
- Green - Short term
- Grey - General metered
- Black - Motorcycle
- Red - Six-wheeled commercial
- Yellow - Commercial

SFpark

SFMTA
Municipal Transportation Agency

Off-street parking in San Francisco

September 16, 2011
Dataset: OSP_09162011.shp

NUMBER OF SPACES

2501 - 9000
1501 - 2500
501 - 1500
101 - 500
26 - 100
4 - 25

TYPE OF PARKING

- General paid parking
- Permit holders only
- Free parking
- Customer parking only
- SFMTA-managed

SFpark

SFMTA | Municipal Transportation Agency

On-Street Parking Data Collection Sheet 1:30-3:00 PM																
Street	Block Face	Side	Public		Commercial		Handicapped		Motorcycle		Total		Unmetered		Notes
			Available	Used	Available	Used	Available	Used	Available	Used	Available	Used	Available	Used	
Townsend Street	Between 2nd St. and 3rd St.	North	13	13					13	10	26	23			2 yellow
		South	19	19					6	3	25	22			2 yellow, 1 green
	Between 3rd St. and 4th St.	North	18	18	2	0					20	18			1 yellow, 1 green
		South	10	9			1	0			11	9			
King Street	Between 2nd St. and 3rd St.	North	8	5	3	1					11	6			3 yellow
		-													
	Between 3rd St. and 4th St.	North	7	5					5	3	12	8			7 green
		-													
2nd Street	Between Townsend St. and King St.	East	9	9							9	9			
		West	7	6							7	6			Ballpark Taxi Zone
3rd Street	Between Townsend St. and King St.	East	9	9							9	9			
		West	12	11							12	11			
Berry Street	Between 3rd St. and 4th St.	North	29	24							29	24			
		South	11	10	7	4	2	0			20	14			2 yellow
Terry A. Francois Boulevard	East of 3rd St, North of Lot A	North	12	0			1	0			13	0			
		South	20	0							20	0			
	West of Pier 48, East of Lot A	East	54	6			8	1			62	7			
		-													
	Between China Basin St. and Mission Bay Blvd.	East	10	1							10	1			
		West	12	3							12	3			
	Between Mission Bay Blvd. and South Street	East	25	25							25	25	25	25	2-hr unmetered
		West	34	33							34	33			
	Between South Street and 16th Street	East	44	36							44	36	44	36	2-hr unmetered
		West	41	33							41	33	41	33	2-hr unmetered
Mission Rock Street	Between 3rd St. and 4th St.	East	10	9							10	9			
		West	15	12							15	12	8	8	7 2-hr, 8 metered
China Basin Street	Between Terry A. Francois Boulevard and 3rd Street	North	13	10							13	10			
		South	14	11							14	11			
	Between 3rd St. and 4th St.	North	15	14							15	14			
		South	15	15							15	15			
Mission Bay Boulevard (North)	Between 3rd St. and 4th St.	North	14	13							14	13	14	13	2-hr unmetered
		-													
	Between Bridgeview Way and 3rd St.	North	9	9							9	9	9	9	2-hr unmetered
		-													
	Between Terry A. Francois Blvd. and Bridgeview Way	North	12	10							12	10	12	10	2-hr unmetered
		-													
Mission Bay Boulevard (South)	Between 3rd St. and 4th St.	-													
		South	15	12							15	12	15	12	2-hr unmetered
	Between Bridgeview Way and 3rd St.	-													
		South	14	14							14	14	14	14	2-hr unmetered
	Between Terry A. Francois Blvd. and Bridgeview Way	-													
		South	9	9							9	9	9	9	2-hr unmetered
16th Street	East of 3rd Street	North	24	24							24	24			
		South	16	12							16	12			
4th Street	Between Mission Rock Street and China Basin Street	East	12	10							12	10			
		West													
	Between China Basin Street and Mission Bay Blvd.	East	13	12							13	12			
		West	11	9							11	9			
	Between Mission Bay Blvd. and Nelson Rising Lane	East	5	5			1	0			6	5			2 yellow
		West	10	9							10	9			
	Between Nelson Rising Lane and Gene Friend Lane	East	7	6							7	6			2 yellow
		West	10	10			1	1			11	11			2 yellow, 2 green
	Between Gene Friend Lane and 16th Street	East	1	1							1	1			
		West													
Total			668	511	12	5	14	2	24	16	718	534	191	169	16 yellow, 11 green

Notes: Mission Rock Street closed between Terry A. Francois Boulevard & 3rd Street. Construction on 4th Street between China Basin Street & Channel Street.

On-Street Parking Data Collection Sheet 6:30-8:00 PM																
Street	Block Face	Side	Public		Commercial		Handicapped		Motorcycle		Total		Unmetered		Notes
			Available	Used	Available	Used	Available	Used	Available	Used	Available	Used	Available	Used	
Townsend Street	Between 2nd St. and 3rd St.	North	13	11					13	3	26	14			2 yellow
		South	19	15					6	2	25	17			2 yellow, 1 green
	Between 3rd St. and 4th St.	North	18	13	2	1					20	14			1 yellow, 1 green
		South	10	7			1	1			11	8			
King Street	Between 2nd St. and 3rd St.	North	8	6	3	3					11	9			3 yellow
		-													
	Between 3rd St. and 4th St.	North	7	6					5	3	12	9			7 green
		-													
2nd Street	Between Townsend St. and King St.	East	9	8							9	8			
		West	7	1							7	1			Ballpark Taxi Zone
3rd Street	Between Townsend St. and King St.	East	9	9							9	9			
		West	12	11							12	11			
Berry Street	Between 3rd St. and 4th St.	North	29	24							29	24			
		South	11	6	7	4	2	0			20	10			2 yellow
Terry A. Francois Boulevard	East of 3rd St, North of Lot A	North	12	0			1	0			13	0			
		South	20	1							20	1			
	West of Pier 48, East of Lot A	East	54	1			8	0			62	1			
		-													
	Between China Basin St. and Mission Bay Blvd.	East	10	5							10	5			
		West	12	6							12	6			
	Between Mission Bay Blvd. and South Street	East	25	10							25	10	25	10	2-hr unmetered
		West	34	5							34	5			
	Between South Street and 16th Street	East	44	3							44	3	44	3	2-hr unmetered
		West	41	5							41	5	41	5	2-hr unmetered
Mission Rock Street	Between 3rd St. and 4th St.	East	10	0							10	0			
		West	15	5							15	5	8	8	7 2-hr, 8 metered
China Basin Street	Between Terry A. Francois Boulevard and 3rd Street	North	13	3							13	3			
		South	14	6							14	6			
	Between 3rd St. and 4th St.	North	15	6							15	6			
		South	15	3							15	3			
Mission Bay Boulevard (North)	Between 3rd St. and 4th St.	North	14	4							14	4	14	4	2-hr unmetered
		-													
	Between Bridgeview Way and 3rd St.	North	9	8							9	8	9	8	2-hr unmetered
		-													
	Between Terry A. Francois Blvd. and Bridgeview Way	North	12	12							12	12	12	12	2-hr unmetered
		-													
Mission Bay Boulevard (South)	Between 3rd St. and 4th St.	-													
		South	15	1							15	1	15	1	2-hr unmetered
	Between Bridgeview Way and 3rd St.	-													
		South	14	6							14	6	14	6	2-hr unmetered
	Between Terry A. Francois Blvd. and Bridgeview Way	-													
		South	9	3							9	3	9	3	2-hr unmetered
16th Street	East of 3rd Street	North	24	11							24	11			
		South	16	3							16	3			
4th Street	Between Mission Rock Street and China Basin Street	East	12	1							12	1			
		West													
	Between China Basin Street and Mission Bay Blvd.	East	13	0							13	0			
		West	11	0							11	0			
	Between Mission Bay Blvd. and Nelson Rising Lane	East	5	0			1	1			6	1			2 yellow
		West	10	1							10	1			
	Between Nelson Rising Lane and Gene Friend Lane	East	7	1							7	1			2 yellow
		West	10	2			1	0			11	2			2 yellow, 2 green
	Between Gene Friend Lane and 16th Street	East	1	0							1	0			
		West													
Total			668	229	12	8	14	2	24	8	718	247	191	60	16 yellow, 11 green

Notes: Mission Rock Street closed between Terry A. Francois Boulevard & 3rd Street. Construction on 4th Street between China Basin Street & Channel Street.

On-Street Parking Data Collection Sheet 6:30-8:00 PM with Game																
Street	Block Face	Side	Public		Commercial		Handicapped		Motorcycle		Total		Unmetered		Notes
			Available	Used	Available	Used	Available	Used	Available	Used	Available	Used	Available	Used	
Townsend Street	Between 2nd St. and 3rd St.	North	13	13					13	11	26	24			2 yellow
		South	19	19					6	5	25	24			2 yellow, 1 green
	Between 3rd St. and 4th St.	North	18	18	2	1					20	19			1 yellow, 1 green
		South	10	9			1	1			11	10			
King Street	Between 2nd St. and 3rd St.	North	8	8	3	3					11	11			3 yellow
		-													
	Between 3rd St. and 4th St.	North	7	6					5	3	12	9			7 green
		-													
2nd Street	Between Townsend St. and King St.	East	9	9							9	9			
		West	7	1							7	1			Ballpark Taxi Zone
3rd Street	Between Townsend St. and King St.	East	9	9							9	9			
		West	12	11							12	11			
Berry Street	Between 3rd St. and 4th St.	North	29	27							29	27			
		South	11	8	7	5	2	2			20	15			2 yellow
Terry A. Francois Boulevard	East of 3rd St, North of Lot A	North	*12*	0			*1*	0			*13*	0			
		South	*20*	0							*20*	0			
	West of Pier 48, East of Lot A	East	54	44			8	5			62	49			
		-													
	Between China Basin St. and Mission Bay Blvd.	East	10	6							10	6			
		West	12	5							12	5			
	Between Mission Bay Blvd. and South Street	East	25	13							25	13	25	13	2-hr unmetered
		West	34	15							34	15			
	Between South Street and 16th Street	East	44	17							44	17	44	17	2-hr unmetered
		West	41	13							41	13	41	13	2-hr unmetered
Mission Rock Street	Between 3rd St. and 4th St.	East	10	9							10	9			
		West	15	9							15	9	8	8	7 2-hr, 8 metered
China Basin Street	Between Terry A. Francois Boulevard and 3rd Street	North	13	6							13	6			
		South	14	9							14	9			
	Between 3rd St. and 4th St.	North	15	7							15	7			
		South	15	8							15	8			
Mission Bay Boulevard (North)	Between 3rd St. and 4th St.	North	14	12							14	12	14	12	2-hr unmetered
		-													
	Between Bridgeview Way and 3rd St.	North	9	8							9	8	9	8	2-hr unmetered
		-													
	Between Terry A. Francois Blvd. and Bridgeview Way	North	12	7							12	7	12	7	2-hr unmetered
		-													
Mission Bay Boulevard (South)	Between 3rd St. and 4th St.	-													
		South	15	14							15	14	15	14	2-hr unmetered
	Between Bridgeview Way and 3rd St.	-													
		South	14	11							14	11	14	11	2-hr unmetered
	Between Terry A. Francois Blvd. and Bridgeview Way	-													
		South	9	9							9	9	9	9	2-hr unmetered
16th Street	East of 3rd Street	North	24	14							24	14			
		South	16	13							16	13			
4th Street	Between Mission Rock Street and China Basin Street	East	12	10							12	10			
		West													
	Between China Basin Street and Mission Bay Blvd.	East	13	11							13	11			
		West	11	6							11	6			
	Between Mission Bay Blvd. and Nelson Rising Lane	East	5	5			1	0			6	5			2 yellow
		West	10	9							10	9			
	Between Nelson Rising Lane and Gene Friend Lane	East	7	5							7	5			2 yellow
		West	10	8			1	0			11	8			2 yellow, 2 green
	Between Gene Friend Lane and 16th Street	East	1	1							1	1			
		West													
Total			636	442	12	9	13	8	24	19	685	478	191	112	16 yellow, 11 green

Notes: Mission Rock Street closed between Terry A. Francois Boulevard & 3rd Street. Construction on 4th Street between China Basin Street & Channel Street.

Off-Street Parking Data Collection Sheet 1:30-3:00 PM									
Street	Garage/Lot	Public		Handicapped		Motorcycle		Total	
		Available	Used	Available	Used	Available	Used	Available	Used
136 Townsend Street	Garage	110	85					110	85
148 Townsend Street	Garage	75	52					75	52
153 Townsend Street	Garage	365	245					365	245
178 Townsend Street	Garage	80	61					80	61
215 Townsend Street	Garage	750	441					750	441
224 Townsend Street	Garage	80	47					80	47
185 Berry Street	Garage	268	175					268	175
Pier 48	Garage	*400*	CLOSED					0	0
Giants Lot A	Lot	2176	527	24	2			2200	529
Giants Lot B	Lot	280	86					280	86
Giants Lot C	Lot	165	20					165	20
Giants Lot D	Lot	250	132					250	132
1650 Third Street (UCSF)	Garage/Lot	696	665	24	6			720	671
450 South Street	Garage	1328	1048	40	9	32	26	1400	1083
Terry A. Francois Blvd. Lot	Lot	50	2					50	2
Total		6673	3586	88	17	32	26	6793	3629

Note: There are fenced off lots between China Basin Street/Mission Bay Boulevard (North)/3rd Street/4th Street and Terry A. Francois Boulevard/Third Street/16th Street/South Street. Pier 48 was also closed during this time.

Off-Street Parking Data Collection Sheet 6:30-8:00 PM									
Street	Garage/Lot	Public		Handicapped		Motorcycle		Total	
		Available	Used	Available	Used	Available	Used	Available	Used
136 Townsend Street	Garage	*110*	CLOSED					*110*	CLOSED
148 Townsend Street	Garage	*75*	CLOSED					*75*	CLOSED
153 Townsend Street	Garage	*365*	CLOSED					*365*	CLOSED
178 Townsend Street	Garage	*80*	CLOSED					*80*	CLOSED
215 Townsend Street	Garage	*750*	CLOSED					*750*	CLOSED
224 Townsend Street	Garage	*80*	CLOSED					*80*	CLOSED
185 Berry Street	Garage	268	104					268	104
Pier 48	Garage	*400*	CLOSED					0	0
Giants Lot A	Lot	2176	97	24	2			2200	99
Giants Lot B	Lot	280	8					280	8
Giants Lot C	Lot	*165*	CLOSED					*165*	CLOSED
Giants Lot D	Lot	250	6					250	6
1650 Third Street (UCSF)	Garage/Lot	696	314	24	7			720	321
450 South Street	Garage	1328	76	40	3	32	5	1400	84
Terry A. Francois Blvd. Lot	Lot	50	2					50	2
Total		5048	607	88	12	32	5	5168	624

Note: There are fenced off lots between China Basin Street/Mission Bay Boulevard (North)/3rd Street/4th Street and Terry A. Francois Boulevard/Third Street/16th Street/South Street. Pier 48 was also closed during this time.

Off-Street Parking Data Collection Sheet 6:30-8:00 PM with Game									
Street	Garage/Lot	Public		Handicapped		Motorcycle		Total	
		Available	Used	Available	Used	Available	Used	Available	Used
136 Townsend Street	Garage	110	97					110	97
148 Townsend Street	Garage	75	66					75	66
153 Townsend Street	Garage	365	301					365	301
178 Townsend Street	Garage	80	76					80	76
215 Townsend Street	Garage	750	267					750	267
224 Townsend Street	Garage	80	69					80	69
185 Berry Street	Garage	268	209					268	209
Pier 48	Garage	730	437					730	437
Giants Lot A	Lot	2176	1378	24	14			2200	1392
Giants Lot B	Lot	280	97					280	97
Giants Lot C	Lot	165	124					165	124
Giants Lot D	Lot	250	138					250	138
1650 Third Street (UCSF)	Garage/Lot	696	549	24	8			720	557
450 South Street	Garage	1328	242	40	5	32	8	1400	255
Terry A. Francois Blvd. Lot	Lot	50	1					50	1
Total		7403	4051	88	27	32	8	7523	4086

Note: There are fenced off lots between China Basin Street/Mission Bay Boulevard (North)/3rd Street/4th Street and Terry A. Francois Boulevard/Third Street/16th Street/South Street.

APPENDIX G: PROJECT TRAVEL DEMAND MEMORANDUM

FEHR PEERS

July 7, 2015

Brett Bollinger
1650 Mission Street, Suite 400
San Francisco, CA 94103

Subject: Mission Rock (Seawall Lot 337/Pier 48) Project – Estimation of Project Travel Demand (Case No. 2013.0208!)

Dear Brett:

This letter summarizes our review of the travel demand forecasts provided by Adavant Consulting summarized in the technical memorandum dated June 30, 2015 for the Mission Rock Project (Seawall Lot 337/Pier 48) in San Francisco. We have reviewed both the technical memorandum and the associated calculation files in Excel format, and our comments are primarily focused on the calculation methodology (no obvious "calculation errors" were revealed in the Excel file). We provided comments to Adavant Consulting on prior versions. Those comments have been incorporated into this version and we concur with the proposed methodology and resultant travel demand forecasts for the project.

We also completed an independent validation assessment using a methodology developed by Fehr & Peers and others to more accurately assess the trip generating characteristics of mixed-use developments, entitled *MXD Plus*, which is an updated version of the "4D" methodology previously used for impact assessment of several large-scale land use plans recently approved by the City, including *Candlestick Point/Hunters Point Shipyard Phase II Redevelopment*, *Treasure Island/Yerba Buena Island Redevelopment Plan*, and *Parkmerced, among others*. The results provided in Adavant's memo compare quite closely with the results of the *MXD Plus* analysis, which further validates the proposed Project forecasts.

Geography, Roadway Network, and Land Use

As noted on Page 4 of the memo, the Project is located in Superdistrict 3, but the current (and future) setting in the vicinity of the Project may more accurately reflect Superdistrict 1, which has its closest border one-quarter mile away from Superdistrict 3. We agree with Adavant that strictly using Superdistrict 3 data would not convey an accurate portrayal of the Project's travel characteristics, particularly its mode split. The final forecasted auto and transit mode splits were comparable to the existing mode splits (33% auto, 34% transit, 33% other) in the census tract containing the Project, according to the 2008-2012 data from the American Community Survey.

Validation using Alternate Methodology

The eight-step methodology described on Pages 6 and 7 of the memo is logical and appears appropriate for a Project of this size and mix of land uses. However, because the proposed methodology has not been validated against any real-world examples, we applied a separate validated methodology, similar to that used on many other recent large-scale projects in San Francisco, to determine whether the proposed forecasts are reasonable.

Table 3, "Maximum Internal Trip Capture Rates within a Mixed-Use Project from Various Sources," cites several sources that also serve to inform a methodology developed by Fehr & Peers and others to more accurately assess the trip generating characteristics of mixed-use developments, *MXD Plus*. This tool is a newer iteration of the 4Ds tool that was used to inform the trip generation forecasts for other San Francisco projects of similar land uses and scales, including the Candlestick Point/Hunters Point Shipyard Phase II Redevelopment, Treasure Island/Yerba Buena Island Redevelopment Plan, and Parkmerced Redevelopment.

MXD Plus takes into account the regional context, site and accessibility variables, as well as the refined land uses and internal site configuration addressed in National Cooperative Highway Research Program (NCHRP) Report 684[1], which is one of the sources listed in Table 3. Traditional methodologies can produce forecasts that vary substantially from real-world observations. The *MXD Plus* methodology has found that a mixed use development's external trip generation is related to:

- ***Density***: employment within the site, population and employment density
- ***Diversity***: relative balance of jobs and housing within the site, amount of employment within 1 mile of the site
- ***Design***: density of intersections within the site as a measure of street connectivity
- ***Distance from transit***: presence of bus stops within ¼ mile, presence of a rail station
- ***Destination accessibility***: employment within a mile of site boundaries and percentage of regional employment within 20 minutes by car, 30 minutes by car, and 30 minutes by transit
- ***Development scale***: gross acreage of the development
- ***Demographics***: average number of household members, household vehicle ownership per capita

[1] National Cooperative Highway Research Program Report 684, "Enhancing Internal Trip Capture Estimation for Mixed-Use Developments," 2011.

Although the *ITE Trip Generation Handbook* can improve the accuracy of traditional forecasts, *MXD Plus* explains 97% of the variation in trip generation among 27 validation sites[2], compared to 65% for the ITE *Trip Generation Handbook*.

Additionally, the main author of the NCHRP Report 684 collaborated with Fehr & Peers to write Getting Trip Generation Right: Eliminating the Bias Against Mixed Use Development[3], an American Planning Association Planning Advisory Service memo submitted to the American Planning Association, which combines information from the NCHRP Report 684 research with Fehr & Peers' research into a single methodology, MXD Plus. The APA Planning Advisory Service memo endorses the *MXD Plus* method for mixed use trip generation forecasts. It also states that for the 27 validation sites, the land uses would generate 49% more traffic if they were distributed among single-use sites in suburban settings, the situations to which the ITE *Trip Generation Manual* would apply.

The trip generation forecasts supplied in the memo are similar to what was produced using the *MXD Plus* tool, as shown in Table 1 below. Table 1 indicates the resulting forecast of external auto trips as well as the percent of all person-trips expected to remain internal to the site. The *MXD Plus* tool suggests that the proposed internalization percentages for both scenarios during all time periods are reasonable, and the forecast of auto trip generation is also reasonable, and slightly conservative, if anything. In conclusion, the forecasts in the Adavant memo provide a reasonably conservative analysis, based on local data from the *SF Guidelines* and validated by a nationally-endorsed methodology.

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[2] Six of the 27 sites are located in Florida, and three are located in Atlanta and Texas. Three of the nine are nationally known examples of smart growth or transit-oriented development: Celebration Florida, Atlantic Station, and Mockingbird Station. Six sites are located in San Diego County and represent a wide range of examples of smart growth trip generators in that region. The twelve remaining sites are MXD developments located elsewhere in California and in Utah, ranging from TOD sites (commuter rail and ferry) to conventional suburban freeway-oriented mixed-use sites.

[3] American Planning Association Planning Advisory Service Memo, "The Elements of Mixed-Use Development that Reduce Traffic Generation and related Environmental, Social and Economic Costs," 2013.

TABLE 1: AUTO TRIP GENERATION FORECAST COMPARISON
External Auto Trips (Internalization Rate)

Time Period	Scenario A (Low Residential/High Commercial)		Scenario B (High Residential/Low Commercial)	
	Proposed Forecasts	*MXD Plus*	Proposed Forecasts	*MXD Plus*
Proposed Land Use	1,048 dwelling units 1,369,056 sf office 132,388 sf retail 85,672 sf sit-down restaurant 36,717 sf quick service restaurant 5.12 acre park 190,500 sf brewery 11,000 sf brewery retail/exhibition 11,000 sf brewery restaurant		1579 dwelling units 980,050 sf office 130,519 sf retail 84,363 sf sit-down restaurant 36,156 sf quick service restaurant 5.12 acre park 190,500 sf brewery 11,000 sf brewery retail/exhibition 11,000 sf brewery restaurant	
Daily	15,230 *(12.7%)*	15,864 *(11.1%)*	14,483 *(17.5%)*	15,313 *(14.7%)*
AM Peak Hour	1,449 (*11.4%*)	1,430 *(14.6%)*	1,394 *(18.7%)*	1,466 *(18.4%)*
PM Peak Hour	1,755 *(20.4%)*	1,895 *(17.1%)*	1,756 *(24.8%)*	1,831 *(22.4%)*

Notes: Values displayed are: Total external vehicle trips *(Internalization rate)*
Sources: The Mission Rock (Seawall Lot 337/Pier 48) Project – Estimation of Project Travel Demand (June 30, 2015); *MXD Plus,* Fehr & Peers, July 2015.

Please contact Chris Mitchell or Dan Hennessey at (415) 348-0300 with any comments or questions. We will await either your approval of the proposed forecasts or your comments on the analysis prior to moving forward with the impact analysis.

Sincerely,

FEHR & PEERS

Chris Mitchell, PE
Principal

Dan Hennessey, PE
Senior Transportation Engineer

SF13-0697

Adavant Consulting

Memorandum

To: Chris Mitchell, Transportation Consultant – Fehr & Peers

Erin Efner, Environmental Consultant – ICF International

From: José I. Farrán, P.E.

Date: June 30, 2015 DRAFT

Re: The Mission Rock (Seawall Lot 337/Pier 48) Project Case No. 2013.0208!
Estimation of Project Travel Demand – Updated Project Definition

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This technical memorandum describes the assumptions and methodology used to determine the travel demand for the mixed-use development of Seawall Lot 337 and Pier 48 (Mission Rock Project) in San Francisco. The proposed project is located in the China Basin area of San Francisco and bounded by China Basin Channel, Third Street, Mission Rock Street, and San Francisco Bay, across from AT&T Park, and adjacent to the Mission Bay North and South Redevelopment Plan areas.

This document is being submitted by Adavant Consulting to the environmental consultant team of the Mission Rock Project and the SF Planning Department for review as part of the transportation analysis being performed for the proposed project.

PROJECT DESCRIPTION

The project site encompasses approximately 27 acres and includes Seawall Lot 337, Pier 48, China Basin Park, and adjacent streets and access areas. Seawall Lot 337 is an approximately 16-acre site currently occupied by a surface lot with parking stalls for approximately 2,400 vehicles used by AT&T Park patrons and daytime commuters. Pier 48 is a pile-supported facility which includes two one-story main sheds used for parking (730 spaces) and special events; the parking facilities at Pier 48 are open exclusively for AT&T Park events. Approximately 2.6 acres of the Project Site includes the existing China Basin Park and perimeter walkways, located in the northern portion of the site. The project site also includes approximately 3.5 acres of existing perimeter streets.

The Mission Rock project entails construction of a mixed-use multi-phase development on Port-owned Seawall Lot 337 containing 11 development parcels and the rehabilitation/reuse of Pier 48; one of the development parcels (Parcel D2) would include a 2,300-space parking structure. The project also includes a network of newly created streets and the expansion of the existing China Basin Park and two new park/open space areas within a central square and along the waterfront. The following describes in general terms the type of land uses proposed at the project site:

- Housing. The project would provide a mix of studio, one, two, and three bedroom apartments above ground floor retail/restaurant uses.
- Commercial. Office space would be developed above ground floor retail uses.
- Retail/Restaurants. The ground floor areas of residential and commercial buildings throughout the site would include a range of sit-down and quick service restaurants, cafes, stores, and other general retail uses.
- Open Space. New and expanded public open spaces would be included in the project such as China Basin Park, Mission Rock Square, Channel Plaza, and the Pier 48 apron.
- Pier 48. Pier 48 would be rehabilitated to accommodate a mix of uses, including light industrial/manufacturing, barging, ancillary office, storage, retail, restaurants, tours, exhibitions/museum, and events. The northern apron of Pier 48 would be prioritized for public access and would be accessible for maritime uses where feasible. The eastern and southern aprons would be prioritized for maritime uses and open to the public where feasible. It is currently anticipated that the Anchor Brewing Company would occupy all of the interior usable space of Pier 48 to construct production facilities for brewing, distilling, packaging, storing, and shipping product, meeting rooms, a retail area, and a restaurant. Anchor Brewing would also offer public tours of the brewing facilities and a museum.
- Parking. Approximately 2,300 spaces would be included in a parking structure at the southwest corner of Seawall Lot 337 for use by the project, for ballpark games and events, and other public parking. In addition to the garage structure, up to 700 parking stalls total would be located as accessory uses below Mission Rock Square. Furthermore, up to 10 spaces would be provided in each residential or commercial building. In total, the Mission Rock project would provide approximately 3,100 parking spaces, all of them off the street.

A key element of the Mission Rock project is the ability to respond to future market demands through flexible zoning. In order to capture the range of possible land use intensity variations within Seawall Lot 337, two land use scenarios have been identified (Scenario A-Low Residential/ High Commercial, and Scenario B-High Residential/ Low Commercial), which are quantitatively summarized in Table 1 on the next page. As shown in the table, the proposed 837,230-gsf parking structure at Parcel D2, the 250,000-gsf parking garage under Mission Rock Square, the open space area, China Basin Park, and development of Pier 48 would be identical under both scenarios.

Table 1
Mission Rock Project Proposed Development by Scenario

	Scenario A Low Residential/ High Commercial		Scenario B High Residential/ Low Commercial	
Seawall Lot 337				
Residential	1,048 d.u. [a]	1,047,514 gsf	1,579 d.u. [a]	1,579,499 gsf
Office		1,361,181 gsf		972,175 gsf
General Retail		122,388 gsf		120,519 gsf
Quality Sit-down Restaurant		85,672 gsf		84,363 gsf
Quick Service Restaurant		36,717 gsf		36,156 gsf
Total Mixed-Use Area SWL 337		2,653,472 gsf		2,792,712 gsf
Parking Structure at Mission Rock St.	2,300 spaces	837,230 gsf	2,300 spaces	837,230 gsf
Parking under Mission Rock Sq. [b]	700 spaces	250,000 gsf	700 spaces	250,000 gsf
China Basin Park [c]		5.12 acres		5.12 acres
Pier 48				
Brewery/ Distillery	75 employees/ day	190,500 gsf	75 employees/ day	190,500 gsf
Brewery Retail / Exhibition	500 visitors/ day	11,000 gsf	500 visitors/ day	11,000 gsf
Brewery Restaurant		11,000 gsf		11,000 gsf
Mezzanine Retail		10,000 gsf		10,000 gsf
Mezzanine Office		7,875 gsf		7,875 gsf
Mezzanine Production	[d]	9,625 gsf	[d]	9,625 gsf
Total Pier 48		240,000 gsf		240,000 gsf

Note:
[a] The exact number of dwelling units to be provided by the project has not been established at this time; for travel demand purposes only, it has been assumed that each dwelling unit would have approximately 1,000 gsf and would be analyzed as a two or more bedroom apartment.
[b] Parking spaces to be provided below Mission Rock Square. In addition, up to 10 spaces would be provided in each commercial and residential building, for a total of 3,100 off-street parking spaces at the project site.
[c] Mission Rock Square, Channel Plaza and the Pier 48 apron would provide approximately 2.9 additional acres of open space under both scenarios.
[d] Employees in the mezzanine production area are assumed to be already included in the Brewery/Distillery category as this area is an integral part of the overall brewery/distillery facilities.
Source: ICF International, May 2015

TRAVEL DEMAND ANALYSIS METHODOLOGY

This section describes the travel demand analysis methodology developed specifically for the analysis of the Mission Rock project in order to account for its size, land use mix, and availability of transit.

OVERALL APPROACH

Estimating the proposed project travel demand involves forecasting the number of person and vehicle trips generated at project build-out. The methodology commonly used for estimating the travel demand of development projects in San Francisco is described in detail in the *SF Guidelines*[1] that have been prepared by the SF Planning Department. It is based on applying the appropriate person trip generation rates, mode of travel split ratios, trip distribution factors, and average vehicle occupancies to each of the land uses (residential, office, retail, etc.) of a proposed development.

The information presented in the *SF Guidelines* has been derived from a number of detailed travel behavior surveys conducted within San Francisco in the mid-1990s, and is generally accepted as more appropriate than using regional or nationally sourced data because of the relatively unique mix of uses, density, availability of transit, and cost of parking commonly found in San Francisco.

On the other hand, the methodology described in the *SF Guidelines* cannot be directly applied to some developments such as the Mission Rock project because of its large scale, unique location and distinctive mixed-use character. In addition, the *SF Guidelines* assume somewhat rigid geographical boundaries (defined by four San Francisco quadrants) to estimate mode of travel characteristics, which might have changed since the *SF Guidelines* were published, particularly in strong new development areas such as SoMa and Mission Bay. Thus, appropriate adjustments have been made to account for these factors, as described in the following sections.

PROJECT LOCATION

The project site is located within Superdistrict 3 in the Southeast quadrant of San Francisco. Superdistricts are travel analysis zones established by the Metropolitan Transportation Commission (MTC) that provide geographic subareas for planning purposes in San Francisco. A map showing the boundaries for the four planning Superdistricts within San Francisco is included in Appendix A. In the vicinity of the project site, Superdistrict 3 is bounded on the north side by Townsend Street and on the east side by the San Francisco Bay.

The *SF Guidelines* identifies different mode split ratios, trip distribution factors, and average vehicle occupancies for work and visitor (e.g., shopping) trips depending on the San Francisco Superdistrict where a project site is located, so that factors that influence travel behavior such as transit accessibility, walkability, roadway and transit infrastructure, etc. are properly accounted for in the analysis. For example, Table 2 provides a summary of the proposed project's modal split ratios for work trips based on the Superdistrict of employment. As shown in the table, Superdistrict 1 (outside of C-3/Downtown district) has the highest transit usage and Superdistrict 3 the lowest, while Superdistrict 3 has the highest automobile utilization and Superdistrict 1 the lowest.

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[1] *Transportation Impact Analysis Guidelines for Environmental Review*, San Francisco Planning Department, October 2002.

Table 2
Average Mode of Travel Ratios for Work Trips in San Francisco

Mode of Travel	Work Location [a]			
	Superdistrict 1 NE Quadrant	Superdistrict 2 NW Quadrant	Superdistrict 3 SE Quadrant	Superdistrict 4 SW Quadrant
Auto	38.9%	52.8%	71.1%	69.7%
Transit	51.7%	31.7%	20.2%	23.0%
Walk	6.9%	12.6%	5.8%	4.9%
Other [b]	2.5%	2.9%	2.9%	2.4%
Total	100.0%	100.0%	100.0%	100.0%

Notes:
[a] A map showing the boundaries for the four planning Superdistricts within San Francisco is included in Appendix A.
[b] "Other" includes bicycle, motorcycle, and additional modes such as taxis or limousines.
Source: SF Guidelines, Adavant Consulting – November 2013

As previously indicated, the information contained in the *SF Guidelines* has been derived from citywide surveys of employees, residents and visitors conducted in 1993 and 1995, as well as findings and assumptions from major environmental reports conducted in the 1990s. As such, the travel behavior characteristics for non-residential uses summarized in the *SF Guidelines* reflect the transportation infrastructure and transit services available to San Francisco residents and workers during that time period.

The transportation network at the time of the surveys is of particular importance in the analysis of the Mission Rock project, since the transportation infrastructure available near Seawall Lot 337 and Pier 48 in the 1990s was very different from current conditions, particularly in regard to public transit service and access. Specifically, the following major transportation projects have been implemented in the vicinity of the project site since the mid-1990s:

- I-280 Replacement Project – As a result of the decision taken in the early 1990s by the FHWA, Caltrans and City planners to formally eliminate the potential extension of the I-280 freeway beyond its terminus near Fourth and Berry Streets, The Embarcadero and King Street were reconfigured as an urban boulevard and the I-280 freeway was also reconfigured so that the connector would touch down at the newly widened King Street. The project opened for service sequentially between the spring and fall of 1997.

- Muni Metro Service Extension along the Waterfront – Starting in early 1998, Muni began operating light rail shuttle service (originally the E-Embarcadero line and currently the N-Judah line) from downtown San Francisco to the Caltrain Depot in the median of the newly reconstructed Embarcadero roadway and King Street.

- Muni Third Street Light Rail Project – In the fall of 2002 Muni initiated the construction of the Third Street Light Rail Extension Project from the Caltrain Depot and down Third Street to the vicinity of the Bayshore Caltrain Station; a transit stop is located at the intersection of Third and Mission Rock Streets. Full Metro service started in April 2007, initially as an extension of the J-Church line and was later modified to be an extension of the K-Ingleside line. The Central Subway extension from the Caltrain Depot to Union

Square, Chinatown and North Beach is currently being built, with service expected to start in 2018/19.

- Caltrain Commuter Rail Service Improvements – Caltrain has been steadily increasing commuter rail service between San Jose and San Francisco over the past 17 years. In 1996 Caltrain operated 66 daily trains each weekday; it currently operates 92 trains per day, 22 of which provide faster service with limited stops (baby bullet trains). Caltrain's Peninsula Corridor Electrification Project currently under development will electrify the existing diesel locomotive service, allowing for an increase in the number of peak hour trains by 2019.

As previously discussed, the *SF Guidelines* presents a practical methodology to evaluate development projects in San Francisco, for which there is no current better alternative. Thus, for the transportation evaluation of this mixed-use project it is proposed to follow the *SF Guidelines* methodology to the extent reasonable, expanding where necessary based on information gathered from other recognized relevant sources. Similar approaches have been followed in the transportation evaluation of other unique projects in San Francisco (e.g., Candlestick Point-Hunters Point Shipyard, 34th America's Cup, Moscone Center Expansion, Golden State Warriors Event Center). The SF Planning Department evaluates and approves any methodological expansion or changes to the *SF Guidelines* methodology on a case-by-case basis, depending on the nature and location of a proposed project.

Adavant Consulting discussed with SF Planning and Port planners the best approach to account for the potential changes in travel behavior in the vicinity of the Mission Rock project resulting from these and other related transportation improvements that have occurred in the area since the preparation of the *SF Guidelines*. As shown in the map on Appendix A, the boundary between Superdistrict 1 (NE quadrant) and Superdistrict 3 (SE quadrant, where the project is located) runs along Townsend Street, which is in close proximity (less than ¼ of a mile from the north edge) of the project site. It was therefore thought reasonable to assume that by the time the proposed development is built and occupied, the travel behavior in the project vicinity would resemble the conditions that the SoMa, South Beach, or Rincon Hill neighborhoods had at the time of the preparation of the *SF Guidelines*.

Thus, the travel characteristics presented in the *SF Guidelines* for Superdistrict 1 were selected for the transportation analysis of the Mission Rock project. This includes lower auto travel and higher transit use, more walk trips, higher vehicle occupancy rates, and lower parking demand. Table 3 provides a summary of major differences in modal split and vehicle occupancy in San Francisco Superdistricts 1 and 3.

Table 3
Modal Split and Average Vehicle Occupancy Comparison
SF Superdistricts 1 and 3

	SF Superdistrict 1 Northeast Quadrant [a]			SF Superdistrict 3 Southeast Quadrant [a]		
	Work Trips	Retail Visitor Trips	All Other Visitor Trips	Work Trips	Retail Visitor Trips	All Other Visitor Trips
Mode of Travel [b]						
Auto	39%	36%	36%	71%	64%	57%
Transit	52%	16%	25%	20%	12%	19%
Other [c]	9%	49%	39%	9%	24%	25%
Average persons per vehicle	1.54	2.43	2.37	1.28	1.90	2.26

Notes:
[a] A map of San Francisco Superdistrict boundaries is shown in Appendix A.
[b] Numbers may not sum to 100% due to rounding.
[c] "Other" includes walk, bicycle, motorcycle, and additional modes such as taxis and limousines.
Source: *SF Guidelines*, SF Planning Department, October 2002.

METHODOLOGY FOR THE ASSESSMENT OF INTERNAL AND LINKED TRIPS

The *SF Guidelines* do not provide a specific methodology to assess the number of trips that could remain within a large project site and would, therefore, be "double counted". Similarly, the *SF Guidelines* do not provide for a methodology for estimating the number of "linked" trips, those trips that are made as intermediate stops on the way from an origin to a primary destination.[2] Therefore, appropriate refinements to the standard travel demand analysis approach had to be made to account for the size and land use mix of a project such as the Mission Rock project, with its large proposed mix of residential, retail, office uses would be expected that more than the typical proportion of project trips would be internal to the project area.

[2] For example, an individual who stops at a cafe or retail store on the trip from home to work, or vice versa.

To better estimate the trip-making patterns of the Mission Rock project, a modified trip generation model specific to the Mission Rock project was developed. This methodology was originally developed by Adavant Consulting staff for the analysis of the Presidio Trust Management Plan[3] (a large mixed-use project in the NW corner of San Francisco under the jurisdiction of the Presidio Trust); a similar approach has also been proposed by the Institute of Transportation Engineers (ITE)[4] and the Transportation Research Board (TRB).[5] Furthermore, the transportation analysis conducted as part of the Mission Bay Area Plan SEIR used an earlier version of the same methodology to account for trips that would remain internal to the Mission Bay Area.[6]

The proposed methodology accounts for trips internal to the project that would still occur but would not be made by automobile or transit, instead they would remain within or in the vicinity of the project site and would occur by walking and bicycling, as well as for "linked" trips. A summary of the steps followed in the trip generation model for the Mission Rock project includes:

1. Determining the total number of person-trips generated during the daily, AM peak hour and PM peak hour periods by each individual land use being proposed by the project using the person trip generation rates presented in the *SF Guidelines,* or from other sources such as the ITE or project specific data, as necessary, for those uses not included in the *SF Guidelines* such as open space, brewery or exhibition uses*;*

2. Estimating the number of project person-trips by place of trip origin/destination and calculate their respective modal splits for each land use during the daily, AM peak hour and PM peak hour periods;

3. Identifying the number of person-trips generated during the daily, AM peak hour and PM peak hour periods with an origin or destination in Superdistricts 1 or 3;[7] they represent the universe of trips from where the project-related internal trips will be calculated and shifted to non-motorized modes (walk, bicycle, etc.);

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[3] *Presidio Trust Management Plan-Background Transportation Report for the Final EIS*, prepared by Wilbur Smith Associates for the Presidio Trust, May 2002.

[4] *Improved Estimation of Internal Trip Capture for Mixed-Use Development*, ITE Journal, August 2010; *Alternative Approaches to Estimating Internal Traffic Capture of Mixed-Use Projects*, ITE Journal, November 2011.

[5] *Enhancing Internal Trip capture Estimation for Mixed-Use Development*, NCHRP Report 684, Transportation Research Board, Washington DC, 2011.

[6] *Final Mission Bay Subsequent Environmental Impact Report*, Appendix D-Transportation, p. D.32, Case No. 96.771E, San Francisco Planning Department, Final Certification Date: September 17, 1998.

[7] The Mission Rock project is located in Superdistrict 3, and Superdistrict 1 is within ¼ of a mile of the project site.

4. Grouping the auto and transit person-trips generated in Superdistricts 1 and 3 during the daily, AM peak hour and PM peak hour periods by each individual land use into two categories: trip productions, for those land uses where the trips typically originate at the beginning of the day, such as residential uses or hotel uses (if proposed); and trip attractions, for those land uses at which the trips typically arrive, such as office, retail, restaurant, etc.;

5. Applying an initial linked trip factors and internal capture rates to each individual land use within the production and attraction categories based on ITE, San Diego Association of Governments (SANDAG) or other similar sources, and engineering judgment. (A discussion about the selection of the most appropriate internal trip capture rates for each land use is presented in the next section of this document.);

6. Iteratively adjusting the linked trip factors and internal capture rates applied to each individual land use until the number of production trips equals the number of attraction trips for each study period (daily, AM peak hour and PM peak hour);

7. Shifting the resulting number of attraction and production trips calculated for each individual land use from the original auto and transit modes to non-motorized modes (walk and other); they represent the additional person-trips that would be considered internal to the project; and

8. Performing a reasonableness check of the resulting internal person trip capture rates by comparing the data obtained at the completion of the previous steps against similar results available from ITE, TRB, and other sources. (A discussion about the reasonableness of the results obtained is presented starting on page 16 of this document, Estimation of Internal Project Trips).

Assessment of Internal Trip Capture Rates

Table 4 on the next page summarizes typical maximum internal trip capture rates for the proposed mixed-use projects obtained from recognized transportation planning sources for the weekday daily, AM peak hour, and PM peak hour periods. The sources include the TRB and the ITE.

Using the information presented in the table as an initial point of analysis and through an iterative process, the actual internal trip capture rates to be used in the transportation analysis of the Mission Rock project were identified, which are also summarized in Table 4.

Table 4
Maximum Internal Trip Capture Rates within a Mixed-Use Project from Various Sources

Land Use Type	Daily			AM Peak Hour			PM Peak Hour			
	NCHRP [a] & ITE [b]	Selected for Analysis [c] Scen. A	Selected for Analysis [c] Scen. B	ITE [d]	Selected for Analysis [c] Scen. A	Selected for Analysis [c] Scen. B	NCHRP [a] & ITE [b]	ITE [d]	Selected for Analysis [c] Scen. A	Selected for Analysis [c] Scen. B
Residential	38%	38%	35%	20%	20%	20%	53%	57%	45%	35%
Office [e]	22%	5%	10%	32%	9%	15%	31%	20%	20%	25%
General Retail	30%	10%	15%	50%	10%	22%	20%	46%	20%	25%
Sit-down Restaurant	30% [f]	10%	15%	31% [g]	7%	15%	20% [f]	50% [g]	12%	17%
Quick Service Restaurant	30% [f]	15%	17%	31% [g]	10%	20%	20% [f]	50% [g]	15%	25%
Open Space [h]		10%	10%		10%	10%			10%	10%
Brewery/ Distillery [i]		5%	5%		5%	5%			5%	5%
Brewery Retail / Exhibition [j]		0%	0%		0%	0%			0%	0%
Brewery Restaurant	30% [e]	10%	10%	31%	0%	0%	20% [e]	50%	10%	10%
Mezzanine Retail	30%	10%	10%	50%	0%	0%	20%	46%	10%	10%

Notes:

[a] *Enhancing Internal Trip capture Estimation for Mixed-Use Development*, NCHRP Report 684, Table 3, p. 11; Transportation Research Board, Washington DC, 2011.

[b] *Trip Generation Manual, 9th Edition, Volume 1: User's Guide and Handbook*, Tables 7.1 and 7.2 (pp. 93-94); Institute of Transportation Engineers, Washington DC, 2012 (based on a limited sample size of mixed-use projects).

[c] The internal capture rates selected for the transportation analysis of the Mission Rock project are constrained by the need for each scenario to match trip origins with trip destinations (productions/attractions) within the project site.

[d] *Improved Estimation of Internal Trip Capture for Mixed-Use Development*, Tables 2 and 3 (pp. 26-27), ITE Journal, August 2010.

[e] Includes office use in the mezzanine of Pier 48.

[f] Analyzed within retail by the ITE.

[g] There is no distinction in the ITE analysis between sit-down and quick service restaurant uses.

[h] No data available for open space uses; conservatively assumes that 90 percent of those visiting the China Basin park would come from outside the Mission Rock project.

[i] No data is available for brewery/distillery workers; based on the daily capture rate for office use, it assumes that 5 percent of the trips would be internal to the project site for lunch, errands, etc. Includes employees in the mezzanine production area.

[j] Conservatively assumes that 100 percent of those visiting or shopping at the brewery retail/exhibit uses would come from outside the Mission Rock project.

Source: Adavant Consulting from various sources, as noted – June 2015.

The internal trip capture rates obtained from various sources and summarized in the table represent highest possible values, that is, they result from the most favorable balance of land-uses as well as their relatively close proximity; as such these rates represent maximum values for internal trip rate capture. On the other hand, as explained in the previous section of this document, the internal trip capture rates selected for the analysis of the Mission Rock project are methodologically constrained by the need for the number of production trips to equal the number of attraction trips for each study period (daily, AM peak hour, and PM peak hour). Thus, as shown in the table, the selected internal trip capture rates have equal or lower values than those obtained from the standard unconstrained rates.

TRAVEL DEMAND FOR THE PROPOSED PROJECT

Travel demand refers to the vehicle, transit, pedestrian and bicycle trips generated by the Mission Rock project. This section presents the assumptions and results of the travel and parking demand estimation for the Mission Rock project. The detailed travel demand calculations for development scenarios A and B are presented in Appendices C and D, respectively; Appendix F contains the parking demand calculations using the *SF Guidelines* methodology.

TRIP GENERATION

The trip generation estimates for the two project scenarios include residents, employees and visitors to the proposed development. The weekday daily and PM peak hour person-trip generation for the proposed uses in Seawall Lot 337 are based on the appropriate rates as provided by Table C-1 in the *SF Guidelines*. Trip generation has also been estimated for the weekday AM peak hour based on adjusted trip generation rates developed for this study using information obtained from the ITE;[8] the detailed calculations are presented in Appendix B.

Travel demand associated with the proposed China Basin Park on-site is based on data obtained from SANDAG[9], a source from which travel demand information for open space uses is available. Due to the unique nature of the proposed brewery/distillery and brewery retail/ exhibition land uses at Pier 48, development specific information provided by Seawall Lot 337 Associates, LLC, the project sponsor, was used instead of standard trip generation values. This information is provided in Appendix B.

Table 5 presents the weekday daily, AM peak hour, and PM peak hour person-trip generation rates for the proposed land uses. Similarly, Table 6 presents the total number of weekday daily, AM peak hour, and PM peak hour person-trips (internal plus external) generated by the two scenarios of the Mission Rock project based on the rates previously summarized in Table 5.

[8] *Trip Generation Manual* (9th Edition), Institute of Transportation Engineers, Washington DC, 2012.

[9] *Traffic Generators*, San Diego Association of Governments, April 2002.

Table 5
Mission Rock Project Person-Trip Generation Rates by Land Use

Land Use Type	Daily Rate	AM Peak Hour % of daily	AM Peak Hour Rate	PM Peak Hour % of daily	PM Peak Hour Rate
Seawall Lot 337					
Residential	10.0 per unit [a]	14.2% [g]	1.4 / unit	17.3%	1.7 / unit
Office	18.1 per 1,000 gsf	8.9% [g]	1.6 / 1,000 gsf	8.5%	1.5 / 1,000 gsf
General Retail	150 per 1,000 gsf	2.3% [g]	3.5 / 1,000 gsf	9.0%	13.5 / 1,000 gsf
Sit-down Restaurant	200 per 1,000 gsf	1.5% [g]	2.9 / 1,000 gsf	13.5%	27.0 / 1,000 gsf
Quick Service Restaurant	600 per 1,000 gsf [b]	14.8% [g]	88.9 / 1,000 gsf	13.5%	81.0 / 1,000 gsf
China Basin Park	20 per acre [c]	13.0% [c]	2.6 / acre	9.0% [c]	1.8 / acre
Pier 48					
Brewery/ Distillery	3 per employee [d] 2 per truck	12.4% [g] 5.3% [h]	0.4 / employee 0.1 / truck	12.4% [j] 5.3% [h]	0.4 / employee 0.1 / truck
Brewery Retail / Exhibition	2 per visitor [e]	0.0% [i]	0.0 / visitor	15.0% [k]	0.3 / visitor
Brewery Restaurant	200 per 1,000 gsf [f]	1.5% [g]	2.9 / 1,000 gsf	13.5%	27.0 / 1,000 gsf
Mezzanine Retail	150 per 1,000 gsf	2.3% [g]	3.5 / 1,000 gsf	9.0%	13.5 / 1,000 gsf
Mezzanine Office	18.1 per 1,000 gsf	8.9% [g]	1.6 / 1,000 gsf	8.5%	1.5 / 1,000 gsf
Overall Project Average [l]					
Scenario A: Low Residential/ High Commercial	29.5 per 1,000 gsf	8.0%	2.37 / 1,000 gsf	10.7%	3.16 / 1,000 gsf
Scenario B: High Residential/ Low Commercial	25.9 per 1,000 gsf	8.1%	2.10 / 1,000 gsf	11.2%	2.90 / 1,000 gsf

Notes:

[a] For travel demand purposes only, it has been assumed that each dwelling unit would have two or more bedrooms.
[b] The "Restaurant Composite" trip generation rate from the *SF Guidelines* was used, as this type of restaurant is not envisioned as "fast food".
[c] Regional park land use; *Traffic Generators*, San Diego Association of Governments, 2002.
[d] Assumes that half of the employees would make four daily trips to/from the project site (e.g., for lunch, errands, etc.). Includes employees in the mezzanine production area.
[e] Assumes that each visitor would make two daily trips, one trip to the project site, plus the return trip.
[f] The "Restaurant Sit-down" trip generation rate from the *SF Guidelines* was used for brewery restaurant use, as this type of restaurant is not envisioned as a quick standing-up service.
[g] Adapted from Institute of Transportation Engineers *Trip Generation Report*, 9th Edition, 2012 in combination with *SF Guidelines*; see Appendix B.
[h] Based on the total number of daily trucks (38) of which two trucks are assumed to arrive/depart during the AM and PM peak hours.
[i] Assumes that visits/tours of the brewery would start after 9 AM.
[j] "Industrial/Manufacturing" PM peak hour trip generation factor from the *SF Guidelines*.
[k] One hour over a 10-hour exhibition day represents 10 percent of daily; increased by 50 percent for a more conservative analysis.
[l] External trips only. The overall project average trip generation and percentage of trips during the AM and PM peak hours has been reverse-calculated by dividing the total number of trips generated by each scenario during the study periods (daily, AM, PM) by the amount of proposed gsf, excluding the 5.12 acres of China Basin Park from the gsf.

Source: Table C-1 of the *SF Guidelines* unless otherwise noted, Adavant Consulting – June 2015.

Table 6
Mission Rock Project Trip Generation by Land Use and Scenario
Internal + External Person-trips [a]

Scenario / Land Use Type	Land Use Intensity	Daily Person trips	AM Peak Hour Person trips	PM Peak Hour Person trips
SCENARIO A – Low Residential/ High Commercial				
Seawall Lot 337				
Residential	1,048 d.u. [b]	10,480	1,491	1,813
Office	1,361,181 gsf	24,637	2,193	2,094
General Retail	122,388 gsf	18,358	428	1,652
Sit-down Restaurant	85,672 gsf	17,134	250	2,313
Quick Service Restaurant	36,717 gsf	22,030	3,264	2,974
China Basin Park	5.12 acres	102	13	9
Subtotal Seawall Lot 337		92,743	7,639	10,856
Pier 48				
Brewery/ Distillery [d]	75 employees/ day & 38 trucks/ day [c]	301	32	32
Brewery Retail / Exhibition	500 visitors/ day [c]	1,000	0	150
Brewery Restaurant	11,000 gsf	2,200	32	297
Mezzanine Retail	10,000 gsf	1,500	35	135
Mezzanine Office	7,875 gsf	143	13	12
Subtotal Pier 48		5,144	112	626
TOTAL SCENARIO A (internal + external trips)		97,886	7,751	11,482
SCENARIO B – High Residential/ Low Commercial				
Seawall Lot 337				
Residential	1,579 d.u. [b]	15,790	2,247	2,732
Office	972,175 gsf	17,596	1,566	1,496
General Retail	120,519 gsf	18,078	421	1,627
Sit-down Restaurant	84,363 gsf	16,873	246	2,278
Quick Service Restaurant	36,156 gsf	21,694	3,214	2,929
China Basin Park	5.12 acres	102	13	9
Subtotal Seawall Lot 337		90,133	7,708	11,070
Pier 48				
Brewery/ Distillery	75 employees/ day & 38 trucks/ day [c]	301	32	32
Brewery Retail / Exhibition	500 visitors/ day [c]	1,000	0	150
Brewery Restaurant	11,000 gsf	2,200	32	297
Mezzanine Retail	10,000 gsf	1,500	35	135
Mezzanine Office	7,875 gsf	143	13	12
Subtotal Pier 48		5,144	112	626
TOTAL SCENARIO B (internal + external trips)		95,276	7,819	11,696

Notes:
[a] Numbers may not sum to total due to rounding.
[b] The exact number of dwelling units to be provided by the project has not been established at this time; for travel demand purposes only, it has been assumed that each dwelling unit would have approximately 1,000 gsf.
[c] Based on information provided by Seawall Lot 337 Associates, LLC. (see Appendix B, p. A-13)
[d] Includes employees in the mezzanine production area.
Source: Adavant Consulting – June 2015.

Mission Rock Scenario A would generate 97,886 internal and external person-trips on a weekday daily basis, 7,751 person-trips during the AM peak hour, and 11,482 person-trips during the PM peak hour. Similarly, Scenario B would generate 95,276 internal and external person-trips on a weekday daily basis, 7,819 person-trips during the AM peak hour, and 11,696 person-trips during the PM peak hour.

MODE OF TRAVEL SPLIT

The project-generated person-trips summarized in Table 6 were allocated among different travel modes in order to determine the number of auto, transit, walk, and other trips going to and from the site. The "Other" category includes walk, bicycle, motorcycle, and additional modes, such as taxis or limousines.

Mode split assumptions for the residential use were based on data obtained from a survey of South Beach/South Park/Rincon Hill Area residents conducted in 2008 by the San Francisco Planning Department.[10] The SF Planning survey data was deemed more appropriate as it represents SF residents that can reasonably be expected to have similar travel patterns as those from the proposed project, rather than the U.S. Census data which represents an average for the entire city. Mode of travel assumptions for the office, retail, restaurant, brewery and open space uses have been based on information contained in the *SF Guidelines* for employee and visitor trips to Superdistrict 1.[11]

Table 7 summarizes the typical weekday daily, AM peak hour, and PM peak hour person-trips by mode of travel for Scenarios A and B. Approximately one third of all daily person-trips would be by auto, another third by transit, and another third by other modes (including walking). Similar modal split percentages would occur during the AM and PM peak hours. These modal split percentages represent a first approximation based on the direct implementation of the *SF Guidelines* methodology. As explained later in this report (Estimation of Internal Project Trips, p. 16), the estimation of the number of internal trips provides a shift from auto and transit usage to walk and other local modes.

[10] *Resident Travel Behavior Survey – Final Report*, San Francisco Planning Department, 2008; a summary of relevant results is included in Appendix B, p. A-9.

[11] See Project Location (p. 6 of this document) for a discussion about the selection of Superdistrict 1 as the basis for the project travel demand analysis.

Table 7
Mission Rock Project Trip Generation by Mode of Travel and Scenario [a]
Internal + External Person-trips [b]

		Daily		AM Peak Hour		PM Peak Hour	
SCENARIO A – Low Residential/ High Commercial							
SWL 337	Auto	32,617	35.2%	2,685	35.2%	3,789	34.9%
	Transit	26,694	28.8%	2,890	37.8%	3,451	31.8%
	Other [c]	33,432	36.0%	2,063	27.0%	3,616	33.3%
Subtotal SWL 337		92,743	100.0%	7,639	100.0%	10,856	100.0%
Pier 48	Auto	1,901	37.0%	46	41.0%	228	36.4%
	Transit	1,057	20.5%	55	49.3%	133	21.2%
	Other [c]	2,186	42.5%	11	9.6%	265	42.4%
Subtotal Pier 48		5,144	100.0%	112	100.0%	626	100.0%
	Auto	34,518	35.3%	2,731	35.2%	4,017	35.0%
	Transit	27,750	28.3%	2,945	38.0%	3,584	31.2%
	Other [c]	35,618	36.4%	2,074	26.8%	3,881	33.8%
TOTAL SCENARIO A		97,886	100.0%	7,751	100.0%	11,482	100.0%
SCENARIO B – High Residential/ Low Commercial							
SWL 337	Auto	31,138	34.5%	2,627	34.1%	3,769	34.1%
	Transit	26,243	29.1%	2,892	37.5%	3,528	31.9%
	Other [c]	32,751	36.3%	2,188	28.4%	3,773	34.1%
Subtotal SWL 337		90,133	100.0%	7,708	100.0%	11,070	100.0%
Pier 48	Auto	1,901	37.0%	46	41.0%	228	36.4%
	Transit	1,057	20.5%	55	49.3%	133	21.2%
	Other [c]	2,186	42.5%	11	9.6%	265	42.4%
Subtotal Pier 48		5,144	100.0%	112	100.0%	626	100.0%
	Auto	33,039	34.7%	2,673	34.2%	3,998	34.2%
	Transit	27,300	28.7%	2,947	37.7%	3,661	31.3%
	Other [c]	34,937	36.7%	2,199	28.1%	4,038	34.5%
TOTAL SCENARIO B		95,276	100.0%	7,819	100.0%	11,696	100.0%

Notes:
[a] Preliminary modal splits calculations, based on the direct implementation of the *SF Guidelines* methodology, prior to the calculation of the internal project trips.
[b] Numbers may not sum to total due to rounding.
[c] "Other" includes walk, bicycle, motorcycle, and additional modes such as taxis and limousines.
Source: Adavant Consulting – June 2015.

TRIPS ORIGIN/DESTINATION DISTRIBUTION

The distribution of trips for the land uses being proposed by the project was obtained from SF Planning Department residential survey data[12] and the *SF Guidelines* for land uses located within Superdistrict 1. The distribution is based on the origins and destinations of trips for each specific land use, which are assigned to the four quadrants of San Francisco (Superdistricts 1 through 4), East Bay, North Bay, South Bay and Out of Region. The results are summarized in Table 8.

Table 8
Mission Rock Project Trip Distribution Patterns by Land Use

Place of Trip Origin	Residential Units	Office / Restaurant / Open Space / Brewery		Retail Uses		Brewery
	Residents & Visitors [a]	Workers [b]	Visitors [c]	Workers [b]	Visitors [d]	Trucks [e]
San Francisco						
Superdistrict 1	34.7%	12.8%	22.0%	12.8%	19.0%	10.0%
Superdistrict 2	3.5%	14.4%	14.0%	14.4%	7.0%	10.0%
Superdistrict 3	27.8%	17.0%	13.0%	17.0%	8.0%	3.0%
Superdistrict 4	3.5%	11.2%	7.0%	11.2%	3.0%	3.0%
East Bay	8.8%	22.4%	11.0%	22.4%	11.0%	4.0%
North Bay	0.8%	6.1%	5.0%	6.1%	5.0%	4.0%
South Bay	21.0%	14.3%	7.0%	14.3%	8.0%	4.0%
Out of Region	0.0%	1.8%	21.0%	1.8%	39.0%	62.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes:
[a] 2008 residential survey of the South Beach, South Park, and Rincon Hill areas by the San Francisco Planning Department (see summary in Appendix B, p. A-9).
[b] *SF Guidelines*, Appendix E - Table E-3 Work Trips to SD1 (All).
[c] *SF Guidelines*, Appendix E - Table E-11 Visitor Trips to SD1 (All Other).
[d] *SF Guidelines*, Appendix E - Table E-10 Visitor Trips to SD1 (Retail).
[e] Truck origins and delivery data provided by the Seawall Lot 337 Associates, LLC. (see Appendix B, p. A-13)
Sources: Adavant Consulting – June 2015.

ESTIMATION OF INTERNAL PROJECT TRIPS

As previously described on page 7 of this document, a specific methodology was developed for the Mission Rock project in order to estimate the number of trips that would remain within or in close proximity to the project site. This analysis was based on the number of project person-trips that would originate or be destined to Superdistricts 1 and 3, as well as in the matching of trip productions and attractions within the project site. A summary of the results for the weekday daily, AM peak hour, and PM peak hour periods under Scenarios A and B is presented in Table 9.

[12] *Resident Travel Behavior Survey – Final Report*, San Francisco Planning Department, 2008; a summary of relevant results is included in Appendix B, p. A-9.

As shown in Table 9, approximately 11 to 25 percent of the total project person-trips, depending on the period and development scenario, would be considered internal, which represents a corresponding reduction in the external trip generation for the Mission Rock project. This appears a reasonable outcome as similar results have been reported in other professional sources.[13] Furthermore, other mixed-use projects in San Francisco, such as the Mission Bay Plan and the Treasure Island Redevelopment Project have used similar or even higher (depending on the specific location and land use combination) percentages of internal trips.[14]

Table 9
Mission Rock Project Trip Generation by Scenario
After Estimation of Internal Trips

	Number of Person-trips [a]					
	Daily		AM Peak Hour		PM Peak Hour	
SCENARIO A – Low Residential/ High Commercial						
Internal	12,470	12.7%	886	11.4%	2,337	20.4%
External	85,416	87.3%	6,864	88.6%	9,145	79.6%
Total Scenario A	97,886	100.0%	7,751	100.0%	11,482	100.0%
SCENARIO B – High Residential/ Low Commercial						
Internal	16,626	17.5%	1,462	18.7%	2,905	24.8%
External	78,650	82.5%	6,358	81.3%	8,791	75.2%
Total Scenario B	95,276	100.0%	7,819	100.0%	11,696	100.0%

Note:
[a] Numbers may not sum to total due to rounding.
Source: Adavant Consulting – June 2015.

The internal trips presented in Table 9 would be expected to occur for the most part by walking and bicycling, as opposed to auto and transit. As a result, the preliminary modal split percentages previously presented in Table 7 (p. 15) would change. Table 10 provides a comparison of modal splits before and after the calculation of the internal trips for the weekday daily, AM peak hour, and PM peak hour periods for Scenarios A and B.

[13] The average daily internal capture rate reported by NCHRP Report 684 is 36 percent. ITE research estimates internal capture rates between 11 percent (*Trip Sharing between Multiple Retail Developments*, ITE 2010 Annual Meeting), and 38 percent (*Trip Generation Examination of a Mixed-use Development in Texas*, ITE 2009 International Meeting).

[14] The transportation analysis conducted for the Mission Bay North and South Area Plans estimated a 20 percent reduction for those trips that began or ended in Superdistricts 1 and 3. The travel demand analysis conducted for the Treasure Island Redevelopment Plan estimated a 41 percent reduction for internal trips for the majority of proposed project land uses.

Table 10
Mission Rock Project Modal Split Comparison by Scenario
Before and After Estimation of Internal Trips
Internal + External Person-trips [a]

	Daily		AM Peak Hour		PM Peak Hour	
Mode of Travel	Before [b]	After [c]	Before [b]	After [c]	Before [b]	After [c]
SCENARIO A – Low Residential/ High Commercial						
Auto	35.3%	32.5%	35.2%	32.6%	35.0%	30.4%
Transit	28.3%	24.7%	38.0%	34.0%	31.2%	24.7%
Other [d]	36.4%	42.9%	26.8%	33.4%	33.8%	44.9%
Total Scenario A	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SCENARIO B – High Residential/ Low Commercial						
Auto	34.7%	30.8%	34.2%	29.8%	34.2%	28.6%
Transit	28.7%	23.6%	37.7%	31.3%	31.3%	23.7%
Other [d]	36.7%	45.6%	28.1%	38.8%	34.5%	47.7%
Total Scenario B	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes:
[a] Numbers may not sum to total due to rounding.
[b] Generally based on US Census and *SF Guidelines* data; treats all person-trips as external to the project site.
[c] Calculates the proportion of person-trips that would be internal to the project and shifts them to generally use non-motorized modes of travel.
[d] "Other" includes walk, bicycle, motorcycle, and additional modes such as taxis and limousines.
Source: Adavant Consulting – June 2015.

As shown in Table 10, as a result of assuming internalization of 11 to 25 percent of all project trips within the project area, there would be a three to five percentage point drop in automobile use plus a four to eight percentage drop in transit use, and a corresponding seven to 13 percentage point increase in walking and trips by other modes, with the estimation of internal trips to the project area.

Table 11 summarizes the typical weekday AM and PM peak hour external trip generation by mode of travel for Scenarios A and B. Under Scenario A during the weekday AM peak hour, the Mission Rock project would generate 2,524 external person-trips by automobile (37 percent), 2,635 person-trips by transit (38 percent), and 1,720 person-trips by other modes, including walking (25 percent). During the weekday PM peak hour, Scenario A would generate 3,488 external person-trips by automobile (38 percent), 2,841 person-trips by transit (31 percent), and 2,781 person-trips by other modes (31 percent). Overall, Scenario A would generate 32 percent more external person-trips in the PM peak hour than in the AM peak hour, driven by the higher trip generation rate for retail and restaurant uses during the weekday PM peak hour.

Table 11
Mission Rock Project Mode of Travel by Land Use and Scenario – External Person-trips Only [a]

Scenario / Land Use Type		AM Peak Hour				PM Peak Hour			
		Auto	Transit	Other [b]	Total	Auto	Transit	Other [b]	Total
SCENARIO A – Low Residential/ High Commercial									
SWL 337	Residential	343	511	340	1,193	325	446	227	997
	Office	788	953	254	1,995	689	813	173	1,675
	General Retail	154	201	30	385	519	223	580	1,322
	Sit-down Restaurant	92	121	19	233	768	549	718	2,036
	Quick Service Rest.	1,098	792	1,048	2,938	967	684	877	2,528
	China Basin Park	4	3	4	12	3	2	3	8
Subtotal Seawall Lot 337		2,479	2,581	1,695	6,755	3,271	2,718	2,578	8,566
Pier 48	Brewery/ Distillery	14	14	2	30	14	14	2	30
	Brewery Retail / Exhibition	0	0	0	0	54	39	58	150
	Brewery Restaurant	12	17	3	32	100	45	122	267
	Mezzanine Retail	14	18	18	50	45	21	21	87
	Mezzanine Office	5	6	1	12	4	5	1	10
Subtotal Pier 48		45	54	25	124	217	123	204	544
TOTAL SCENARIO A		2,524	2,635	1,720	6,879	3,488	2,841	2,781	9,110
		36.7%	38.3%	25.0%	100.0%	38.3%	31.2%	30.5%	100.0%
SCENARIO B – High Residential/ Low Commercial									
SWL 337	Residential	516	769	512	1,798	544	777	454	1,776
	Office	537	641	153	1,331	472	549	101	1,122
	General Retail	137	175	16	328	493	205	523	1,220
	Sit-down Restaurant	85	110	14	209	730	512	648	1,891
	Quick Service Rest.	1,008	699	864	2,571	886	600	711	2,196
	China Basin Park	4	3	4	12	3	2	3	8
Subtotal Seawall Lot 337		2,289	2,397	1,564	6,250	3,128	2,646	2,439	8,213
Pier 48	Brewery/ Distillery	14	14	2	30	14	14	2	30
	Brewery Retail / Exhibition	0	0	0	0	54	39	58	150
	Brewery Restaurant	12	17	3	32	100	45	122	267
	Mezzanine Retail	14	18	18	50	45	21	21	87
	Mezzanine Office	4	5	1	11	4	4	1	9
Subtotal Pier 48		45	54	25	123	217	123	203	543
TOTAL SCENARIO B		2,333	2,451	1,588	6,373	3,345	2,768	2,643	8,756
		36.6%	38.5%	24.9%	100.0%	38.2%	31.6%	30.2%	100.0%

Notes:
[a] Numbers may not sum to total due to rounding.
[b] "Other" includes walk, bicycle, motorcycle, and additional modes such as taxis and limousines.
Source: Adavant Consulting – June 2015.

Under Scenario B during the weekday AM peak hour, the Mission Rock project would generate 2,333 external person-trips by automobile (37 percent), 2,451 person-trips by transit (38 percent), and 1,588 person-trips by other modes, including walking (25 percent). During the weekday PM peak hour, Scenario B would generate 3,345 external person-trips by automobile (38 percent), 2,768 person-trips by transit (32 percent), and 2,643 person-trips by other modes (30 percent). Overall, Scenario B would generate 37 percent more external person-trips in the PM peak hour than in the AM peak hour.

As shown in Table 11, the overall modal split for Scenarios A and B of the Mission Rock project during the AM and PM peak hours would be virtually identical. Scenario A would generate 506 (8 percent) additional external person-trips than Scenario B during the AM peak hour, and 354 (4 percent) additional external person-trips during the PM peak hour.

Table 12 provides a comparison of the external project trips modal split with the estimates developed by the San Francisco County Transportation Authority (SFCTA) for the planned development of Seawall Lot 337.[15] These trips are estimated using SFCTA's travel demand forecasting model (SF-CHAMP) and are used in the development of future year 2040 cumulative traffic and transit conditions. As shown in the table, the estimated modal splits of AM and PM peak hour external trips generated by Scenarios A and B under the proposed methodology are very similar to those estimated by the SFCTA model.

Table 12
Modal Split Comparison of Mission Rock Project with SFCTA Estimates
External Person-trips [a]

	AM Peak Hour			PM Peak Hour		
Mode of Travel	Scenario A	Scenario B	SFCTA [b]	Scenario A	Scenario B	SFCTA [b]
Auto	36.7%	36.6%	35.3%	38.3%	38.2%	36.3%
Transit	38.3%	38.5%	38.9%	31.2%	31.6%	32.3%
Other [c]	25.0%	24.9%	25.8%	30.5%	30.2%	31.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes:
[a] Numbers may not sum to total due to rounding.
[b] SFCTA travel demand forecasting results for TAZ 655, which encompasses Seawall Lot 337 and Pier 48, plus Mission Bay Development Block 1 (see Appendix E).
[c] "Other" includes walk, bicycle, motorcycle, and additional modes such as taxis and limousines.
Source: Adavant Consulting – June 2015.

[15] Data provided by the SFCTA (SF-CHAMP Master Run July 2013) for travel analysis zone (TAZ) 655 which encompasses Seawall Lot 337 and Pier 48, plus Mission Bay Development Block 1 (the triangular block across Third Street from Seawall Lot 337 bounded by Mission Creek, Third Street and Channel Street); the SFCTA travel demand model trip data for TAZ 655 is summarized in Appendix E.

VEHICLE-TRIP DEMAND

Average vehicle trip occupancies were applied to the auto person-trip data presented in Table 11 in order to obtain vehicle-trip estimates for the Mission Rock project. Average vehicle occupancy rates for the land uses being proposed by the project were obtained from U.S. Census Bureau[16] and the *SF Guidelines* for land uses located within Superdistrict 1. The external vehicle-trip generation results for the daily, AM peak hour and PM peak hour periods are summarized in Table 13; additional information is included in Appendix C (for Scenario A) and Appendix D (for Scenario B).

Scenario A would generate 15,230 external daily vehicle-trips on a typical weekday, 1,449 vehicle-trips (68 percent inbound / 32 percent outbound) during the AM peak hour, and 1,755 vehicle-trips (40 percent inbound / 60 percent outbound) during the PM peak hour. Scenario B would generate 14,483 external daily vehicle-trips on a weekday, 1,394 vehicle-trips (62 percent inbound / 38 percent outbound) during the AM peak hour, and 1,756 vehicle-trips (46 percent inbound / 54 percent outbound) during the PM peak hour. Scenario A would generate 747 (5 percent) additional daily external vehicle-trips than Scenario B and 55 (4 percent) additional external vehicle-trips during the AM peak hour. Scenario A and Scenario B would generate virtually the same number of external vehicle-trips during the PM peak hour.

[16] *U.S. 2009-2013 American Community Survey 5-Year Estimates*. Vehicle occupancy data obtained from Tract 607 where the Mission Rock project is located; the tract includes portions of SoMa, and the Mission Bay North and South Plan areas.

Table 13
Mission Rock Project Vehicle Trip Generation by Land Use and Scenario

Scenario / Land Use Type	Daily Vehicle-trips [a]		AM Peak Hour Vehicle-trips [a]		PM Peak Hour Vehicle-trips [a]	
SCENARIO A – Low Residential/ High Commercial						
Seawall Lot 337						
Residential	1,828		309		293	
Office	4,452		476		409	
General Retail	2,538		98		207	
Sit-down Restaurant	2,490		59		331	
Quick Service Restaurant	3,091		474		417	
China Basin Park	15		2		1	
Subtotal Seawall Lot 337	14,414		1,419		1,660	
Pier 48						
Brewery/ Distillery [b]	128		11		11	
Brewery Retail / Exhibition	151		0		23	
Brewery Restaurant	304		8		41	
Mezzanine Retail	207		9		19	
Mezzanine Office	26		3		2	
Subtotal Pier 48	816		30		95	
TOTAL SCENARIO A	15,230		1,449		1,755	
Inbound	7,615	50%	991	68%	708	40%
Outbound	7,615	50%	458	32%	1,047	60%
SCENARIO B – High Residential/ Low Commercial						
Seawall Lot 337						
Residential	2,841		466		492	
Office	3,060		322		278	
General Retail	2,384		86		194	
Sit-down Restaurant	2,367		54		315	
Quick Service Restaurant	3,000		435		382	
China Basin Park	15		2		1	
Subtotal Seawall Lot 337	13,668		1,364		1,661	
Pier 48						
Brewery/ Distillery [b]	128		11		11	
Brewery Retail / Exhibition	151		0		23	
Brewery Restaurant	304		8		41	
Mezzanine Retail	207		9		19	
Mezzanine Office	25		3		2	
Subtotal Pier 48	815		30		95	
TOTAL SCENARIO B	14,483		1,394		1,756	
Inbound	7,242	50%	858	62%	802	46%
Outbound	7,242	50%	536	38%	954	54%

Note:
[a] Numbers may not sum to total due to rounding.
[b] Includes the mezzanine production area.
Source: Adavant Consulting – June 2015.

PARKING DEMAND

Parking demand for the two scenarios of the Mission Rock project was determined based on methodology presented in the *SF Guidelines*. Parking demand consists of both long-term demand (typically residents and employees) and short-term demand (typically visitors). A midday and evening peak demand percentage adjustment factor was then applied, based on information available from the *SF Guidelines* (for residential uses)[17] and the Urban Land Institute (ULI)[18] (for other land uses) in order to obtain the peak parking demand for those two study periods.

Long-term parking demand for the residential uses was estimated assuming 1.5 spaces for every residential unit. Long-term parking demand for the office, retail, restaurant, open space and brewery uses were estimated by applying the average mode split and the vehicle occupancy from the trip generation estimation to the number of employees for each of the proposed land uses. Short-term parking demand for these uses was estimated based on the total daily visitor trips and an average daily parking turnover rate (5.5 vehicles per space per day) obtained from the *SF Guidelines*. The results are summarized in Table 14 on the next page; detailed calculations are presented in Appendix F.

Scenario A would generate a total parking demand for 3,655 spaces (908 short-term and 2,747 long-term) during the midday peak demand period (noon to 2 PM), and 2,614 spaces (681 short-term and 1,933 long-term) in the evening (7 to 9 PM). Scenario B would generate a total parking demand for 3,846 spaces (814 short-term and 3,032 long-term) at midday and 3,344 spaces (649 short-term and 2,695 long-term) in the evening. The maximum parking demand would occur at midday under Scenario B (3,846 spaces). Scenario B would require 191 (5 percent) more parking spaces than Scenario A at midday and 730 (28 percent) more parking spaces than Scenario A in the evening.

[17] Transportation Impact Analysis Guidelines for Environmental Review, Appendix G, p. G-2, San Francisco Planning Department, 2002.

[18] Shared Parking, 2nd Edition, Table 2-5, p. 16, Urban Land Institute, Washington DC, 2005.

Table 14
Mission Rock Project Peak Parking Demand by Land Use, Scenario and Time Period

Scenario / Land Use Type	Number of Parking Spaces [a]					
	Midday Period (Noon to 2 PM)			Evening Period (7 to 9 PM)		
	Short-term [b]	Long-term [c]	Total	Short-term [b]	Long-term [c]	Total
SCENARIO A – Low Residential/ High Commercial						
Seawall Lot 337						
Residential	0	1,258	1,258	0	1,572	1,572
Office	210	1,250	1,460	10	125	135
General Retail	216	89	305	194	89	283
Sit-down Restaurant	159	56	215	212	62	274
Quick Service Restaurant	263	39	302	210	35	245
China Basin Park	1	0	1	1	0	1
Subtotal Seawall Lot 337	849	2,692	3,541	627	1,883	2,510
Pier 48						
Brewery/Distill/Retail/Exhib.[d]	14	34	48	12	34	46
Brewery Restaurant	26	7	33	26	8	34
Mezzanine Retail	18	7	25	16	7	23
Mezzanine Office	1	7	8	0	1	1
Subtotal Pier 48	59	55	114	54	50	104
TOTAL SCENARIO A	908	2,747	3,655	681	1,933	2,614
SCENARIO B – High Residential/ Low Commercial						
Seawall Lot 337						
Residential	0	1,895	1,895	0	2,369	2,369
Office	145	898	1,043	7	90	97
General Retail	203	89	292	182	89	271
Sit-down Restaurant	151	56	207	201	62	263
Quick Service Restaurant	255	39	294	204	35	239
China Basin Park	1	0	1	1	0	1
Subtotal Seawall Lot 337	755	2,977	3,732	595	2,645	3,240
Pier 48						
Brewery/Distill/Retail/Exhib.[d]	14	34	48	12	34	46
Brewery Restaurant	26	7	33	26	8	34
Mezzanine Retail	18	7	25	16	7	23
Mezzanine Office	1	7	8	0	1	1
Subtotal Pier 48	59	55	114	54	50	104
TOTAL SCENARIO B	814	3,032	3,846	649	2,695	3,344

Notes:
[a] Numbers may not sum to total due to rounding.
[b] Visitors and customers.
[c] Residents and employees.
[d] Includes the mezzanine production area.
Source: Adavant Consulting – June 2015.

APPENDIX A

SAN FRANCISCO SUPERDISTRICTS MAP

San Francisco Superdistrict Boundaries

The boundaries of the four San Francisco Superdistricts are based on the travel analysis zones established by the Metropolitan Transportation Commission (MTC). The four Superdistricts shown in this figure are aggregations of the MTC's 1454 Regional Travel Analysis Zones (May 2002) that encompasses the nine-county San Francisco Bay Area. MTC's 1454-zone system fits within the year 2000 U.S. Census tracts.

APPENDIX B

TRIP GENERATION RATES CALCULATIONS

WEEKDAY AM PEAK HOUR TRIP GENERATION RATES

Mission Rock Mixed-Use Project

CALCULATION OF WORK/NON-WORK PERCENTAGES AND TRIP GENERATION RATES FOR THE WEEKDAY AM PEAK HOUR

Land Use	Number	Vehicle trips	Weekday Daily Rate	AM Peak Hour % of daily	AM Peak Hour Rate	PM Peak Hour % of daily	PM Peak Hour Rate	AM to PM Rate Factor
Manufacturing	140	per 1000 gsf	3.82	19.1%	0.73	19.1%	0.73	1.00
Apartment	220	per unit	6.65	7.7%	0.51	9.3%	0.62	0.82
Condominium/Townhouse	230	per unit	5.81	7.6%	0.44	9.0%	0.52	0.85
Hotel	310	per room	8.17	6.5%	0.53	7.3%	0.60	0.88
County Park	412	per acre	2.28	0.9%	0.02	3.9%	0.09	0.22
General Office Building	710	per 1000 gsf	11.03	14.1%	1.56	13.5%	1.49	1.05
Shopping Center	820	per 1000 gsf	42.70	2.2%	0.96	8.7%	3.71	0.26
Quality Restaurant	931	per 1000 gsf	89.95	0.9%	0.81	8.3%	7.49	0.11
High-Turnover Sit-Down	932	per 1000 gsf	127.15	8.5%	10.81	7.7%	9.85	1.10

Source: Institute of Transportation Engineers, Trip Generation Report, 9th Edition, 201

SF GUIDELINES

Land Use	Person trips	Weekday Daily Rate	Avg gsf per employee	Daily Work %	PM Peak Hr Work %	PM Peak Hour % of daily	PM Peak Hour Rate	Estimated AM Peak Hour from ITE % of daily	Estimated AM Peak Hour from ITE Rate	Total Trips per Employees	Work Trips per Employees
Manufacturing/Industrial	per 1000 gsf	7.9	567	40%	67%	12.4%	0.98	12.4%	0.98	4	1.79
Residential with 2+ bedrooms	per unit	10.0		33%	50%	17.3%	1.73	14.2%	1.42		
General Office Building	per 1000 gsf	18.1	276	36%	83%	8.5%	1.54	8.9%	1.61	5	1.80
Retail	per 1000 gsf	150.0	350	4%	4%	9.0%	13.5	2.3%	3.5	53	2.10
Quality Restaurant	per 1000 gsf	200.0	350	4%	4%	13.5%	27.0	1.5%	2.9	70	2.80
Composite Restaurant Rate	per 1000 gsf	600.0	350	4%	4%	13.5%	81.0	14.8%	88.9	210	8.40
Residential (100% are 2+ bedrooms)	per unit	10.0		33%	50%	17.3%	1.73	14.2%	1.42		

SAN DIEGO - SANDAG

Land Use	Vehicle trips	Weekday Daily Rate	AM Peak Hour % of daily	AM Peak Hour Rate	PM Peak Hour % of daily	PM Peak Hour Rate
Indistrial Park (non-commercial)	per 1000 gsf	8.0	11.0%	0.88	12.0%	0.96
Apartment (> 20 d.u. per acre)	per unit	6.0	8.0%	0.48	9.0%	0.54
Standard Commercial Office	per 1000 gsf	20.0	14.0%	2.80	13.0%	2.60
Neighborhood Shoping Center	per 1000 gsf	120.0	4.0%	4.80	10.0%	12.00
Quality Restaurant	per 1000 gsf	100.0	1.0%	1.00	8.0%	8.00
Fast Food (w/out drive thru)	per 1000 gsf	700.0	5.0%	35.00	7.0%	49.00
Regional Park (developed)	per acre	20.0	13.0%	2.60	9.0%	1.80

Data Input for Travel Demand Model

2009-2013 AMERICAN COMMUNITY SURVEY DATA

2009-2013 American Community Survey 5-Year Estimate
San Francisco County, California

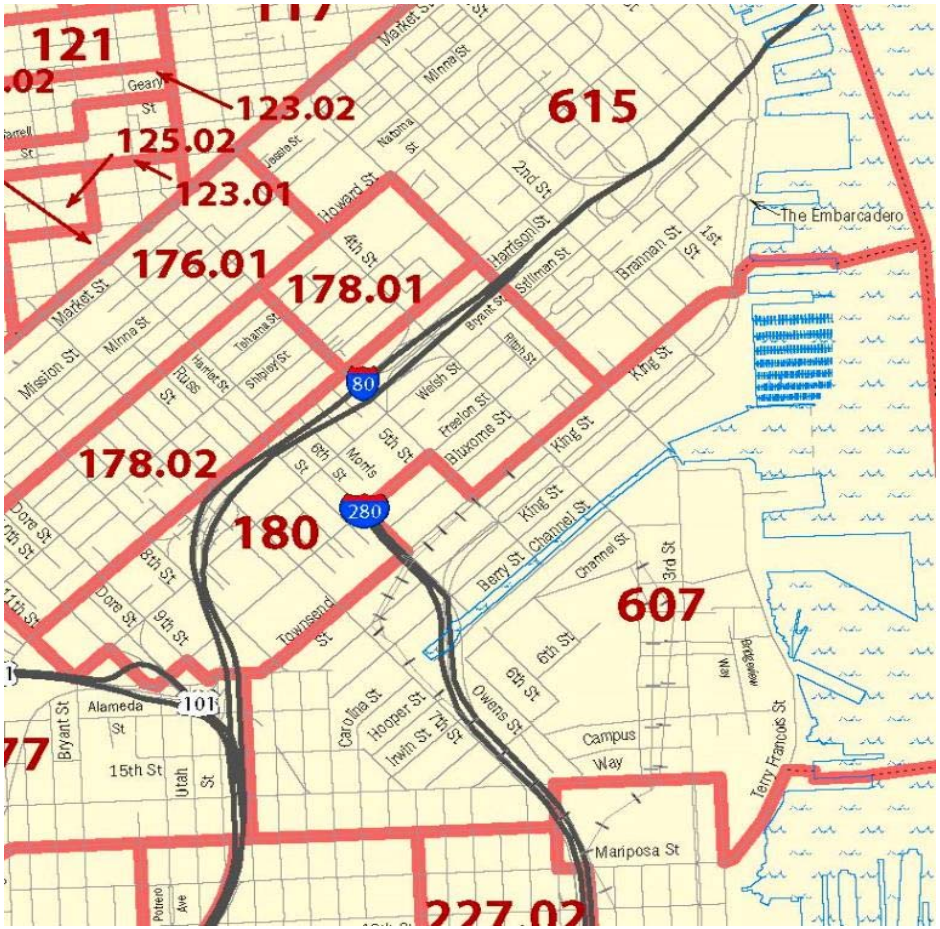
	Tract 607	Tract 615
Total:	**6,184**	**7,580**
Car, truck, or van:	1,792	2,618
Drove alone	1,489	2,346
Carpooled:	303	272
In 2-person carpool	229	216
In 3-person carpool	0	41
In 4-person carpool	45	15
In 5- or 6-person carpool	0	0
In 7-or-more-person carpool	29	0
Public transportation (excluding taxicab):	2,410	1,758
Bus or trolley bus	1,128	823
Streetcar or trolley car (publico in Puerto Rico)	210	78
Subway or elevated	316	615
Railroad	756	242
Ferryboat	0	0
Taxicab	0	58
Motorcycle	31	18
Bicycle	535	142
Walked	1,124	2,592
Other means	128	57
Worked at home	164	337

MODE OF TRAVEL SUMMARY

	Tract 607		Tract 615	
Auto	1,792	30%	2,618	36%
Transit	2,410	40%	1,758	24%
Walk	1,124	19%	2,592	36%
Other	694	12%	275	4%
TOTAL	**6,020**	**100%**	**7,243**	**100%**
Avg. Veh. Occ	1.11		1.06	

PLACE OF WORK	Tract 607		Tract 615	
Total:	**6,184**	**100.0%**	**7,580**	**100.0%**
Worked in MSA of residence:	5,252	84.9%	6,843	90.3%
Worked in principal city	4,539	73.4%	5,674	74.9%
Worked outside any principal city	713	11.5%	1,169	15.4%
Worked in a different MSA:	932	15.1%	737	9.7%
Worked in principal city	905	14.6%	696	9.2%
Worked outside any principal city	27	0.4%	41	0.5%

	Tract 607			Tract 615		
Total:	**6,020**	**100.0%**	Time	**7,243**	**100.0%**	Time
Less than 5 minutes	158	2.6%	2	51	0.7%	2
5 to 9 minutes	380	6.3%	7	551	7.6%	7
10 to 14 minutes	715	11.9%	12	1,194	16.5%	12
15 to 19 minutes	940	15.6%	17	1,511	20.9%	17
20 to 24 minutes	596	9.9%	22	1,084	15.0%	22
25 to 29 minutes	272	4.5%	27	476	6.6%	27
30 to 34 minutes	1,215	20.2%	32	716	9.9%	32
35 to 39 minutes	144	2.4%	37	115	1.6%	37
40 to 44 minutes	245	4.1%	42	212	2.9%	42
45 to 59 minutes	450	7.5%	47	451	6.2%	47
60 to 89 minutes	723	12.0%	75	716	9.9%	75
90 or more minutes	182	3.0%	110	166	2.3%	110
Avg. Travel Time	32.9			29.0		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Harrison St
Stillman St
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1st St
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Mission St
Ross St
Harriet St
Tehama St
Shipley St
Bryant St
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Carolina St
Hooper St
Irwin St
7th St
Owens St
Campus Way
Terry Francois St
Mariposa St
Potrero Ave

2008 RESIDENT TRAVEL BEHAVIOR SURVEY DATA

San Francisco Planning Department

Resident Travel Behavior Survey

Final Report

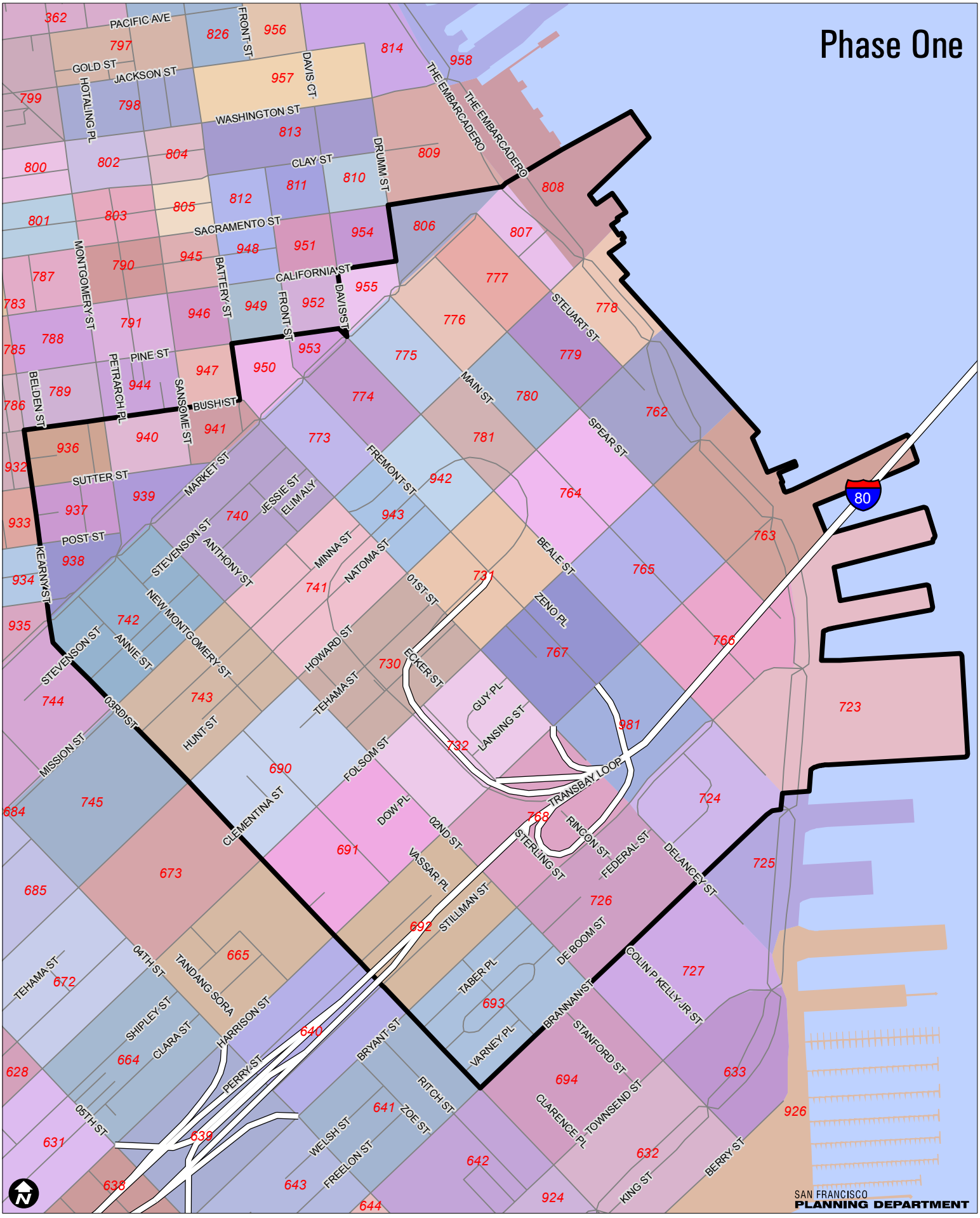
December 2008

Methodology Overview

GODBE RESEARCH
Gain Insight

➢ Data Collection	Mail Survey
➢ Universe/Study Area	152,602 adult residents living in the target zip codes of 94104, 94105, 94107 and 94111, and neighboring zip codes of 94102, 94103, 94108, 94109 and 94133*
➢ Fielding Dates	October 1 to 31, 2008
➢ Sample Size	327 adult residents living in the study area
➢ Margin of Error	± 5.4%

* Based on 2000 U.S. Census, the latest official population estimates at the zip code level. The 2006 ACS estimates are only available at the level of the entire City of San Francisco.


Phase One
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WASHINGTON ST
CLAY ST
SACRAMENTO ST
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PINE ST
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DAVIS ST
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MONTGOMERY ST
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HOTALING PL
BELDEN ST
PETRARCH PL
SANSOME ST
JESSIE ST
ELIM ALY
MINNA ST
NATOMA ST
HOWARD ST
FOLSOM ST
HARRISON ST
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TEHAMA ST
ANTHONY ST
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NEW MONTGOMERY ST
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CLARA ST
PERRY ST
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RITCH ST
ZOE ST
TABER PL
VARNEY PL
VASSAR PL
DOW PL
ECKER ST
GUY PL
LANSING ST
ZENO PL
BEALE ST
MAIN ST
SPEAR ST
STEUART ST
TRANSBAY LOOP
STERLING ST
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642
632
636
643
924
644
2,000 Feet
SAN FRANCISCO
PLANNING DEPARTMENT
Phase1.mxd - mwebster - June 30, 2008

2008 Residents at Phase 1 Area

MODE OF TRAVEL BY TRIP ORIGIN/DESTINATION		
San Francisco		
- Auto	51	20.3%
- Transit	97	38.6%
- Walk	87	34.7%
- Other	16	6.4%
Subtotal	251	100.0%
East Bay		
- Auto	13	40.6%
- Transit	16	50.0%
- Walk	-	0.0%
- Other	3	9.4%
Subtotal	32	100.0%
Peninsula		
- Auto	21	45.7%
- Transit	22	47.8%
- Walk	-	0.0%
- Other	3	6.5%
Subtotal	46	100.0%
North Bay		
- Auto	2	66.7%
- Transit	1	33.3%
- Walk	-	0.0%
- Other	-	0.0%
Subtotal	3	100.0%
South Bay		
- Auto	11	36.7%
- Transit	16	53.3%
- Walk	1	3.3%
- Other	2	6.7%
Subtotal	30	100.0%
All Loactions		
- Auto	98	27.1%
- Transit	152	42.0%
- Walk	88	24.3%
- Other	24	6.6%
Total	362	100.0%

	HOME OWNERSHIP					
	Own		Rent		Total	
NUMBER OF VEHICLES IN HOUSEHOLD						
Zero	25	13.2%	52	39.1%	77	23.8%
One	110	57.9%	60	45.1%	170	52.6%
Two	50	26.3%	19	14.3%	69	21.4%
Three	4	2.1%	2	1.5%	6	1.9%
Four or more	1	0.5%	-	0.0%	1	0.3%
Total	190	100.0%	133	100.0%	323	100.0%
Avg veh per household	1.19		0.78		1.02	
OFF-STREET PARKING AVAILABILITY						
Yes	177	93.7%	85	64.4%	262	81.6%
No	12	6.3%	47	35.6%	59	18.4%
Total	189	100.0%	132	100.0%	321	100.0%
MODE OF TRAVEL						
Drive Alone	70	36.8%	30	22.6%	100	31.0%
Muni	50	26.3%	47	35.3%	97	30.0%
Walk	59	31.1%	36	27.1%	95	29.4%
Other modes	11	5.8%	20	15.0%	31	9.6%
Total	190	100.0%	133	100.0%	323	100.0%

	NUMBER OF VEHICLES IN HOUSEHOLD									
	Zero		One		Two		Three or more		Total	
NUMBER OF PEOPLE IN HOUSEHOLD										
One	44	57.1%	84	50.0%	14	20.3%	-	0.0%	142	44.2%
Two	28	36.4%	75	44.6%	45	65.2%	5	71.4%	153	47.7%
Three or more	5	6.5%	9	5.4%	10	14.5%	2	28.6%	26	8.1%
Total	77	100.0%	168	100.0%	69	100.0%	7	100.0%	321	100.0%
	24%		52%		21%		2%		100%	
Average people per household									1.71	
OFF-STREET PARKING AVAILABILITY										
Yes	44	57.9%	154	91.1%	57	82.6%	7	100.0%	262	81.6%
No	32	42.1%	15	8.9%	12	17.4%	-	0.0%	59	18.4%
Total	76	100.0%	169	100.0%	69	100.0%	7	100.0%	321	100.0%
	24%		53%		21%		2%		100%	
PLACE OF WORK										
Within Phase 1 Area	47	62%	88	54%	26	41%	1	14%	162	52%
Elsewhere in SF	3	4%	15	9%	3	5%	2	29%	23	7%
Outside San Francisco	26	34%	59	36%	35	55%	4	57%	124	40%
Total	76	100.0%	162	100.0%	64	100.0%	7	100.0%	309	100.0%
	25%		52%		21%		2%		100%	

BREWERY/DISTILLERY TRAVEL DEMAND DATA

From: Chapman, Kirsten
Sent: Wednesday, October 02, 2013 4:04 PM
To: 'José I. Farrán'
Cc: Efner, Erin
Subject: RE: Travel Demand - Land use assumptions and residential equivalencies

The table below is correct for weekdays, but weekends would employ only 30 people per day, as follows:

Shift	Hours	% workforce	employees
Day	6AM-2 PM	45%	14
Afternoon	2PM-10 PM	40%	12
Night	10PM-6AM	15%	4
Total		100%	30

Attached are the truck trip calculations that Anchor sent to us. Please look at the "high" end of the ranges and don't worry about the second table with trucks and barges (this would result in less traffic, so this scenario won't be analyzed). Let me know if this doesn't answer your question.

Thanks,
Kirsten

Kirsten Chapman | Environmental Associate | 415.537.1702 | kirsten.chapman@icfi.com | icfi.com

ICF INTERNATIONAL | 620 Folsom Street, 2nd Floor, San Francisco, CA 94107 |

From: José I. Farrán
Sent: Wednesday, October 02, 2013 3:49 PM
To: Chapman, Kirsten; Efner, Erin
Subject: RE: Travel Demand - Land use assumptions and residential equivalencies

Kirsten, thanks for providing us with the responses to our brewery questions, can you confirm that I have interpreted the typical weekday employee data correctly as summarized in the table below?

Shift	Hours	% workforce	employees
Day	6AM-2 PM	45%	34
Afternoon	2PM-10 PM	40%	30
Night	10PM-6AM	15%	11
Total		100%	75

From: Chapman, Kirsten
Sent: Wednesday, October 02, 2013 1:13 PM
To: José I. Farrán; Efner, Erin
Subject: RE: Travel Demand - Land use assumptions and residential equivalencies

Hi Jose,

Here's email #3 regarding your data needs list. All of the information below is still correct, but Joshua asked some additional questions for Anchor, which could help with your analysis:

Shift staffing breakdown:

- Nights: 15%
- Days: 45%
- Afternoons: 40%

Truck Activity: With the potential of only having three loading dock spots, I think the truck activity is going to be fairly steady over the 24 hour period. Stacking issues are bound to occur because the dock will be scheduled fairly tightly and truck drivers are not very punctual.

Kirsten Chapman | Environmental Associate | 415.537.1702 | kirsten.chapman@icfi.com | icfi.com

ICF INTERNATIONAL | 620 Folsom Street, 2nd Floor, San Francisco, CA 94107 |

From: Chapman, Kirsten
Sent: Wednesday, October 02, 2013 8:18 AM
To: 'José I. Farrán'; Efner, Erin
Subject: RE: Travel Demand - Land use assumptions and residential equivalencies

Hi Jose,

Here is the answer to the red question below.

Day shift starts at 6 AM, afternoon shift at 2 PM and night shift 10 PM.

Any other data needs?

Thanks,
Kirsten

Kirsten Chapman | Environmental Associate | 415.537.1702 | kirsten.chapman@icfi.com | icfi.com

ICF INTERNATIONAL | 620 Folsom Street, 2nd Floor, San Francisco, CA 94107 |

From: Chapman, Kirsten
Sent: Tuesday, October 01, 2013 4:50 PM
To: 'José I. Farrán'; Efner, Erin
Subject: RE: Travel Demand - Land use assumptions and residential equivalencies

Hi Jose,

Sorry for the delayed response. I'm still waiting for one piece of information (in red, below), but thought that I would send this over to you as soon as possible.

- **Question:** 38 truck trips per day: one-way or round-trip?
  - **Answer:** 38 *total* trips. Approximately 18 trucks per day for deliveries and 20 trucks per day for export of finished goods. Note, this is the high end of the range, for conservative purposes.
- **Question:** What is the geographical distribution of truck trips by major areas?
  - **Answer:**
    - SF: 26%
    - Northern California (excluding SF): 22%
    - Southern California: 9%
    - Out of State and International: 43%

  •**Question:** What are the times of arrival and departure of the trucks? Are they spread over the day? Or do they have peak arrival/departure hours?
  - **Answer:** The hours will be spread across all 24 hours of the day.
- **Question:** Do the 75 employees work traditional hours? What are the work hours for each shift?
  - **Answer:** In total, the brewery would employ 200 people. There would be three shifts per weekday with approximately 75 employees per day. On weekends, there would be three shifts per day with approximately 30 employees total. The shifts would be eight hours per day (NOTE: still waiting for exact times; will send as soon as I get).

Please let me know if you need anything else!

Thanks,

Kirsten

Kirsten Chapman | Environmental Associate | 415.537.1702 | kirsten.chapman@icfi.com | icfi.com

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ICF INTERNATIONAL | 620 Folsom Street, 2nd Floor, San Francisco, CA 94107 |

Anchor Deliveries/Export per Week

	Low	High	lbs/payload	Notes/Questions
Trucks Only - No Barges				
Raw Material Trucks - Deliveries	98	98	25,000 - 50,000	14 53-foot trucks per day
Malt Trucks - Deliveries	20	25	50,000	
Trucks - Finished Goods	84	140	50,000	12-20 trucks per day of finished goods
Total Truck Trips per Week	***202***	***263***		
Trucks + Barges				
Raw Material Trucks - Deliveries	98	98	25,000 - 50,000	
Trucks - Finished Goods	64	130	50,000	Would only trucks be used for finished goods? If so, these numbers would be the same as above. If not, provide. These numbers have been adjusted based on the plan below regarding barging shipping containers.
Total Truck Trips per Week	***162***	***228***		
Malt Barges - Deliveries	0	1/month	3,000,000	Data needs response from Anchor states 12 barges per YEAR for malt. Confirm that 20-25 trucks per week for malt deliveries is equal to 12 barges per year. At full brewery capacity, the brewery could use one 1500 ton barge per month. At lower capacities in the initial phases, there is a possibility to load hoppers on a flat deck barge.
Barges - Finished Goods	1/week	2/week	500,000 (ten shipping containers on one barge)	Would barges be used for exports? If so, please provide. It is possible that 40' shipping containers could be placed on a flat deck barge and loaded from the end of the pier using a forklift. The forklift would drive onto the barge via a ramp. These shipping containers could then be brought to the Port of Oakland or Stockton for transloading onto Cargo Ships or Railroad
Total Barge Trips per Week/Year				

APPENDIX C
TRAVEL DEMAND FOR SCENARIO A

AGGREGATE TRAVEL DEMAND CALCULATIONS

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

LAND USES	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential 1,047,514 gsf 1,048 d.u.	Office 1,361,181 gsf	General Retail 122,388 gsf	Quality Restaurant 85,672 gsf	Quick Service Restaurant 36,717 gsf	Subtotal SWL 337 2,653,472 gsf	Brewery/ Distillery 190,500 gsf 75 empl.	Brewery Retail/ Exhibition 11,000 gsf 500 visitors	Brewery Quality Restaurant 11,000 gsf	Mezzanine Retail 10,000 gsf	Mezzanine Office 7,875 gsf	Mezzanine Production 9,625 gsf	Subtotal Pier 48 240,000 gsf	5.12 acres	2,893,472 gsf plus open space

INTERNAL AND EXTERNAL TRIP GENERATION RATES	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Daily Trip Rate (per 1,000 gsf)	10.0	18.1	150.0	200.0	600.0	34.9	1.6	90.9	200.0	150.0	18.1	0.0	21.4	0.5	33.8
AM Peak Hour as a % of daily	14.2%	8.9%	2.3%	1.5%	14.8%	8.2%	10.6%	0.0%	1.5%	2.3%	8.9%	0.0%	2.2%	13.0%	7.9%
AM Peak Hour Trip Rate (per 1,000 gs)	1.42	1.61	3.49	2.92	88.89	2.87	0.17	0.00	2.92	3.49	1.61	0.00	0.47	0.06	2.68
PM Peak Hour as a % of daily	17.3%	8.5%	9.0%	13.5%	13.5%	11.7%	10.6%	15.0%	13.5%	9.0%	8.5%	0.0%	12.2%	9.0%	11.7%
PM Peak Hour Trip Rate (per 1,000 gs)	1.73	1.54	13.50	27.00	81.00	4.09	0.17	13.64	27.00	13.50	1.54	0.00	2.61	0.04	3.97
**															
% Modal Share															
Auto	27%	37%	36%	36%	36%	35%	54%	36%	36%	36%	37%	0%	37%	36%	35%
Transit	42%	35%	17%	27%	27%	29%	39%	26%	17%	17%	35%	0%	21%	27%	28%
Walk/Other	31%	28%	47%	37%	37%	36%	7%	38%	47%	47%	28%	0%	42%	37%	36%
Average Vehicle Occupancy Rate															
Weekday Daily	1.11	1.97	2.38	2.31	2.31	2.03	1.23	2.37	2.38	2.38	1.97	0.00	2.19	2.31	2.04
Weekday AM Peak Hour	1.11	1.63	1.54	1.54	2.31	1.72	1.35	0.00	1.54	1.54	1.63	0.00	1.48	2.31	1.72
Weekday PM Peak Hour	1.11	1.63	2.38	2.31	2.31	1.89	1.35	2.37	2.38	2.38	1.63	0.00	2.24	2.31	1.91

INTERNAL AND EXTERNAL TRIPS BY MODE	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Auto Person Trips	2,833	9,095	6,584	6,155	7,913	32,580	164	358	789	538	53		1,901	37	34,518
Transit Person Trips	4,397	8,643	3,141	4,588	5,899	26,666	116	257	376	257	50		1,057	27	27,750
Walk/Other Person trips	3,250	6,900	8,633	6,392	8,218	33,394	21	385	1,035	705	40		2,186	38	35,618
Total Person Trips	10,480	24,637	18,358	17,134	22,030	92,640	301	1,000	2,200	1,500	143	-	5,144	102	97,886
Total Vehicle Trips	2,558	4,620	2,772	2,661	3,421	16,032	133	151	332	226	27		869	16	16,918
Weekday AM Peak Hour															
Auto Person Trips	403	841	166	97	1,172	2,681	15	-	12	14	5		46	5	2,731
Transit Person Trips	626	1,037	221	129	874	2,886	14	-	17	18	6		55	4	2,945
Walk/Other Person trips	462	315	40	24	1,218	2,058	3	-	3	3	2		11	5	2,074
Total Person Trips	1,491	2,193	428	250	3,264	7,626	32	-	32	35	13	-	112	13	7,751
Total Vehicle Trips	364	515	108	63	507	1,557	11	-	8	9	3		31	2	1,590
Weekday PM Peak Hour															
Auto Person Trips	490	804	593	831	1,068	3,786	15	54	107	48	5		228	3	4,017
Transit Person Trips	761	990	283	619	796	3,449	14	39	51	23	6		133	2	3,584
Walk/Other Person trips	562	301	777	863	1,109	3,612	3	58	140	63	2		265	3	3,881
Total Person Trips	1,813	2,094	1,652	2,313	2,974	10,847	32	150	297	135	12	-	626	9	11,482
Total Vehicle Trips	443	492	249	359	462	2,005	11	23	45	20	3		102	1	2,108

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

INTERNAL AND EXTERNAL TRIPS INBOUND/OUTBOUND SPLITS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday AM Peak Hour															
Work															
Inbound	0%	100%	100%	100%	100%		80%		100%	100%	100%			100%	
Outbound	100%	0%	0%	0%	0%		20%		0%	0%	0%			0%	
Non Work															
Inbound	67%	50%	50%	50%	50%		50%	50%	50%	50%	50%			50%	
Outbound	33%	50%	50%	50%	50%		50%	50%	50%	50%	50%			50%	
All trip purposes combined															
Inbound	33%	92%	100%	100%	52%	64%	76%	0%	100%	100%	92%		92%	52%	64%
Outbound	67%	9%	0%	0%	48%	36%	24%	0%	0%	0%	9%		8%	48%	36%
Person Trips															
Inbound	497	2,006	428	250	1,697	4,878	24	-	32	35	12		103	7	4,988
Outbound	994	186	-	-	1,567	2,747	8	-	-	-	1		9	6	2,762
Total Person Trips	1,491	2,193	428	250	3,264	7,626	32	-	32	35	13	-	112	13	7,751
Vehicle Trips															
Inbound	121	487	108	63	270	1,049	8	-	8	9	3		27	1	1,077
Outbound	243	28	-	-	237	508	3	-	-	-	0		4	1	512
Total Vehicle Trips	364	515	108	63	507	1,557	11	-	8	9	3	-	31	2	1,590
Weekday PM Peak Hour															
Work															
Inbound	100%	0%	0%	0%	0%		20%		0%	0%	0%			0%	
Outbound	0%	100%	100%	100%	100%		80%		100%	100%	100%			100%	
Non Work															
Inbound	33%	50%	50%	50%	50%		50%	50%	50%	50%	50%			50%	
Outbound	67%	50%	50%	50%	50%		50%	50%	50%	50%	50%			50%	
All trip purposes combined															
Inbound	67%	9%	48%	48%	48%	43%	24%	50%	48%	48%	9%		46%	48%	44%
Outbound	33%	92%	52%	52%	52%	57%	76%	50%	52%	52%	92%		54%	52%	56%
Person Trips															
Inbound	1,209	178	793	1,110	1,428	4,718	8	75	143	65	1		291	4	5,013
Outbound	604	1,916	859	1,203	1,547	6,129	24	75	154	70	11		335	5	6,469
Total Person Trips	1,813	2,094	1,652	2,313	2,974	10,847	32	150	297	135	12	-	626	9	11,482
Vehicle Trips															
Inbound	295	27	116	168	216	822	3	11	21	10	0		45	1	868
Outbound	148	465	133	191	246	1,183	8	11	24	11	3		56	1	1,240
Total Vehicle Trips	443	492	249	359	462	2,005	11	23	45	20	3	-	102	1	2,108

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

INTERNAL AND LINKED PERSON TRIP ADJUSTMENT FACTORS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Internal trip factor	38%	5%	10%	10%	15%		5%	0%	10%	10%	5%			10%	
Internal linked trip factor	15%	25%	50%	50%	80%		25%	0%	80%	80%	25%			80%	
Internal person trips	3,385	924	918	857	661	6,780	11	-	44	30	5	-	55	2	6,837
Total internal person trip productions															3,415
Total internal person trip attractions															3,417
Difference															2
% difference															0%
Internal and linked person trips (Walk)	3,982	1,232	1,836	1,713	3,305	12,225	15	-	220	150	7	-	235	10	12,470
Overall total trip reduction	38%	5%	10%	10%	15%	13%	5%	0%	10%	10%	5%	0%	5%	10%	13%
Weekday AM Peak Hour															
Internal trip factor	20%	9%	10%	7%	10%		5%	0%	0%	0%	9%			10%	
Internal linked trip factor	15%	20%	50%	50%	80%		25%	0%	80%	80%	20%			80%	
Internal person trips	254	158	21	9	65	508	1	-	-	-	1	-	1	0	509
Total internal person trip productions															254
Total internal person trip attractions															255
Difference															1
% difference															0%
Internal and linked person trips (Walk)	298	197	43	18	326	883	2	-	-	-	1	-	2	1	886
Overall total trip reduction	20%	9%	10%	7%	10%	12%	5%	0%	0%	0%	9%	0%	1%	10%	11%
Weekday PM Peak Hour															
Internal trip factor	45%	20%	20%	12%	15%		5%	0%	10%	10%	20%			10%	
Internal linked trip factor	15%	30%	50%	50%	80%		25%	0%	80%	80%	30%			80%	
Internal person trips	693	293	165	139	89	1,384	1	-	6	3	2	-	7	0	1,392
Total internal person trip productions															696
Total internal person trip attractions															694
Difference															(2)
% difference															0%
Internal and linked person trips (Walk)	816	419	330	278	446	2,305	2	-	30	14	2	-	31	1	2,337
Overall total trip reduction	45%	20%	20%	12%	15%	21%	5%	0%	10%	10%	20%	0%	5%	10%	20%
TRIP SUBTRACTION CHECK															
Weekday Daily	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Weekday AM Peak Hour	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Weekday PM Peak Hour	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
PEAK HOUR CHECK															
Auto Person Trips SD1+SD3															
Daily External Trips	520	1,694	699	965	991	4,937	23	79	84	57	10	-	186	6	5,129
AM+PM External Trips	107	44	20	46	112	333	1	4	7	3	0	-	13	0	346
Avearge Peak Hour Factor	10%	1%	1%	2%	6%	3%	3%	3%	4%	3%	1%	0%	3%	4%	3%
Transit Person Trips SD1+SD3															
Daily External Trips	989	2,188	568	1,069	1,098	5,971	25	85	68	46	13	-	179	6	6,156
AM+PM External Trips	204	102	26	66	153	554	2	6	7	4	1	-	15	1	570
Avearge Peak Hour Factor	10%	2%	2%	3%	7%	5%	4%	3%	5%	4%	2%	0%	4%	5%	5%
Walk/Other Person Trips SD1+SD3															
Daily External Trips	1,054	3,048	1,874	2,213	2,272	10,632	14	186	225	153	18	-	424	13	11,069
AM+PM External Trips	217	181	72	240	604	1,329	3	23	26	13	1	-	52	2	1,383
Avearge Peak Hour Factor	10%	3%	2%	5%	13%	6%	11%	6%	6%	4%	3%	0%	6%	9%	6%

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Superdistrict 1															
Auto Person Trips	289	513	391	341	350	1,884	9	28	47	32	3	-	119	2	2,006
Transit Person Trips	550	851	332	463	476	2,672	8	38	40	27	5	-	118	3	2,792
Walk/Other Person trips	585	2,546	1,450	1,836	1,885	8,302	12	154	174	118	15	-	473	11	8,786
Total Person Trips	1,424	3,909	2,173	2,641	2,711	12,858	29	220	260	178	23	-	710	16	13,584
Vehicle Trips	261	270	243	152	156	1,081	9	12	29	20	2	-	71	1	1,154
Superdistrict 2															
Auto Person Trips	74	1,108	378	766	985	3,310	18	45	45	31	6		145	5	3,459
Transit Person Trips	140	1,613	472	871	1,120	4,216	21	49	57	39	9		175	5	4,396
Walk/Other Person trips	149	764	490	765	983	3,152	1	46	59	40	4		150	5	3,307
Total Person Trips	364	3,485	1,339	2,402	3,088	10,677	40	140	161	109	20	-	470	14	11,162
Vehicle Trips	67	668	235	380	489	1,839	16	22	28	19	4		89	2	1,930
Superdistrict 3															
Auto Person Trips	231	1,181	309	624	641	2,986	14	50	37	25	7	-	133	4	3,123
Transit Person Trips	440	1,337	236	606	622	3,240	17	48	28	19	8	-	120	4	3,364
Walk/Other Person trips	468	503	424	377	387	2,159	2	32	51	35	3	-	122	2	2,283
Total Person Trips	1,139	3,021	969	1,607	1,649	8,385	33	130	116	79	17	-	375	10	8,770
Vehicle Trips	209	675	158	273	280	1,594	11	21	19	13	4	-	68	2	1,663
Superdistrict 4															
Auto Person Trips	74	883	214	521	670	2,363	13	30	26	17	5		91	3	2,457
Transit Person Trips	140	902	225	418	538	2,224	14	23	27	18	5		87	3	2,313
Walk/Other Person trips	149	311	172	288	371	1,293	1	17	21	14	2		55	2	1,349
Total Person Trips	364	2,097	611	1,228	1,579	5,879	27	70	73	50	12	-	233	7	6,119
Vehicle Trips	67	514	141	274	353	1,349	9	15	17	12	3		56	2	1,407
East Bay															
Auto Person Trips	374	1,605	803	918	1,180	4,881	23	52	96	66	9		246	5	5,133
Transit Person Trips	461	1,564	544	538	692	3,799	29	27	65	44	9		175	3	3,977
Walk/Other Person trips	87	552	756	507	652	2,553	2	30	91	62	3		188	3	2,744
Total Person Trips	922	3,721	2,103	1,963	2,524	11,233	53	110	252	172	22	-	609	12	11,854
Vehicle Trips	338	573	334	371	477	2,093	9	21	40	27	3		101	2	2,197
North Bay															
Auto Person Trips	56	846	430	607	780	2,719	10	36	52	35	5		137	4	2,860
Transit Person Trips	28	321	175	98	126	748	6	5	21	14	2		48	1	797
Walk/Other Person trips	-	162	321	160	205	848	0	10	38	26	1		75	1	924
Total Person Trips	84	1,329	926	864	1,111	4,315	17	50	111	76	8	-	261	5	4,581
Vehicle Trips	50	462	193	319	410	1,434	7	19	23	16	3		67	2	1,504
South Bay															
Auto Person Trips	927	1,392	1,101	742	954	5,116	22	42	132	90	8		293	4	5,414
Transit Person Trips	1,100	788	242	323	415	2,868	13	17	29	20	5		84	2	2,954
Walk/Other Person trips	174	192	172	184	237	959	0	11	21	14	1		47	1	1,008
Total Person Trips	2,201	2,372	1,515	1,249	1,606	8,944	35	70	182	124	14	-	424	7	9,375
Vehicle Trips	837	865	416	325	417	2,860	18	17	50	34	5		124	2	2,986
Outside of Bay Area															
Auto Person Trips	-	1,265	2,549	1,246	1,602	6,662	49	75	306	208	7		646	7	7,316
Transit Person Trips	-	878	584	839	1,078	3,379	2	51	70	48	5		175	5	3,559
Walk/Other Person trips	-	1,328	3,753	1,382	1,777	8,240	0	84	450	307	8		848	8	9,096
Total Person Trips	-	3,471	6,887	3,467	4,457	18,281	51	210	825	563	20	-	1,669	21	19,971
Vehicle Trips	-	426	819	395	508	2,148	48	24	98	67	2		240	2	2,390
All Origins															
Auto Person Trips	2,025	8,794	6,175	5,765	7,162	29,922	158	358	740	505	51	-	1,811	34	31,767
Transit Person Trips	2,860	8,254	2,809	4,156	5,067	23,145	110	257	337	229	48	-	981	25	24,151
Walk/Other Person trips	1,613	6,358	7,538	5,499	6,497	27,505	18	385	903	616	37	-	1,959	33	29,497
Total Person Trips	6,498	23,406	16,522	15,421	18,726	80,572	286	1,000	1,980	1,350	135	-	4,751	92	85,416
Vehicle Trips	1,828	4,452	2,538	2,490	3,091	14,399	128	151	304	207	26	-	816	15	15,230
Total Internal Person Trips	3,982	1,232	1,836	1,713	3,305	12,068	15	-	220	150	7	-	392	10	12,470
Person-trip reduction	38%	5%	10%	10%	15%	13%	5%	0%	10%	10%	5%	0%	8%	10%	13%
Average Vehicle Occupancy	1.11	1.98	2.43	2.32	2.32	2.08	1.23	2.37	2.43	2.43	1.98	-	2.22	2.32	2.09

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday AM Peak Hour															
Superdistrict 1															
Auto Person Trips	71	30	5	3	65	175	1	-	1	1	0	-	2	0	177
Transit Person Trips	136	69	13	9	88	315	1	-	1	2	0	-	5	0	320
Walk/Other Person trips	145	123	18	12	350	648	1	-	2	2	1	-	6	1	656
Total Person Trips	352	223	36	24	503	1,138	3	-	4	4	1	-	13	2	1,154
Vehicle Trips	64	21	4	3	29	121	1	-	0	0	0	-	2	0	123
Superdistrict 2															
Auto Person Trips	11	99	19	11	146	287	2	-	1	2	1		5	1	293
Transit Person Trips	20	191	41	24	166	441	3	-	3	3	1		10	1	452
Walk/Other Person trips	21	24	2	1	146	194	0	-	0	0	0		0	1	195
Total Person Trips	52	314	62	36	457	921	4	-	5	5	2	-	16	2	939
Vehicle Trips	9	75	16	9	72	182	1	-	1	1	0		4	0	187
Superdistrict 3															
Auto Person Trips	57	100	19	13	119	308	2	-	2	2	1	-	7	0	315
Transit Person Trips	109	132	26	18	115	400	2	-	3	3	1	-	9	0	409
Walk/Other Person trips	116	22	3	2	72	214	0	-	0	0	0	-	1	0	215
Total Person Trips	281	253	48	33	306	921	4	-	5	6	1	-	17	1	939
Vehicle Trips	52	73	15	10	52	201	1	-	2	2	0	-	5	0	206
Superdistrict 4															
Auto Person Trips	11	96	20	12	99	238	1	-	2	2	1		5	0	243
Transit Person Trips	20	120	26	15	80	261	2	-	2	2	1		6	0	267
Walk/Other Person trips	21	14	2	1	55	93	0	-	0	0	0		0	0	94
Total Person Trips	52	230	48	28	234	592	3	-	4	4	1	-	12	1	605
Vehicle Trips	9	61	13	8	52	144	1	-	1	1	0		3	0	147
East Bay															
Auto Person Trips	53	180	38	22	175	468	3	-	3	3	1		10	1	478
Transit Person Trips	66	243	55	32	102	497	4	-	4	4	1		14	0	511
Walk/Other Person trips	12	26	3	2	97	140	0	-	0	0	0		1	0	142
Total Person Trips	131	449	96	56	374	1,106	6	-	7	8	3	-	24	2	1,131
Vehicle Trips	48	56	11	7	71	193	1	-	1	1	0		3	0	196
North Bay															
Auto Person Trips	8	72	14	8	116	217	1	-	1	1	0		4	0	221
Transit Person Trips	4	52	12	7	19	93	1	-	1	1	0		3	0	96
Walk/Other Person trips	-	6	0	0	30	37	0	-	0	0	0		0	0	37
Total Person Trips	12	130	26	15	165	348	2	-	2	2	1	-	7	1	355
Vehicle Trips	7	41	8	5	61	122	1	-	1	1	0		2	0	125
South Bay															
Auto Person Trips	132	166	35	21	141	496	2	-	3	3	1		9	1	505
Transit Person Trips	157	112	25	15	62	370	2	-	2	2	1		6	0	376
Walk/Other Person trips	25	8	1	0	35	69	0	-	0	0	0		0	0	69
Total Person Trips	313	286	61	36	238	934	4	-	5	5	2	-	15	1	951
Vehicle Trips	119	129	29	17	62	356	2	-	2	2	1		7	0	363
Outside of Bay Area															
Auto Person Trips	-	44	4	2	237	287	3	-	0	0	0		4	1	291
Transit Person Trips	-	35	4	2	160	201	0	-	0	0	0		1	1	203
Walk/Other Person trips	-	32	0	0	263	296	0	-	0	0	0		0	1	297
Total Person Trips	-	111	8	5	660	784	3	-	1	1	1	-	5	3	791
Vehicle Trips	-	19	2	1	75	98	3	-	0	0	0		3	0	102
All Origins															
Auto Person Trips	343	788	154	92	1,098	2,475	14	-	12	14	5	-	45	4	2,524
Transit Person Trips	511	953	201	121	792	2,578	14	-	17	18	6	-	54	3	2,635
Walk/Other Person trips	340	254	30	19	1,048	1,691	2	-	3	3	1	-	10	4	1,705
Total Person Trips	1,193	1,995	385	233	2,938	6,743	30	-	32	35	12	-	109	12	6,864
Vehicle Trips	309	476	98	59	474	1,417	11	-	8	9	3	-	30	2	1,449
Total Internal Person Trips	298	197	43	18	326	882	2	-	-	-	1	-	3	1	886
Person-trip reduction	20%	9%	10%	7%	10%	12%	5%	0%	0%	0%	9%	0%	2%	10%	11%
Average Vehicle Occupancy	1.11	1.65	1.57	1.56	2.32	1.75	1.35	-	1.54	1.54	1.65	-	1.49	2.32	1.74

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday PM Peak Hour															
Superdistrict 1															
Auto Person Trips	36	14	15	42	47	154	1	4	6	3	0	-	14	0	169
Transit Person Trips	68	33	12	58	64	235	1	6	5	2	0	-	15	0	250
Walk/Other Person trips	72	58	54	228	254	667	1	23	23	11	0	-	59	1	727
Total Person Trips	176	105	81	328	366	1,056	3	33	35	16	1	-	88	1	1,145
Vehicle Trips	32	10	9	19	21	91	1	2	4	2	0	-	8	0	99
Superdistrict 2															
Auto Person Trips	13	95	34	103	133	378	2	7	6	3	1		18	0	396
Transit Person Trips	24	182	42	118	151	518	3	7	8	3	1		22	0	540
Walk/Other Person trips	26	23	44	103	133	329	0	7	8	4	0		19	0	348
Total Person Trips	63	300	121	324	417	1,225	4	21	22	10	2	-	59	1	1,285
Vehicle Trips	12	72	21	51	66	222	1	3	4	2	0		11	0	233
Superdistrict 3															
Auto Person Trips	29	47	12	77	86	251	2	8	5	2	0	-	17	0	268
Transit Person Trips	54	62	9	75	84	284	2	7	4	2	0	-	15	0	300
Walk/Other Person trips	58	10	16	47	52	183	0	5	7	3	0	-	15	0	198
Total Person Trips	141	119	36	199	223	718	4	20	16	7	1	-	47	1	766
Vehicle Trips	26	34	6	34	38	137	1	3	3	1	0	-	8	0	146
Superdistrict 4															
Auto Person Trips	13	92	19	70	90	285	1	4	3	2	1		11	0	296
Transit Person Trips	24	114	20	56	73	288	2	3	4	2	1		11	0	299
Walk/Other Person trips	26	14	16	39	50	144	0	3	3	1	0		7	0	151
Total Person Trips	63	220	55	166	213	716	3	11	10	4	1	-	29	1	747
Vehicle Trips	12	59	13	37	48	168	1	2	2	1	0		7	0	175
East Bay															
Auto Person Trips	65	172	72	124	159	592	3	8	13	6	1		30	0	623
Transit Person Trips	80	232	49	73	93	526	4	4	9	4	1		22	0	548
Walk/Other Person trips	15	25	68	68	88	264	0	5	12	6	0		23	0	287
Total Person Trips	160	429	189	265	341	1,383	6	17	34	15	2	-	75	1	1,459
Vehicle Trips	58	54	30	50	64	257	1	3	5	2	0		12	0	269
North Bay															
Auto Person Trips	10	69	39	82	105	304	1	5	7	3	0		17	0	321
Transit Person Trips	5	50	16	13	17	101	1	1	3	1	0		6	0	107
Walk/Other Person trips	-	5	29	22	28	84	0	1	5	2	0		9	0	93
Total Person Trips	15	124	83	117	150	488	2	8	15	7	1	-	32	0	521
Vehicle Trips	9	40	17	43	55	164	1	3	3	1	0		8	0	173
South Bay															
Auto Person Trips	160	159	99	100	129	647	2	6	18	8	1		36	0	683
Transit Person Trips	190	107	22	44	56	419	2	3	4	2	1		11	0	430
Walk/Other Person trips	30	7	15	25	32	110	0	2	3	1	0		6	0	116
Total Person Trips	381	273	136	169	217	1,176	4	11	25	11	2	-	52	1	1,229
Vehicle Trips	145	123	37	44	56	406	2	3	7	3	1		15	0	421
Outside of Bay Area															
Auto Person Trips	-	42	229	168	216	656	3	11	41	19	0		74	1	731
Transit Person Trips	-	34	53	113	146	345	0	8	9	4	0		22	0	367
Walk/Other Person trips	-	31	338	187	240	795	0	13	61	28	0		101	1	897
Total Person Trips	-	106	620	468	602	1,796	3	32	111	51	1	-	197	2	1,995
Vehicle Trips	-	18	74	53	69	214	3	4	13	6	0		26	0	240
All Origins															
Auto Person Trips	325	689	519	768	967	3,268	14	54	100	45	4	-	217	3	3,488
Transit Person Trips	446	813	223	549	684	2,715	14	39	45	21	5	-	123	2	2,841
Walk/Other Person trips	227	173	580	718	877	2,575	2	58	122	55	1	-	238	3	2,816
Total Person Trips	997	1,675	1,322	2,036	2,528	8,558	30	150	267	122	10	-	579	8	9,145
Vehicle Trips	293	409	207	331	417	1,659	11	23	41	19	2	-	95	1	1,755
Total Internal Person Trips	816	419	330	278	446	2,289	2	-	30	14	2	-	47	1	2,337
Person-trip reduction	45%	20%	20%	12%	15%	21%	5%	0%	10%	10%	20%	0%	8%	10%	20%
Average Vehicle Occupancy	1.11	1.68	2.50	2.32	2.32	1.97	1.35	2.37	2.43	2.43	1.68	-	2.28	2.32	1.99

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

MODAL SPLIT SUMMARY FOR INTERNAL AND EXTERNAL TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Internal + External Before Adjustment															
Auto Person Trips	27%	37%	36%	36%	36%	35%	54%	36%	36%	36%	37%	0%	37%	36%	35%
Transit Person Trips	42%	35%	17%	27%	27%	29%	39%	26%	17%	17%	35%	0%	21%	27%	28%
Walk/Other Person trips	31%	28%	47%	37%	37%	36%	7%	38%	47%	47%	28%	0%	42%	37%	36%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Internal + External After Adjustment															
Auto Person Trips	19%	36%	34%	34%	33%	32%	52%	36%	34%	34%	36%	0%	35%	34%	32%
Transit Person Trips	27%	34%	15%	24%	23%	25%	37%	26%	15%	15%	34%	0%	19%	24%	25%
Walk/Other Person trips	53%	31%	51%	42%	44%	43%	11%	38%	51%	51%	31%	0%	46%	42%	43%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
External Only Trips															
Auto Person Trips	31%	38%	37%	37%	38%	37%	55%	36%	37%	37%	38%	0%	38%	37%	37%
Transit Person Trips	44%	35%	17%	27%	27%	29%	39%	26%	17%	17%	35%	0%	21%	27%	28%
Walk/Other Person trips	25%	27%	46%	36%	35%	34%	6%	38%	46%	46%	27%	0%	41%	36%	35%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Weekday AM Peak Hour															
Internal + External Before Adjustment															
Auto Person Trips	27%	38%	39%	39%	36%	35%	47%	0%	39%	39%	38%	0%	41%	36%	35%
Transit Person Trips	42%	47%	52%	52%	27%	38%	45%	0%	52%	52%	47%	0%	49%	27%	38%
Walk/Other Person trips	31%	14%	9%	9%	37%	27%	8%	0%	9%	9%	14%	0%	10%	37%	27%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	0%	100%	100%	100%
Internal + External After Adjustment															
Auto Person Trips	23%	36%	36%	37%	34%	32%	45%	0%	39%	39%	36%	0%	40%	34%	33%
Transit Person Trips	34%	43%	47%	48%	24%	34%	43%	0%	52%	52%	43%	0%	48%	24%	34%
Walk/Other Person trips	43%	21%	17%	15%	42%	34%	12%	0%	9%	9%	21%	0%	11%	42%	33%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	0%	100%	100%	100%
External Only Trips															
Auto Person Trips	29%	39%	40%	40%	37%	37%	47%	0%	39%	39%	39%	0%	41%	37%	37%
Transit Person Trips	43%	48%	52%	52%	27%	38%	45%	0%	52%	52%	48%	0%	49%	27%	38%
Walk/Other Person trips	28%	13%	8%	8%	36%	25%	7%	0%	9%	9%	13%	0%	9%	36%	25%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	0%	100%	100%	100%
Weekday PM Peak Hour															
Internal + External Before Adjustment															
Auto Person Trips	27%	38%	36%	36%	36%	35%	47%	36%	36%	36%	38%	0%	36%	36%	35%
Transit Person Trips	42%	47%	17%	27%	27%	32%	45%	26%	17%	17%	47%	0%	21%	27%	31%
Walk/Other Person trips	31%	14%	47%	37%	37%	33%	8%	38%	47%	47%	14%	0%	42%	37%	34%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Internal + External After Adjustment															
Auto Person Trips	18%	33%	31%	33%	33%	30%	45%	36%	34%	34%	33%	0%	35%	34%	30%
Transit Person Trips	25%	39%	13%	24%	23%	25%	43%	26%	15%	15%	39%	0%	20%	24%	25%
Walk/Other Person trips	58%	28%	55%	43%	44%	45%	12%	38%	51%	51%	28%	0%	46%	42%	45%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
External Only Trips															
Auto Person Trips	33%	41%	39%	38%	38%	38%	47%	36%	37%	37%	41%	0%	38%	37%	38%
Transit Person Trips	45%	49%	17%	27%	27%	32%	45%	26%	17%	17%	49%	0%	21%	27%	31%
Walk/Other Person trips	23%	10%	44%	35%	35%	30%	7%	38%	46%	46%	10%	0%	41%	36%	31%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

	SEAWALL LOT 337						PIER 48								
EXTERNAL ONLY TRIPS	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48	China Basin Park Open Space	TOTAL DEVELOPMENT
Weekday AM Peak Hour															
Auto Person Trips: All origins	343	788	154	92	1,098	2,475	14	-	12	14	5	-	45	4	2,524
Inbound	114	721	154	92	571	1,652	11	-	12	14	4	-	41	2	1,696
Outbound	228	67	-	-	527	823	3	-	-	-	0	-	4	2	828
Transit Person Trips: All origins	511	953	201	121	792	2,578	14	-	17	18	6	-	54	3	2,635
Inbound	170	872	201	121	412	1,776	10	-	17	18	5	-	50	2	1,828
Outbound	340	81	-	-	380	801	3	-	-	-	0	-	4	2	807
Walk/Other Person Trips: All origins	340	254	30	19	1,048	1,691	2	-	3	3	1	-	10	4	1,705
Inbound	113	233	30	19	545	940	2	-	3	3	1	-	9	2	951
Outbound	227	22	-	-	503	751	1	-	-	-	0	-	1	2	754
Total Person Trips: All origins	1,193	1,995	385	233	2,938	6,743	30	-	32	35	12	-	109	12	6,864
Inbound	398	1,826	385	233	1,528	4,368	23	-	32	35	11	-	101	6	4,475
Outbound	795	170	-	-	1,410	2,375	7	-	-	-	1	-	8	6	2,389
Total Vehicle Trips: All origins	309	476	98	59	474	1,417	11	-	8	9	3	-	30	2	1,449
Inbound	103	450	98	59	253	963	7	-	8	9	3	-	27	1	991
Outbound	206	26	-	-	222	454	3	-	-	-	0	-	3	1	458
Weekday PM Peak Hour															
Auto Person Trips: All origins	325	689	519	768	967	3,268	14	54	100	45	4	-	217	3	3,488
Inbound	216	59	249	369	464	1,357	3	27	48	22	0	-	100	1	1,459
Outbound	108	631	270	399	503	1,911	11	27	52	24	4	-	117	2	2,029
Transit Person Trips: All origins	446	813	223	549	684	2,715	14	39	45	21	5	-	123	2	2,841
Inbound	297	69	107	264	328	1,065	3	19	22	10	0	-	55	1	1,121
Outbound	149	744	116	286	356	1,650	10	19	24	11	4	-	68	1	1,720
Walk/Other Person Trips: All origins	227	173	580	718	877	2,575	2	58	122	55	1	-	238	3	2,816
Inbound	151	15	278	345	421	1,210	1	29	59	27	0	-	115	1	1,326
Outbound	76	158	302	374	456	1,365	2	29	63	29	1	-	124	2	1,490
Total Person Trips: All origins	997	1,675	1,322	2,036	2,528	8,558	30	150	267	122	10	-	579	8	9,145
Inbound	665	142	634	977	1,213	3,632	7	75	128	58	1	-	270	4	3,906
Outbound	332	1,533	687	1,058	1,315	4,926	23	75	139	63	9	-	309	4	5,239
Total Vehicle Trips: All origins	293	409	207	331	417	1,659	11	23	41	19	2	-	95	1	1,755
Inbound	195	22	97	155	195	665	3	11	19	9	0	-	43	1	708
Outbound	98	387	111	176	222	994	7	11	22	10	2	-	53	1	1,047

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Auto Person Trips															
Superdistrict 1	289	513	391	341	350	1,884	9	28	47	32	3	-	119	2	2,006
Superdistrict 2	74	1,108	378	766	985	3,310	18	45	45	31	6	-	145	5	3,459
Superdistrict 3	231	1,181	309	624	641	2,986	14	50	37	25	7	-	133	4	3,123
Superdistrict 4	74	883	214	521	670	2,363	13	30	26	17	5	-	91	3	2,457
East Bay	374	1,605	803	918	1,180	4,881	23	52	96	66	9	-	246	5	5,133
North Bay	56	846	430	607	780	2,719	10	36	52	35	5	-	137	4	2,860
South Bay	927	1,392	1,101	742	954	5,116	22	42	132	90	8	-	293	4	5,414
Outside of Bay Area	-	1,265	2,549	1,246	1,602	6,662	49	75	306	208	7	-	646	7	7,316
All Origins	2,025	8,794	6,175	5,765	7,162	29,922	158	358	740	505	51	-	1,811	34	31,767
Transit Person Trips															
Superdistrict 1	550	851	332	463	476	2,672	8	38	40	27	5	-	118	3	2,792
Superdistrict 2	140	1,613	472	871	1,120	4,216	21	49	57	39	9	-	175	5	4,396
Superdistrict 3	440	1,337	236	606	622	3,240	17	48	28	19	8	-	120	4	3,364
Superdistrict 4	140	902	225	418	538	2,224	14	23	27	18	5	-	87	3	2,313
East Bay	461	1,564	544	538	692	3,799	29	27	65	44	9	-	175	3	3,977
North Bay	28	321	175	98	126	748	6	5	21	14	2	-	48	1	797
South Bay	1,100	788	242	323	415	2,868	13	17	29	20	5	-	84	2	2,954
Outside of Bay Area	-	878	584	839	1,078	3,379	2	51	70	48	5	-	175	5	3,559
All Origins	2,860	8,254	2,809	4,156	5,067	23,145	110	257	337	229	48	-	981	25	24,151
Walk/Other Person trips															
Superdistrict 1	585	2,546	1,450	1,836	1,885	8,302	12	154	174	118	15	-	473	11	8,786
Superdistrict 2	149	764	490	765	983	3,152	1	46	59	40	4	-	150	5	3,307
Superdistrict 3	468	503	424	377	387	2,159	2	32	51	35	3	-	122	2	2,283
Superdistrict 4	149	311	172	288	371	1,293	1	17	21	14	2	-	55	2	1,349
East Bay	87	552	756	507	652	2,553	2	30	91	62	3	-	188	3	2,744
North Bay	-	162	321	160	205	848	0	10	38	26	1	-	75	1	924
South Bay	174	192	172	184	237	959	0	11	21	14	1	-	47	1	1,008
Outside of Bay Area	-	1,328	3,753	1,382	1,777	8,240	0	84	450	307	8	-	848	8	9,096
All Origins	1,613	6,358	7,538	5,499	6,497	27,505	18	385	903	616	37	-	1,959	33	29,497
Total Person trips															
Superdistrict 1	1,424	3,909	2,173	2,641	2,711	12,858	29	220	260	178	23	-	710	16	13,584
Superdistrict 2	364	3,485	1,339	2,402	3,088	10,677	40	140	161	109	20	-	470	14	11,162
Superdistrict 3	1,139	3,021	969	1,607	1,649	8,385	33	130	116	79	17	-	375	10	8,770
Superdistrict 4	364	2,097	611	1,228	1,579	5,879	27	70	73	50	12	-	233	7	6,119
East Bay	922	3,721	2,103	1,963	2,524	11,233	53	110	252	172	22	-	609	12	11,854
North Bay	84	1,329	926	864	1,111	4,315	17	50	111	76	8	-	261	5	4,581
South Bay	2,201	2,372	1,515	1,249	1,606	8,944	35	70	182	124	14	-	424	7	9,375
Outside of Bay Area	-	3,471	6,887	3,467	4,457	18,281	51	210	825	563	20	-	1,669	21	19,971
All Origins	6,498	23,406	16,522	15,421	18,726	80,572	286	1,000	1,980	1,350	135	-	4,751	92	85,416
Vehicle trips															
Superdistrict 1	261	270	243	152	156	1,081	9	12	29	20	2	-	71	1	1,154
Superdistrict 2	67	668	235	380	489	1,839	16	22	28	19	4	-	89	2	1,930
Superdistrict 3	209	675	158	273	280	1,594	11	21	19	13	4	-	68	2	1,663
Superdistrict 4	67	514	141	274	353	1,349	9	15	17	12	3	-	56	2	1,407
East Bay	338	573	334	371	477	2,093	9	21	40	27	3	-	101	2	2,197
North Bay	50	462	193	319	410	1,434	7	19	23	16	3	-	67	2	1,504
South Bay	837	865	416	325	417	2,860	18	17	50	34	5	-	124	2	2,986
Outside of Bay Area	-	426	819	395	508	2,148	48	24	98	67	2	-	240	2	2,390
All Origins	1,828	4,452	2,538	2,490	3,091	14,399	128	151	304	207	26	-	816	15	15,230

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday AM Peak Hour															
Auto Person Trips															
Superdistrict 1	71	30	5	3	65	175	1	-	1	1	0	-	2	0	177
Superdistrict 2	11	99	19	11	146	287	2	-	1	2	1	-	5	1	293
Superdistrict 3	57	100	19	13	119	308	2	-	2	2	1	-	7	0	315
Superdistrict 4	11	96	20	12	99	238	1	-	2	2	1	-	5	0	243
East Bay	53	180	38	22	175	468	3	-	3	3	1	-	10	1	478
North Bay	8	72	14	8	116	217	1	-	1	1	0	-	4	0	221
South Bay	132	166	35	21	141	496	2	-	3	3	1	-	9	1	505
Outside of Bay Area	-	44	4	2	237	287	3	-	0	0	0	-	4	1	291
All Origins	343	788	154	92	1,098	2,475	14	-	12	14	5	-	45	4	2,524
Transit Person Trips															
Superdistrict 1	136	69	13	9	88	315	1	-	1	2	0	-	5	0	320
Superdistrict 2	20	191	41	24	166	441	3	-	3	3	1	-	10	1	452
Superdistrict 3	109	132	26	18	115	400	2	-	3	3	1	-	9	0	409
Superdistrict 4	20	120	26	15	80	261	2	-	2	2	1	-	6	0	267
East Bay	66	243	55	32	102	497	4	-	4	4	1	-	14	0	511
North Bay	4	52	12	7	19	93	1	-	1	1	0	-	3	0	96
South Bay	157	112	25	15	62	370	2	-	2	2	1	-	6	0	376
Outside of Bay Area	-	35	4	2	160	201	0	-	0	0	0	-	1	1	203
All Origins	511	953	201	121	792	2,578	14	-	17	18	6	-	54	3	2,635
Walk/Other Person trips															
Superdistrict 1	145	123	18	12	350	648	1	-	2	2	1	-	6	1	656
Superdistrict 2	21	24	2	1	146	194	0	-	0	0	0	-	0	1	195
Superdistrict 3	116	22	3	2	72	214	0	-	0	0	0	-	1	0	215
Superdistrict 4	21	14	2	1	55	93	0	-	0	0	0	-	0	0	94
East Bay	12	26	3	2	97	140	0	-	0	0	0	-	1	0	142
North Bay	-	6	0	0	30	37	0	-	0	0	0	-	0	0	37
South Bay	25	8	1	0	35	69	0	-	0	0	0	-	0	0	69
Outside of Bay Area	-	32	0	0	263	296	0	-	0	0	0	-	0	1	297
All Origins	340	254	30	19	1,048	1,691	2	-	3	3	1	-	10	4	1,705
Total Person trips															
Superdistrict 1	352	223	36	24	503	1,138	3	-	4	4	1	-	13	2	1,154
Superdistrict 2	52	314	62	36	457	921	4	-	5	5	2	-	16	2	939
Superdistrict 3	281	253	48	33	306	921	4	-	5	6	1	-	17	1	939
Superdistrict 4	52	230	48	28	234	592	3	-	4	4	1	-	12	1	605
East Bay	131	449	96	56	374	1,106	6	-	7	8	3	-	24	2	1,131
North Bay	12	130	26	15	165	348	2	-	2	2	1	-	7	1	355
South Bay	313	286	61	36	238	934	4	-	5	5	2	-	15	1	951
Outside of Bay Area	-	111	8	5	660	784	3	-	1	1	1	-	5	3	791
All Origins	1,193	1,995	385	233	2,938	6,743	30	-	32	35	12	-	109	12	6,864
Vehicle trips															
Superdistrict 1	64	21	4	3	29	121	1	-	0	0	0	-	2	0	123
Superdistrict 2	9	75	16	9	72	182	1	-	1	1	0	-	4	0	187
Superdistrict 3	52	73	15	10	52	201	1	-	2	2	0	-	5	0	206
Superdistrict 4	9	61	13	8	52	144	1	-	1	1	0	-	3	0	147
East Bay	48	56	11	7	71	193	1	-	1	1	0	-	3	0	196
North Bay	7	41	8	5	61	122	1	-	1	1	0	-	2	0	125
South Bay	119	129	29	17	62	356	2	-	2	2	1	-	7	0	363
Outside of Bay Area	-	19	2	1	75	98	3	-	0	0	0	-	3	0	102
All Origins	309	476	98	59	474	1,417	11	-	8	9	3	-	30	2	1,449

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday PM Peak Hour															
Auto Person Trips															
Superdistrict 1	36	14	15	42	47	154	1	4	6	3	0	-	14	0	169
Superdistrict 2	13	95	34	103	133	378	2	7	6	3	1	-	18	0	396
Superdistrict 3	29	47	12	77	86	251	2	8	5	2	0	-	17	0	268
Superdistrict 4	13	92	19	70	90	285	1	4	3	2	1	-	11	0	296
East Bay	65	172	72	124	159	592	3	8	13	6	1	-	30	0	623
North Bay	10	69	39	82	105	304	1	5	7	3	0	-	17	0	321
South Bay	160	159	99	100	129	647	2	6	18	8	1	-	36	0	683
Outside of Bay Area	-	42	229	168	216	656	3	11	41	19	0	-	74	1	731
All Origins	325	689	519	768	967	3,268	14	54	100	45	4	-	217	3	3,488
Transit Person Trips															
Superdistrict 1	68	33	12	58	64	235	1	6	5	2	0	-	15	0	250
Superdistrict 2	24	182	42	118	151	518	3	7	8	3	1	-	22	0	540
Superdistrict 3	54	62	9	75	84	284	2	7	4	2	0	-	15	0	300
Superdistrict 4	24	114	20	56	73	288	2	3	4	2	1	-	11	0	299
East Bay	80	232	49	73	93	526	4	4	9	4	1	-	22	0	548
North Bay	5	50	16	13	17	101	1	1	3	1	0	-	6	0	107
South Bay	190	107	22	44	56	419	2	3	4	2	1	-	11	0	430
Outside of Bay Area	-	34	53	113	146	345	0	8	9	4	0	-	22	0	367
All Origins	446	813	223	549	684	2,715	14	39	45	21	5	-	123	2	2,841
Walk/Other Person trips															
Superdistrict 1	72	58	54	228	254	667	1	23	23	11	0	-	59	1	727
Superdistrict 2	26	23	44	103	133	329	0	7	8	4	0	-	19	0	348
Superdistrict 3	58	10	16	47	52	183	0	5	7	3	0	-	15	0	198
Superdistrict 4	26	14	16	39	50	144	0	3	3	1	0	-	7	0	151
East Bay	15	25	68	68	88	264	0	5	12	6	0	-	23	0	287
North Bay	-	5	29	22	28	84	0	1	5	2	0	-	9	0	93
South Bay	30	7	15	25	32	110	0	2	3	1	0	-	6	0	116
Outside of Bay Area	-	31	338	187	240	795	0	13	61	28	0	-	101	1	897
All Origins	227	173	580	718	877	2,575	2	58	122	55	1	-	238	3	2,816
Total Person trips															
Superdistrict 1	176	105	81	328	366	1,056	3	33	35	16	1	-	88	1	1,145
Superdistrict 2	63	300	121	324	417	1,225	4	21	22	10	2	-	59	1	1,285
Superdistrict 3	141	119	36	199	223	718	4	20	16	7	1	-	47	1	766
Superdistrict 4	63	220	55	166	213	716	3	11	10	4	1	-	29	1	747
East Bay	160	429	189	265	341	1,383	6	17	34	15	2	-	75	1	1,459
North Bay	15	124	83	117	150	488	2	8	15	7	1	-	32	0	521
South Bay	381	273	136	169	217	1,176	4	11	25	11	2	-	52	1	1,229
Outside of Bay Area	-	106	620	468	602	1,796	3	32	111	51	1	-	197	2	1,995
All Origins	997	1,675	1,322	2,036	2,528	8,558	30	150	267	122	10	-	579	8	9,145
Vehicle trips															
Superdistrict 1	32	10	9	19	21	91	1	2	4	2	0	-	8	0	99
Superdistrict 2	12	72	21	51	66	222	1	3	4	2	0	-	11	0	233
Superdistrict 3	26	34	6	34	38	137	1	3	3	1	0	-	8	0	146
Superdistrict 4	12	59	13	37	48	168	1	2	2	1	0	-	7	0	175
East Bay	58	54	30	50	64	257	1	3	5	2	0	-	12	0	269
North Bay	9	40	17	43	55	164	1	3	3	1	0	-	8	0	173
South Bay	145	123	37	44	56	406	2	3	7	3	1	-	15	0	421
Outside of Bay Area	-	18	74	53	69	214	3	4	13	6	0	-	26	0	240
All Origins	293	409	207	331	417	1,659	11	23	41	19	2	-	95	1	1,755

INDIVIDUAL LAND USE TRIP GENERATION CALCULATIONS

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)

LAND USE: RESIDENTIAL (WORK TRIPS)

Proposed Size:	1,048 units					
DAILY				AM PEAK HOUR		PM PEAK HOUR
Person-trip Generation Rate [1]:	10.0 trips/unit	Person-trip Gen Rate:	14.2% [5]	1.4	17.3% [1]	1.7
Total Person-trips:	10,480 person-trips	Total Person-trips:		1,491		1,813
Work Trips [2]: 33%	3,458 person-trips	Work Person-trips:	50% [6]	746	50% [2]	907

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [4]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 34.7%	Auto	20.3%	1.11	244	220	53	47	64	58
	Transit	38.6%		463		100		121	
	Walk	34.7%		416		90		109	
	Other	6.4%		77		17		20	
	All Modes	100.0%		1,200	220	259	47	315	58
SF Superdistrict 2 3.5%	Auto	20.3%	1.11	24	22	5	5	6	6
	Transit	38.6%		46		10		12	
	Walk	34.7%		42		9		11	
	Other	6.4%		8		2		2	
	All Modes	100.0%		120	22	26	5	31	6
SF Superdistrict 3 27.8%	Auto	20.3%	1.11	195	176	42	38	51	46
	Transit	38.6%		371		80		97	
	Walk	34.7%		333		72		87	
	Other	6.4%		61		13		16	
	All Modes	100.0%		960	176	207	38	252	46
SF Superdistrict 4 3.5%	Auto	20.3%	1.11	24	22	5	5	6	6
	Transit	38.6%		46		10		12	
	Walk	34.7%		42		9		11	
	Other	6.4%		8		2		2	
	All Modes	100.0%		120	22	26	5	31	6
East Bay 8.8%	Auto	40.6%	1.11	124	112	27	24	32	29
	Transit	50.0%		152		33		40	
	Walk	0.0%		0		0		0	
	Other	9.4%		29		6		7	
	All Modes	100.0%		304	112	66	24	80	29
North Bay 0.8%	Auto	66.7%	1.11	18	17	4	4	5	4
	Transit	33.3%		9		2		2	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		28	17	6	4	7	4
South Bay 21.0%	Auto	42.1%	1.11	306	276	66	60	80	72
	Transit	50.0%		363		78		95	
	Walk	0.0%		0		0		0	
	Other	7.9%		57		12		15	
	All Modes	100.0%		726	276	157	60	190	72
Outside of Bay Area 0.0%	Auto	0.0%	1.11	0	0	0	0	0	0
	Transit	0.0%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	0.0%		0	0	0	0	0	0
All Origins 100.0%	**Auto**	**27.0%**	**1.11**	**935**	**844**	**202**	**182**	**245**	**221**
	Transit	**42.0%**		**1,451**		**313**		**380**	
	Walk	**24.1%**		**833**		**180**		**218**	
	Other	**6.9%**		**240**		**52**		**63**	
	All Modes	**100.0%**		**3,458**	**844**	**746**	**182**	**907**	**221**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Residential)
[2] SF Guidelines, Appendix C - Table C-2 (Residential)
[3] 2008 San Francisco Planning Department Travel Behavior Survey for South Beach/South Park/Rincon Hill Area
[4] 2008-2012 American Community Survey 5-Year Estimate (Tract 607)
[5] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[6] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)

LAND USE: RESIDENTIAL (NON-WORK TRIPS)

Proposed Size:	1,048 units					
DAILY				AM PEAK HOUR		PM PEAK HOUR
Person-trip Generation Rate [1]:	10.0 trips/unit	Person-trip Gen Rate:	14.2% [5]	1.4	17.3% [1]	1.7
Total Person-trips:	10,480 person-trips	Total Person-trips:		1,491		1,813
Non-Work Trips [2]: 67%	7,022 person-trips	Non-Work Person-trips:	50% [6]	746	50% [2]	907

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [4]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 34.7%	Auto	20.3%	1.11	495	447	53	47	64	58
	Transit	38.6%		940		100		121	
	Walk	34.7%		845		90		109	
	Other	6.4%		156		17		20	
	All Modes	100.0%		2,436	447	259	47	315	58
SF Superdistrict 2 3.5%	Auto	20.3%	1.11	49	45	5	5	6	6
	Transit	38.6%		94		10		12	
	Walk	34.7%		85		9		11	
	Other	6.4%		16		2		2	
	All Modes	100.0%		244	45	26	5	31	6
SF Superdistrict 3 27.8%	Auto	20.3%	1.11	396	357	42	38	51	46
	Transit	38.6%		752		80		97	
	Walk	34.7%		676		72		87	
	Other	6.4%		125		13		16	
	All Modes	100.0%		1,949	357	207	38	252	46
SF Superdistrict 4 3.5%	Auto	20.3%	1.11	49	45	5	5	6	6
	Transit	38.6%		94		10		12	
	Walk	34.7%		85		9		11	
	Other	6.4%		16		2		2	
	All Modes	100.0%		244	45	26	5	31	6
East Bay 8.8%	Auto	40.6%	1.11	251	227	27	24	32	29
	Transit	50.0%		309		33		40	
	Walk	0.0%		0		0		0	
	Other	9.4%		58		6		7	
	All Modes	100.0%		618	227	66	24	80	29
North Bay 0.8%	Auto	66.7%	1.11	37	34	4	4	5	4
	Transit	33.3%		19		2		2	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		56	34	6	4	7	4
South Bay 21.0%	Auto	42.1%	1.11	621	560	66	60	80	72
	Transit	50.0%		737		78		95	
	Walk	0.0%		0		0		0	
	Other	7.9%		116		12		15	
	All Modes	100.0%		1,475	560	157	60	190	72
Outside of Bay Area 0.0%	Auto	0.0%	1.11	0	0	0	0	0	0
	Transit	0.0%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	0.0%		0	0	0	0	0	0
All Origins 100.0%	**Auto**	**27.0%**	**1.11**	**1,898**	**1,714**	**202**	**182**	**245**	**221**
	Transit	**42.0%**		**2,946**		**313**		**380**	
	Walk	**24.1%**		**1,691**		**180**		**218**	
	Other	**6.9%**		**486**		**52**		**63**	
	All Modes	**100.0%**		**7,022**	**1,714**	**746**	**182**	**907**	**221**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Residential)
[2] SF Guidelines, Appendix C - Table C-2 (Residential)
[3] 2008 San Francisco Planning Department Travel Behavior Survey for South Beach/South Park/Rincon Hill Area
[4] 2008-2012 American Community Survey 5-Year Estimate (Tract 607)
[5] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[6] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)
LAND USE: GENERAL OFFICE (WORK TRIPS)

Proposed Size:		**1,361,181 sq.ft.**						
DAILY					**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		18.1	trips/1,000 gsf	Person-trip Gen Rate:	8.9% [4]	1.6	8.5% [1]	1.5
Total Person-trips:		24,637	person-trips	Total Person-trips:		2,193		2,094
Work Trips [2]:	36%	8,869	person-trips	Work Person-trips:	83% [5]	1,820	83% [2]	1,738

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	157	122	32	25	31	24
SF Superdistrict 1	Transit	36.0%		409		84		80	
12.8%	Walk	47.5%		539		111		106	
	Other	2.7%		31		6		6	
	All Modes	100.0%		1,135	122	233	25	222	24
	Auto	31.6%	1.23	404	328	83	67	79	64
SF Superdistrict 2	Transit	65.8%		840		172		165	
14.4%	Walk	1.3%		17		3		3	
	Other	1.3%		17		3		3	
	All Modes	100.0%		1,277	328	262	67	250	64
	Auto	39.5%	1.29	596	462	122	95	117	90
SF Superdistrict 3	Transit	54.4%		820		168		161	
17.0%	Walk	3.8%		57		12		11	
	Other	2.3%		35		7		7	
	All Modes	100.0%		1,508	462	309	95	295	90
	Auto	41.7%	1.53	414	271	85	56	81	53
SF Superdistrict 4	Transit	54.5%		541		111		106	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		38		8		7	
	All Modes	100.0%		993	271	204	56	195	53
	Auto	39.4%	3.33	783	235	161	48	153	46
East Bay	Transit	57.0%		1,132		232		222	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		72		15		14	
	All Modes	100.0%		1,987	235	408	48	389	46
	Auto	52.8%	1.70	286	168	59	34	56	33
North Bay	Transit	45.3%		245		50		48	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		10		2		2	
	All Modes	100.0%		541	168	111	34	106	33
	Auto	58.0%	1.23	736	598	151	123	144	117
South Bay	Transit	40.7%		516		106		101	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		16		3		3	
	All Modes	100.0%		1,268	598	260	123	249	117
	Auto	47.8%	1.50	76	51	16	10	15	10
Outside of Bay Area	Transit	50.0%		80		16		16	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		4		1		1	
	All Modes	100.0%		160	51	33	10	31	10
	Auto	**38.9%**	**1.54**	**3,450**	**2,235**	**708**	**459**	**676**	**438**
All Origins	**Transit**	**51.7%**		**4,584**		**941**		**898**	
100.0%	**Walk**	**6.9%**		**613**		**126**		**120**	
	Other	**2.5%**		**221**		**45**		**43**	
	All Modes	**100.0%**		**8,869**	**2,235**	**1,820**	**459**	**1,738**	**438**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Office)
[2] SF Guidelines, Appendix C - Table C-2 (General Office)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)
LAND USE: GENERAL OFFICE (NON-WORK TRIPS)

Proposed Size:		**1,361,181 sq.ft.**						
DAILY					**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		18.1	trips/1,000 gsf	Person-trip Gen Rate:	8.9% [4]	1.6	8.5% [1]	1.5
Total Person-trips:		24,637	person-trips	Total Person-trips:		2,193		2,094
Non-Work Trips [2]:	64%	15,768	person-trips	Non-Work Person-trips:	17% [5]	373	17% [2]	356

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	12.9%	2.29	447	195	11	5	10	4
SF Superdistrict 1	Transit	17.1%		593		14		13	
22.0%	Walk	65.3%		2,265		54		51	
	Other	4.7%		163		4		4	
	All Modes	100.0%		3,469	195	82	5	78	4
	Auto	31.9%	2.07	704	340	17	8	16	8
SF Superdistrict 2	Transit	35.0%		773		18		17	
14.0%	Walk	26.7%		589		14		13	
	Other	6.4%		141		3		3	
	All Modes	100.0%		2,208	340	52	8	50	8
	Auto	38.8%	2.39	795	333	19	8	18	8
SF Superdistrict 3	Transit	36.8%		754		18		17	
13.0%	Walk	17.4%		357		8		8	
	Other	7.0%		143		3		3	
	All Modes	100.0%		2,050	333	48	8	46	8
	Auto	42.5%	1.93	469	243	11	6	11	5
SF Superdistrict 4	Transit	32.7%		361		9		8	
7.0%	Walk	17.7%		195		5		4	
	Other	7.1%		78		2		2	
	All Modes	100.0%		1,104	243	26	6	25	5
	Auto	47.4%	2.43	822	338	19	8	19	8
East Bay	Transit	24.9%		432		10		10	
11.0%	Walk	25.4%		441		10		10	
	Other	2.3%		40		1		1	
	All Modes	100.0%		1,734	338	41	8	39	8
	Auto	71.1%	1.91	561	293	13	7	13	7
North Bay	Transit	9.6%		76		2		2	
5.0%	Walk	15.8%		125		3		3	
	Other	3.5%		28		1		1	
	All Modes	100.0%		788	293	19	7	18	7
	Auto	59.5%	2.46	657	267	16	6	15	6
South Bay	Transit	24.6%		272		6		6	
7.0%	Walk	13.5%		149		4		3	
	Other	2.4%		26		1		1	
	All Modes	100.0%		1,104	267	26	6	25	6
	Auto	35.9%	3.17	1,189	375	28	9	27	8
Outside of Bay Area	Transit	24.1%		798		19		18	
21.0%	Walk	27.7%		917		22		21	
	Other	12.3%		407		10		9	
	All Modes	100.0%		3,311	375	78	9	75	8
	Auto	**35.8%**	**2.37**	**5,644**	**2,385**	**133**	**56**	**127**	**54**
All Origins	**Transit**	**25.7%**		**4,058**		**96**		**92**	
100.0%	**Walk**	**32.0%**		**5,038**		**119**		**114**	
	Other	**6.5%**		**1,027**		**24**		**23**	
	All Modes	**100.0%**		**15,768**	**2,385**	**373**	**56**	**356**	**54**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Office)
[2] SF Guidelines, Appendix C - Table C-2 (General Office)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)
LAND USE: GENERAL RETAIL (WORK TRIPS)

Proposed Size:	122,388 sq.ft.					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**
Person-trip Generation Rate [1]:	150.0 trips/1,000 gsf	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5
Total Person-trips:	18,358 person-trips	Total Person-trips:		428		1,652
Work Trips [2]: 4%	734 person-trips	Work Person-trips:	100% [5]	428	4% [2]	66

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	13	10	8	6	1	1
SF Superdistrict 1	Transit	36.0%		34		20		3	
12.8%	Walk	47.5%		45		26		4	
	Other	2.7%		3		1		0	
	All Modes	100.0%		94	10	55	6	8	1
	Auto	31.6%	1.23	33	27	19	16	3	2
SF Superdistrict 2	Transit	65.8%		70		41		6	
14.4%	Walk	1.3%		1		1		0	
	Other	1.3%		1		1		0	
	All Modes	100.0%		106	27	62	16	10	2
	Auto	39.5%	1.29	49	38	29	22	4	3
SF Superdistrict 3	Transit	54.4%		68		40		6	
17.0%	Walk	3.8%		5		3		0	
	Other	2.3%		3		2		0	
	All Modes	100.0%		125	38	73	22	11	3
	Auto	41.7%	1.53	34	22	20	13	3	2
SF Superdistrict 4	Transit	54.5%		45		26		4	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		3		2		0	
	All Modes	100.0%		82	22	48	13	7	2
	Auto	39.4%	3.33	65	19	38	11	6	2
East Bay	Transit	57.0%		94		55		8	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		6		3		1	
	All Modes	100.0%		164	19	96	11	15	2
	Auto	52.8%	1.70	24	14	14	8	2	1
North Bay	Transit	45.3%		20		12		2	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		1		0		0	
	All Modes	100.0%		45	14	26	8	4	1
	Auto	58.0%	1.23	61	50	35	29	5	4
South Bay	Transit	40.7%		43		25		4	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		1		1		0	
	All Modes	100.0%		105	50	61	29	9	4
	Auto	47.8%	1.50	6	4	4	2	1	0
Outside of Bay Area	Transit	50.0%		7		4		1	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		13	4	8	2	1	0
	Auto	**38.9%**	**1.54**	**286**	**185**	**166**	**108**	**26**	**17**
All Origins	**Transit**	**51.7%**		**380**		**221**		**34**	
100.0%	**Walk**	**6.9%**		**51**		**30**		**5**	
	Other	**2.5%**		**18**		**11**		**2**	
	All Modes	**100.0%**		**734**	**185**	**428**	**108**	**66**	**17**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Retail)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)
LAND USE: GENERAL RETAIL (NON-WORK TRIPS)

Proposed Size:	122,388 sq.ft.					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**
Person-trip Generation Rate [1]:	150.0 trips/1,000 gsf	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5
Total Person-trips:	18,358 person-trips	Total Person-trips:		428		1,652
Non-Work Trips [2]: 96%	17,624 person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	1,586

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	18.1%	1.62	606	374	0	0	55	34
SF Superdistrict 1	Transit	14.7%		492		0		44	
19.0%	Walk	63.0%		2,110		0		190	
	Other	4.2%		141		0		13	
	All Modes	100.0%		3,349	374	0	0	301	34
	Auto	27.9%	1.66	344	207	0	0	31	19
SF Superdistrict 2	Transit	32.6%		402		0		36	
7.0%	Walk	34.1%		421		0		38	
	Other	5.4%		67		0		6	
	All Modes	100.0%		1,234	207	0	0	111	19
	Auto	31.2%	2.08	440	211	0	0	40	19
SF Superdistrict 3	Transit	21.7%		306		0		28	
8.0%	Walk	41.3%		582		0		52	
	Other	5.8%		82		0		7	
	All Modes	100.0%		1,410	211	0	0	127	19
	Auto	34.0%	1.51	180	119	0	0	16	11
SF Superdistrict 4	Transit	34.0%		180		0		16	
3.0%	Walk	28.0%		148		0		13	
	Other	4.0%		21		0		2	
	All Modes	100.0%		529	119	0	0	48	11
	Auto	38.1%	2.35	739	314	0	0	66	28
East Bay	Transit	23.2%		450		0		40	
11.0%	Walk	36.6%		710		0		64	
	Other	2.1%		41		0		4	
	All Modes	100.0%		1,939	314	0	0	174	28
	Auto	46.1%	2.27	406	179	0	0	37	16
North Bay	Transit	17.6%		155		0		14	
5.0%	Walk	34.1%		300		0		27	
	Other	2.2%		19		0		2	
	All Modes	100.0%		881	179	0	0	79	16
	Auto	73.8%	2.84	1,041	366	0	0	94	33
South Bay	Transit	14.1%		199		0		18	
8.0%	Walk	10.1%		142		0		13	
	Other	2.0%		28		0		3	
	All Modes	100.0%		1,410	366	0	0	127	33
	Auto	37.0%	3.12	2,543	815	0	0	229	73
Outside of Bay Area	Transit	8.4%		577		0		52	
39.0%	Walk	28.3%		1,945		0		175	
	Other	26.3%		1,808		0		163	
	All Modes	100.0%		6,873	815	0	0	619	73
	Auto	**35.7%**	**2.43**	**6,298**	**2,587**	**0**	**0**	**567**	**233**
All Origins	**Transit**	**15.7%**		**2,761**		**0**		**249**	
100.0%	**Walk**	**36.1%**		**6,358**		**0**		**572**	
	Other	**12.5%**		**2,206**		**0**		**199**	
	All Modes	**100.0%**		**17,624**	**2,587**	**0**	**0**	**1,586**	**233**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Retail)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-10 Visitor Trips to SD1 (Retail)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)
LAND USE: QUALITY RESTAURANT (WORK TRIPS)

Proposed Size:		**85,672 sq.ft.**					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		200.0 trips/1,000 gsf	Person-trip Gen Rate:	1.5% [4]	2.9	13.5% [1]	27.0
Total Person-trips:		17,134 person-trips	Total Person-trips:		250		2,313
Work Trips [2]:	4%	685 person-trips	Work Person-trips:	100% [5]	250	4% [2]	93

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	13.8%	1.28	12	9	4	3	2	1
SF Superdistrict 1	Transit	36.0%		32		12		4	
12.8%	Walk	47.5%		42		15		6	
	Other	2.7%		2		1		0	
	All Modes	100.0%		88	9	32	3	12	1
	Auto	31.6%	1.23	31	25	11	9	4	3
SF Superdistrict 2	Transit	65.8%		65		24		9	
14.4%	Walk	1.3%		1		0		0	
	Other	1.3%		1		0		0	
	All Modes	100.0%		99	25	36	9	13	3
	Auto	39.5%	1.29	46	36	17	13	6	5
SF Superdistrict 3	Transit	54.4%		63		23		9	
17.0%	Walk	3.8%		4		2		1	
	Other	2.3%		3		1		0	
	All Modes	100.0%		117	36	43	13	16	5
	Auto	41.7%	1.53	32	21	12	8	4	3
SF Superdistrict 4	Transit	54.5%		42		15		6	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		3		1		0	
	All Modes	100.0%		77	21	28	8	10	3
	Auto	39.4%	3.33	60	18	22	7	8	2
East Bay	Transit	57.0%		88		32		12	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		6		2		1	
	All Modes	100.0%		154	18	56	7	21	2
	Auto	52.8%	1.70	22	13	8	5	3	2
North Bay	Transit	45.3%		19		7		3	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		1		0		0	
	All Modes	100.0%		42	13	15	5	6	2
	Auto	58.0%	1.23	57	46	21	17	8	6
South Bay	Transit	40.7%		40		15		5	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		1		0		0	
	All Modes	100.0%		98	46	36	17	13	6
	Auto	47.8%	1.50	6	4	2	1	1	1
Outside of Bay Area	Transit	50.0%		6		2		1	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		12	4	5	1	2	1
	Auto	**38.9%**	**1.54**	**267**	**173**	**97**	**63**	**36**	**23**
All Origins	**Transit**	**51.7%**		**354**		**129**		**48**	
100.0%	**Walk**	**6.9%**		**47**		**17**		**6**	
	Other	**2.5%**		**17**		**6**		**2**	
	All Modes	**100.0%**		**685**	**173**	**250**	**63**	**93**	**23**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Quality Sit-down Restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All quality restaurant trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)
LAND USE: QUALITY RESTAURANT (NON-WORK TRIPS)

Proposed Size:		**85,672 sq.ft.**					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		200.0 trips/1,000 gsf	Person-trip Gen Rate:	1.5% [4]	2.9	13.5% [1]	27.0
Total Person-trips:		17,134 person-trips	Total Person-trips:		250		2,313
Non-Work Trips [2]:	96%	16,449 person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	2,221

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	12.9%	2.29	467	204	0	0	63	28
SF Superdistrict 1	Transit	17.1%		619		0		84	
22.0%	Walk	65.3%		2,363		0		319	
	Other	4.7%		170		0		23	
	All Modes	100.0%		3,619	204	0	0	489	28
	Auto	31.9%	2.07	735	355	0	0	99	48
SF Superdistrict 2	Transit	35.0%		806		0		109	
14.0%	Walk	26.7%		615		0		83	
	Other	6.4%		147		0		20	
	All Modes	100.0%		2,303	355	0	0	311	48
	Auto	38.8%	2.39	830	347	0	0	112	47
SF Superdistrict 3	Transit	36.8%		787		0		106	
13.0%	Walk	17.4%		372		0		50	
	Other	7.0%		150		0		20	
	All Modes	100.0%		2,138	347	0	0	289	47
	Auto	42.5%	1.93	489	254	0	0	66	34
SF Superdistrict 4	Transit	32.7%		377		0		51	
7.0%	Walk	17.7%		204		0		28	
	Other	7.1%		82		0		11	
	All Modes	100.0%		1,151	254	0	0	155	34
	Auto	47.4%	2.43	858	353	0	0	116	48
East Bay	Transit	24.9%		451		0		61	
11.0%	Walk	25.4%		460		0		62	
	Other	2.3%		42		0		6	
	All Modes	100.0%		1,809	353	0	0	244	48
	Auto	71.1%	1.91	585	306	0	0	79	41
North Bay	Transit	9.6%		79		0		11	
5.0%	Walk	15.8%		130		0		18	
	Other	3.5%		29		0		4	
	All Modes	100.0%		822	306	0	0	111	41
	Auto	59.5%	2.46	685	278	0	0	92	38
South Bay	Transit	24.6%		283		0		38	
7.0%	Walk	13.5%		155		0		21	
	Other	2.4%		28		0		4	
	All Modes	100.0%		1,151	278	0	0	155	38
	Auto	35.9%	3.17	1,240	391	0	0	167	53
Outside of Bay Area	Transit	24.1%		832		0		112	
21.0%	Walk	27.7%		957		0		129	
	Other	12.3%		425		0		57	
	All Modes	100.0%		3,454	391	0	0	466	53
	Auto	**35.8%**	**2.37**	**5,888**	**2,488**	**0**	**0**	**795**	**336**
All Origins	**Transit**	**25.7%**		**4,233**		**0**		**572**	
100.0%	**Walk**	**32.0%**		**5,256**		**0**		**710**	
	Other	**6.5%**		**1,072**		**0**		**145**	
	All Modes	**100.0%**		**16,449**	**2,488**	**0**	**0**	**2,221**	**336**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Quality Sit-down Restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All quality restaurant trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)
LAND USE: QUICK SERVICE RESTAURANT (WORK TRIPS)

Proposed Size:		**36,717 sq.ft.**					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		600.0 trips/1,000 gsf	Person-trip Gen Rate:	14.8% [4]	88.9	13.5% [1]	81.0
Total Person-trips:		22,030 person-trips	Total Person-trips:		3,264		2,974
Work Trips [2]:	4%	881 person-trips	Work Person-trips:	4% [5]	131	4% [2]	119

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	16	12	2	2	2	2
SF Superdistrict 1	Transit	36.0%		41		6		5	
12.8%	Walk	47.5%		54		8		7	
	Other	2.7%		3		0		0	
	All Modes	100.0%		113	12	17	2	15	2
	Auto	31.6%	1.23	40	33	6	5	5	4
SF Superdistrict 2	Transit	65.8%		83		12		11	
14.4%	Walk	1.3%		2		0		0	
	Other	1.3%		2		0		0	
	All Modes	100.0%		127	33	19	5	17	4
	Auto	39.5%	1.29	59	46	9	7	8	6
SF Superdistrict 3	Transit	54.4%		81		12		11	
17.0%	Walk	3.8%		6		1		1	
	Other	2.3%		3		1		0	
	All Modes	100.0%		150	46	22	7	20	6
	Auto	41.7%	1.53	41	27	6	4	6	4
SF Superdistrict 4	Transit	54.5%		54		8		7	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		4		1		1	
	All Modes	100.0%		99	27	15	4	13	4
	Auto	39.4%	3.33	78	23	12	3	10	3
East Bay	Transit	57.0%		113		17		15	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		7		1		1	
	All Modes	100.0%		197	23	29	3	27	3
	Auto	52.8%	1.70	28	17	4	2	4	2
North Bay	Transit	45.3%		24		4		3	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		1		0		0	
	All Modes	100.0%		54	17	8	2	7	2
	Auto	58.0%	1.23	73	59	11	9	10	8
South Bay	Transit	40.7%		51		8		7	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		2		0		0	
	All Modes	100.0%		126	59	19	9	17	8
	Auto	47.8%	1.50	8	5	1	1	1	1
Outside of Bay Area	Transit	50.0%		8		1		1	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		16	5	2	1	2	1
	Auto	**38.9%**	**1.54**	**343**	**222**	**51**	**33**	**46**	**30**
All Origins	**Transit**	**51.7%**		**455**		**67**		**61**	
100.0%	**Walk**	**6.9%**		**61**		**9**		**8**	
	Other	**2.5%**		**22**		**3**		**3**	
	All Modes	**100.0%**		**881**	**222**	**131**	**33**	**119**	**30**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Fast food restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO A (Low Residential/ High Commercial)
LAND USE: QUICK SERVICE REST. (NON-WORK TRIPS)

Proposed Size:		**36,717 sq.ft.**					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		600.0 trips/1,000 gsf	Person-trip Gen Rate:	14.8% [4]	88.9	13.5% [1]	81.0
Total Person-trips:		22,030 person-trips	Total Person-trips:		3,264		2,974
Non-Work Trips [2]:	96%	21,149 person-trips	Non-Work Person-trips:	96% [5]	3,133	96% [2]	2,855

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	12.9%	2.29	600	262	89	39	81	35
SF Superdistrict 1	Transit	17.1%		796		118		107	
22.0%	Walk	65.3%		3,038		450		410	
	Other	4.7%		219		32		30	
	All Modes	100.0%		4,653	262	689	39	628	35
	Auto	31.9%	2.07	945	456	140	68	128	62
SF Superdistrict 2	Transit	35.0%		1,036		154		140	
14.0%	Walk	26.7%		791		117		107	
	Other	6.4%		189		28		26	
	All Modes	100.0%		2,961	456	439	68	400	62
	Auto	38.8%	2.39	1,067	446	158	66	144	60
SF Superdistrict 3	Transit	36.8%		1,012		150		137	
13.0%	Walk	17.4%		478		71		65	
	Other	7.0%		192		29		26	
	All Modes	100.0%		2,749	446	407	66	371	60
	Auto	42.5%	1.93	629	326	93	48	85	44
SF Superdistrict 4	Transit	32.7%		484		72		65	
7.0%	Walk	17.7%		262		39		35	
	Other	7.1%		105		16		14	
	All Modes	100.0%		1,480	326	219	48	200	44
	Auto	47.4%	2.43	1,103	454	163	67	149	61
East Bay	Transit	24.9%		579		86		78	
11.0%	Walk	25.4%		591		88		80	
	Other	2.3%		54		8		7	
	All Modes	100.0%		2,326	454	345	67	314	61
	Auto	71.1%	1.91	752	394	111	58	101	53
North Bay	Transit	9.6%		102		15		14	
5.0%	Walk	15.8%		167		25		23	
	Other	3.5%		37		5		5	
	All Modes	100.0%		1,057	394	157	58	143	53
	Auto	59.5%	2.46	881	358	131	53	119	48
South Bay	Transit	24.6%		364		54		49	
7.0%	Walk	13.5%		200		30		27	
	Other	2.4%		36		5		5	
	All Modes	100.0%		1,480	358	219	53	200	48
	Auto	35.9%	3.17	1,594	503	236	75	215	68
Outside of Bay Area	Transit	24.1%		1,070		159		144	
21.0%	Walk	27.7%		1,230		182		166	
	Other	12.3%		546		81		74	
	All Modes	100.0%		4,441	503	658	75	600	68
	Auto	**35.8%**	**2.37**	**7,570**	**3,199**	**1,122**	**474**	**1,022**	**432**
All Origins	**Transit**	**25.7%**		**5,443**		**806**		**735**	
100.0%	**Walk**	**32.0%**		**6,757**		**1,001**		**912**	
	Other	**6.5%**		**1,378**		**204**		**186**	
	All Modes	**100.0%**		**21,149**	**3,199**	**3,133**	**474**	**2,855**	**432**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Fast food restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 BREWERY (WORK TRIPS)

Proposed Size:		75 employees						
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		3.0 trips/employee	Person-trip Gen Rate:	12.4% [4]	0.4	12.4% [5]	0.4
Total Person-trips:		225 person-trips	Total Person-trips:		28		28
Work Trips [2]:	100%	225 person-trips	Work Person-trips:	100% [2]	28	100% [2]	28

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	4	3	0	0	0	0
SF Superdistrict 1	Transit	36.0%		10		1		1	
12.8%	Walk	47.5%		14		2		2	
	Other	2.7%		1		0		0	
	All Modes	100.0%		29	3	4	0	4	0
	Auto	31.6%	1.23	10	8	1	1	1	1
SF Superdistrict 2	Transit	65.8%		21		3		3	
14.4%	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		32	8	4	1	4	1
	Auto	39.5%	1.29	15	12	2	1	2	1
SF Superdistrict 3	Transit	54.4%		21		3		3	
17.0%	Walk	3.8%		1		0		0	
	Other	2.3%		1		0		0	
	All Modes	100.0%		38	12	5	1	5	1
	Auto	41.7%	1.53	11	7	1	1	1	1
SF Superdistrict 4	Transit	54.5%		14		2		2	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		1		0		0	
	All Modes	100.0%		25	7	3	1	3	1
	Auto	39.4%	3.33	20	6	2	1	2	1
East Bay	Transit	57.0%		29		4		4	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		2		0		0	
	All Modes	100.0%		50	6	6	1	6	1
	Auto	52.8%	1.70	7	4	1	1	1	1
North Bay	Transit	45.3%		6		1		1	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		14	4	2	1	2	1
	Auto	58.0%	1.23	19	15	2	2	2	2
South Bay	Transit	40.7%		13		2		2	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		32	15	4	2	4	2
	Auto	47.8%	1.50	2	1	0	0	0	0
Outside of Bay Area	Transit	50.0%		2		0		0	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		4	1	1	0	1	0
	Auto	**38.9%**	**1.54**	**88**	**57**	**11**	**7**	**11**	**7**
All Origins	**Transit**	**51.7%**		**116**		**14**		**14**	
100.0%	**Walk**	**6.9%**		**16**		**2**		**2**	
	Other	**2.5%**		**6**		**1**		**1**	
	All Modes	**100.0%**		**225**	**57**	**28**	**7**	**28**	**7**

Notes:
[1] Assumes that half of the employees will make four daily trips to/from the project site (e.g., for lunch, errands, etc.).
[2] All employee trips are accounted for as work trips
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] SF Guidelines, Appendix C - Table C-1 (Industrial/Manufacturing)

Mission Rock Mixed-Use Project

LAND USE: PIER 48 BREWERY (TRUCK TRIPS)

Proposed Size:		38 trucks per day						
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0 trips/truck	Truck-trip Gen Rate:	5.3% [4]	0.1	5.3% [4]	0.1
Total truck-trips:		76 truck-trips	Total Truck-trips:		4		4
Work Trips [2]:	100%	76 truck-trips	Work Truck-trips:	100% [2]	4	100% [2]	4

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution	Average Vehicle Occupancy	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	100.0%	1.00	8	8	0	0	0	0
SF Superdistrict 1	Transit	0.0%		0		0		0	
10.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		8	8	0	0	0	0
	Auto	100.0%	1.00	8	8	0	0	0	0
SF Superdistrict 2	Transit	0.0%		0		0		0	
10.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		8	8	0	0	0	0
	Auto	100.0%	1.00	2	2	0	0	0	0
SF Superdistrict 3	Transit	0.0%		0		0		0	
3.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		2	2	0	0	0	0
	Auto	100.0%	1.00	2	2	0	0	0	0
SF Superdistrict 4	Transit	0.0%		0		0		0	
3.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		2	2	0	0	0	0
	Auto	100.0%	1.00	3	3	0	0	0	0
East Bay	Transit	0.0%		0		0		0	
4.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		3	3	0	0	0	0
	Auto	100.0%	1.00	3	3	0	0	0	0
North Bay	Transit	0.0%		0		0		0	
4.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		3	3	0	0	0	0
	Auto	100.0%	1.00	3	3	0	0	0	0
South Bay	Transit	0.0%		0		0		0	
4.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		3	3	0	0	0	0
	Auto	100.0%	1.00	47	47	2	2	2	2
Outside of Bay Area	Transit	0.0%		0		0		0	
62.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		47	47	2	2	2	2
	Auto	**100.0%**	**1.00**	**76**	**76**	**4**	**4**	**4**	**4**
All Origins	**Transit**	**0.0%**		**0**		**0**		**0**	
100.0%	**Walk**	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**76**	**76**	**4**	**4**	**4**	**4**

Notes:
[1] Each truck makes two one-way truck-trips to the brewery (one empty, one full)
[2] All truck trips are considered work trips
[3] SF 26%, Northern Calif (excluding SF) 22%, Southern Calif 9%, Out of State and International 43%
[4] Based on two trucks arriving/departing during the peak hour.

Mission Rock Mixed-Use Project

LAND USE: PIER 48 BREWERY (VISITOR TRIPS)

Proposed Size:	**500 daily visitors**					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**
Person-trip Generation Rate [1]:	2.0 trips/visitor	Person-trip Gen Rate:	0.0% [4]	0.0	15.0% [5]	0.3
Total Person-trips:	1,000 person-trips	Total Person-trips:		0		150
Non-Work Trips [2]: 100%	1,000 person-trips	Non-Work Person-trips:	100% [2]	0	100% [2]	150

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	12.9%	2.29	28	12	0	0	4	2
SF Superdistrict 1	Transit	17.1%		38		0		6	
22.0%	Walk	65.3%		144		0		22	
	Other	4.7%		10		0		2	
	All Modes	100.0%		220	12	0	0	33	2
	Auto	31.9%	2.07	45	22	0	0	7	3
SF Superdistrict 2	Transit	35.0%		49		0		7	
14.0%	Walk	26.7%		37		0		6	
	Other	6.4%		9		0		1	
	All Modes	100.0%		140	22	0	0	21	3
	Auto	38.8%	2.39	50	21	0	0	8	3
SF Superdistrict 3	Transit	36.8%		48		0		7	
13.0%	Walk	17.4%		23		0		3	
	Other	7.0%		9		0		1	
	All Modes	100.0%		130	21	0	0	20	3
	Auto	42.5%	1.93	30	15	0	0	4	2
SF Superdistrict 4	Transit	32.7%		23		0		3	
7.0%	Walk	17.7%		12		0		2	
	Other	7.1%		5		0		1	
	All Modes	100.0%		70	15	0	0	11	2
	Auto	47.4%	2.43	52	21	0	0	8	3
East Bay	Transit	24.9%		27		0		4	
11.0%	Walk	25.4%		28		0		4	
	Other	2.3%		3		0		0	
	All Modes	100.0%		110	21	0	0	17	3
	Auto	71.1%	1.91	36	19	0	0	5	3
North Bay	Transit	9.6%		5		0		1	
5.0%	Walk	15.8%		8		0		1	
	Other	3.5%		2		0		0	
	All Modes	100.0%		50	19	0	0	8	3
	Auto	59.5%	2.46	42	17	0	0	6	3
South Bay	Transit	24.6%		17		0		3	
7.0%	Walk	13.5%		9		0		1	
	Other	2.4%		2		0		0	
	All Modes	100.0%		70	17	0	0	11	3
	Auto	35.9%	3.17	75	24	0	0	11	4
Outside of Bay Area	Transit	24.1%		51		0		8	
21.0%	Walk	27.7%		58		0		9	
	Other	12.3%		26		0		4	
	All Modes	100.0%		210	24	0	0	32	4
	Auto	**35.8%**	**2.37**	**358**	**151**	**0**	**0**	**54**	**23**
All Origins	**Transit**	**25.7%**		**257**		**0**		**39**	
100.0%	**Walk**	**32.0%**		**320**		**0**		**48**	
	Other	**6.5%**		**65**		**0**		**10**	
	All Modes	**100.0%**		**1,000**	**151**	**0**	**0**	**150**	**23**

Notes:
[1] Assumes that each visitor will make two daily trips to/from the project site.
[2] All visitor trips are accounted for as non-work trips
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Assumes that visits/tours of the brewery will start after 9 AM
[5] One hour over a 10-hour day = 10%; increase by 50% for a more conservative analysis

Mission Rock Mixed-Use Project

LAND USE: PIER 48 RESTAURANT (WORK TRIPS)

Proposed Size:	11,000 sq.ft.					
DAILY				AM PEAK HOUR		PM PEAK HOUR
Person-trip Generation Rate [1]:	200.0 trips/1,000 gsf	Person-trip Gen Rate:	1.5% [4]	2.9	13.5% [1]	27.0
Total Person-trips:	2,200 person-trips	Total Person-trips:		32		297
Work Trips [2]: 4%	88 person-trips	Work Person-trips:	100% [5]	32	4% [2]	12

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	13.8%	1.28	2	1	1	0	0	0
SF Superdistrict 1	Transit	36.0%		4		1		1	
12.8%	Walk	47.5%		5		2		1	
	Other	2.7%		0		0		0	
	All Modes	100.0%		11	1	4	0	2	0
	Auto	31.6%	1.23	4	3	1	1	1	0
SF Superdistrict 2	Transit	65.8%		8		3		1	
14.4%	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		13	3	5	1	2	0
	Auto	39.5%	1.29	6	5	2	2	1	1
SF Superdistrict 3	Transit	54.4%		8		3		1	
17.0%	Walk	3.8%		1		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		15	5	5	2	2	1
	Auto	41.7%	1.53	4	3	2	1	1	0
SF Superdistrict 4	Transit	54.5%		5		2		1	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		0		0		0	
	All Modes	100.0%		10	3	4	1	1	0
	Auto	39.4%	3.33	8	2	3	1	1	0
East Bay	Transit	57.0%		11		4		2	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		1		0		0	
	All Modes	100.0%		20	2	7	1	3	0
	Auto	52.8%	1.70	3	2	1	1	0	0
North Bay	Transit	45.3%		2		1		0	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		5	2	2	1	1	0
	Auto	58.0%	1.23	7	6	3	2	1	1
South Bay	Transit	40.7%		5		2		1	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		13	6	5	2	2	1
	Auto	47.8%	1.50	1	1	0	0	0	0
Outside of Bay Area	Transit	50.0%		1		0		0	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		2	1	1	0	0	0
	Auto	**38.9%**	**1.54**	**34**	**22**	**12**	**8**	**5**	**3**
All Origins	**Transit**	**51.7%**		**45**		**17**		**6**	
100.0%	**Walk**	**6.9%**		**6**		**2**		**1**	
	Other	**2.5%**		**2**		**1**		**0**	
	All Modes	**100.0%**		**88**	**22**	**32**	**8**	**12**	**3**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Quality Sit-down Restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All quality restaurant trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 RESTAURANT (NON-WORK TRIPS)

Proposed Size:	11,000 sq.ft.					
DAILY				AM PEAK HOUR		PM PEAK HOUR
Person-trip Generation Rate [1]:	200.0 trips/1,000 gsf	Person-trip Gen Rate:	1.5% [4]	2.9	13.5% [1]	27.0
Total Person-trips:	2,200 person-trips	Total Person-trips:		32		297
Non-Work Trips [2]: 96%	2,112 person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	285

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	18.1%	1.62	73	45	0	0	10	6
SF Superdistrict 1	Transit	14.7%		59		0		8	
19.0%	Walk	63.0%		253		0		34	
	Other	4.2%		17		0		2	
	All Modes	100.0%		401	45	0	0	54	6
	Auto	27.9%	1.66	41	25	0	0	6	3
SF Superdistrict 2	Transit	32.6%		48		0		7	
7.0%	Walk	34.1%		50		0		7	
	Other	5.4%		8		0		1	
	All Modes	100.0%		148	25	0	0	20	3
	Auto	31.2%	2.08	53	25	0	0	7	3
SF Superdistrict 3	Transit	21.7%		37		0		5	
8.0%	Walk	41.3%		70		0		9	
	Other	5.8%		10		0		1	
	All Modes	100.0%		169	25	0	0	23	3
	Auto	34.0%	1.51	22	14	0	0	3	2
SF Superdistrict 4	Transit	34.0%		22		0		3	
3.0%	Walk	28.0%		18		0		2	
	Other	4.0%		3		0		0	
	All Modes	100.0%		63	14	0	0	9	2
	Auto	38.1%	2.35	89	38	0	0	12	5
East Bay	Transit	23.2%		54		0		7	
11.0%	Walk	36.6%		85		0		11	
	Other	2.1%		5		0		1	
	All Modes	100.0%		232	38	0	0	31	5
	Auto	46.1%	2.27	49	21	0	0	7	3
North Bay	Transit	17.6%		19		0		3	
5.0%	Walk	34.1%		36		0		5	
	Other	2.2%		2		0		0	
	All Modes	100.0%		106	21	0	0	14	3
	Auto	73.8%	2.84	125	44	0	0	17	6
South Bay	Transit	14.1%		24		0		3	
8.0%	Walk	10.1%		17		0		2	
	Other	2.0%		3		0		0	
	All Modes	100.0%		169	44	0	0	23	6
	Auto	37.0%	3.12	305	98	0	0	41	13
Outside of Bay Area	Transit	8.4%		69		0		9	
39.0%	Walk	28.3%		233		0		31	
	Other	26.3%		217		0		29	
	All Modes	100.0%		824	98	0	0	111	13
	Auto	**35.7%**	**2.43**	**755**	**310**	**0**	**0**	**102**	**42**
All Origins	**Transit**	**15.7%**		**331**		**0**		**45**	
100.0%	**Walk**	**36.1%**		**762**		**0**		**103**	
	Other	**12.5%**		**264**		**0**		**36**	
	All Modes	**100.0%**		**2,112**	**310**	**0**	**0**	**285**	**42**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Quality Sit-down Restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All quality restaurant trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 MEZZANINE RETAIL (WORK TRIPS)

Proposed Size:	10,000	sq.ft.						
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	150.0	trips/1,000 gsf	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5
Total Person-trips:	1,500	person-trips	Total Person-trips:		35		135
Work Trips [2]: 4%	60	person-trips	Work Person-trips:	100% [5]	35	4% [2]	5

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 12.8%	Auto	13.8%	1.28	1	1	1	0	0	0
	Transit	36.0%		3		2		0	
	Walk	47.5%		4		2		0	
	Other	2.7%		0		0		0	
	All Modes	100.0%		8	1	4	0	1	0
SF Superdistrict 2 14.4%	Auto	31.6%	1.23	3	2	2	1	0	0
	Transit	65.8%		6		3		1	
	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		9	2	5	1	1	0
SF Superdistrict 3 17.0%	Auto	39.5%	1.29	4	3	2	2	0	0
	Transit	54.4%		6		3		0	
	Walk	3.8%		0		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		10	3	6	2	1	0
SF Superdistrict 4 11.2%	Auto	41.7%	1.53	3	2	2	1	0	0
	Transit	54.5%		4		2		0	
	Walk	0.0%		0		0		0	
	Other	3.8%		0		0		0	
	All Modes	100.0%		7	2	4	1	1	0
East Bay 22.4%	Auto	39.4%	3.33	5	2	3	1	0	0
	Transit	57.0%		8		4		1	
	Walk	0.0%		0		0		0	
	Other	3.6%		0		0		0	
	All Modes	100.0%		13	2	8	1	1	0
North Bay 6.1%	Auto	52.8%	1.70	2	1	1	1	0	0
	Transit	45.3%		2		1		0	
	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		4	1	2	1	0	0
South Bay 14.3%	Auto	58.0%	1.23	5	4	3	2	0	0
	Transit	40.7%		3		2		0	
	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		9	4	5	2	1	0
Outside of Bay Area 1.8%	Auto	47.8%	1.50	1	0	0	0	0	0
	Transit	50.0%		1		0		0	
	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		1	0	1	0	0	0
All Origins 100.0%	**Auto**	**38.9%**	**1.54**	**23**	**15**	**14**	**9**	**2**	**1**
	Transit	**51.7%**		**31**		**18**		**3**	
	Walk	**6.9%**		**4**		**2**		**0**	
	Other	**2.5%**		**1**		**1**		**0**	
	All Modes	**100.0%**		**60**	**15**	**35**	**9**	**5**	**1**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Retail)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 MEZZANINE RETAIL (NON-WORK TRIPS)

Proposed Size:	10,000	sq.ft.						
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	150.0	trips/1,000 gsf	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5
Total Person-trips:	1,500	person-trips	Total Person-trips:		35		135
Non-Work Trips [2]: 96%	1,440	person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	130

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 19.0%	Auto	18.1%	1.62	50	31	0	0	4	3
	Transit	14.7%		40		0		4	
	Walk	63.0%		172		0		16	
	Other	4.2%		11		0		1	
	All Modes	100.0%		274	31	0	0	25	3
SF Superdistrict 2 7.0%	Auto	27.9%	1.66	28	17	0	0	3	2
	Transit	32.6%		33		0		3	
	Walk	34.1%		34		0		3	
	Other	5.4%		5		0		0	
	All Modes	100.0%		101	17	0	0	9	2
SF Superdistrict 3 8.0%	Auto	31.2%	2.08	36	17	0	0	3	2
	Transit	21.7%		25		0		2	
	Walk	41.3%		48		0		4	
	Other	5.8%		7		0		1	
	All Modes	100.0%		115	17	0	0	10	2
SF Superdistrict 4 3.0%	Auto	34.0%	1.51	15	10	0	0	1	1
	Transit	34.0%		15		0		1	
	Walk	28.0%		12		0		1	
	Other	4.0%		2		0		0	
	All Modes	100.0%		43	10	0	0	4	1
East Bay 11.0%	Auto	38.1%	2.35	60	26	0	0	5	2
	Transit	23.2%		37		0		3	
	Walk	36.6%		58		0		5	
	Other	2.1%		3		0		0	
	All Modes	100.0%		158	26	0	0	14	2
North Bay 5.0%	Auto	46.1%	2.27	33	15	0	0	3	1
	Transit	17.6%		13		0		1	
	Walk	34.1%		25		0		2	
	Other	2.2%		2		0		0	
	All Modes	100.0%		72	15	0	0	6	1
South Bay 8.0%	Auto	73.8%	2.84	85	30	0	0	8	3
	Transit	14.1%		16		0		1	
	Walk	10.1%		12		0		1	
	Other	2.0%		2		0		0	
	All Modes	100.0%		115	30	0	0	10	3
Outside of Bay Area 39.0%	Auto	37.0%	3.12	208	67	0	0	19	6
	Transit	8.4%		47		0		4	
	Walk	28.3%		159		0		14	
	Other	26.3%		148		0		13	
	All Modes	100.0%		562	67	0	0	51	6
All Origins 100.0%	**Auto**	**35.7%**	**2.43**	**515**	**211**	**0**	**0**	**46**	**19**
	Transit	**15.7%**		**226**		**0**		**20**	
	Walk	**36.1%**		**520**		**0**		**47**	
	Other	**12.5%**		**180**		**0**		**16**	
	All Modes	**100.0%**		**1,440**	**211**	**0**	**0**	**130**	**19**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Retail)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-10 Visitor Trips to SD1 (Retail)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 MEZZANINE OFFICE (WORK TRIPS)

Proposed Size:	7,875 sq.ft.					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	18.1 trips/1,000 gsf	Person-trip Gen Rate:	8.9% [4]	1.6	8.5% [1]	1.5
Total Person-trips:	143 person-trips	Total Person-trips:		13		12
Work Trips [2]: 36%	51 person-trips	Work Person-trips:	83% [5]	11	83% [2]	10

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	1	1	0	0	0	0
SF Superdistrict 1	Transit	36.0%		2		0		0	
12.8%	Walk	47.5%		3		1		1	
	Other	2.7%		0		0		0	
	All Modes	100.0%		7	1	1	0	1	0
	Auto	31.6%	1.23	2	2	0	0	0	0
SF Superdistrict 2	Transit	65.8%		5		1		1	
14.4%	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		7	2	2	0	1	0
	Auto	39.5%	1.29	3	3	1	1	1	1
SF Superdistrict 3	Transit	54.4%		5		1		1	
17.0%	Walk	3.8%		0		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		9	3	2	1	2	1
	Auto	41.7%	1.53	2	2	0	0	0	0
SF Superdistrict 4	Transit	54.5%		3		1		1	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		0		0		0	
	All Modes	100.0%		6	2	1	0	1	0
	Auto	39.4%	3.33	5	1	1	0	1	0
East Bay	Transit	57.0%		7		1		1	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		0		0		0	
	All Modes	100.0%		11	1	2	0	2	0
	Auto	52.8%	1.70	2	1	0	0	0	0
North Bay	Transit	45.3%		1		0		0	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		3	1	1	0	1	0
	Auto	58.0%	1.23	4	3	1	1	1	1
South Bay	Transit	40.7%		3		1		1	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		7	3	2	1	1	1
	Auto	47.8%	1.50	0	0	0	0	0	0
Outside of Bay Area	Transit	50.0%		0		0		0	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
	Auto	**38.9%**	**1.54**	**20**	**13**	**4**	**3**	**4**	**3**
All Origins	**Transit**	**51.7%**		**27**		**5**		**5**	
100.0%	**Walk**	**6.9%**		**4**		**1**		**1**	
	Other	**2.5%**		**1**		**0**		**0**	
	All Modes	**100.0%**		**51**	**13**	**11**	**3**	**10**	**3**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Office)
[2] SF Guidelines, Appendix C - Table C-2 (General Office)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

LAND USE: PIER 48 MEZZANINE OFFICE (WORK TRIPS)

Proposed Size:	7,875 sq.ft.					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	18.1 trips/attendee	Person-trip Gen Rate:	8.9% [4]	1.6	8.5% [1]	1.5
Total Person-trips:	143 person-trips	Total Person-trips:		13		12
Non-Work Trips [2]: 64%	91 person-trips	Non-Work Person-trips:	17% [5]	2	17% [2]	2

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	12.9%	2.29	3	1	0	0	0	0
SF Superdistrict 1	Transit	17.1%		3		0		0	
22.0%	Walk	65.3%		13		0		0	
	Other	4.7%		1		0		0	
	All Modes	100.0%		20	1	0	0	0	0
	Auto	31.9%	2.07	4	2	0	0	0	0
SF Superdistrict 2	Transit	35.0%		4		0		0	
14.0%	Walk	26.7%		3		0		0	
	Other	6.4%		1		0		0	
	All Modes	100.0%		13	2	0	0	0	0
	Auto	38.8%	2.39	5	2	0	0	0	0
SF Superdistrict 3	Transit	36.8%		4		0		0	
13.0%	Walk	17.4%		2		0		0	
	Other	7.0%		1		0		0	
	All Modes	100.0%		12	2	0	0	0	0
	Auto	42.5%	1.93	3	1	0	0	0	0
SF Superdistrict 4	Transit	32.7%		2		0		0	
7.0%	Walk	17.7%		1		0		0	
	Other	7.1%		0		0		0	
	All Modes	100.0%		6	1	0	0	0	0
	Auto	47.4%	2.43	5	2	0	0	0	0
East Bay	Transit	24.9%		2		0		0	
11.0%	Walk	25.4%		3		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		10	2	0	0	0	0
	Auto	71.1%	1.91	3	2	0	0	0	0
North Bay	Transit	9.6%		0		0		0	
5.0%	Walk	15.8%		1		0		0	
	Other	3.5%		0		0		0	
	All Modes	100.0%		5	2	0	0	0	0
	Auto	59.5%	2.46	4	2	0	0	0	0
South Bay	Transit	24.6%		2		0		0	
7.0%	Walk	13.5%		1		0		0	
	Other	2.4%		0		0		0	
	All Modes	100.0%		6	2	0	0	0	0
	Auto	35.9%	3.17	7	2	0	0	0	0
Outside of Bay Area	Transit	24.1%		5		0		0	
21.0%	Walk	27.7%		5		0		0	
	Other	12.3%		2		0		0	
	All Modes	100.0%		19	2	0	0	0	0
	Auto	**35.8%**	**2.37**	**33**	**14**	**1**	**0**	**1**	**0**
All Origins	**Transit**	**25.7%**		**23**		**1**		**1**	
100.0%	**Walk**	**32.0%**		**29**		**1**		**1**	
	Other	**6.5%**		**6**		**0**		**0**	
	All Modes	**100.0%**		**91**	**14**	**2**	**0**	**2**	**0**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Office)
[2] SF Guidelines, Appendix C - Table C-2 (General Office)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

LAND USE: CHINA BASIN PARK (WORK TRIPS)

Proposed Size:	5.12 acres					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	20.0 trips/acre	Person-trip Gen Rate:	13.0% [1]	2.6	9.0% [1]	1.8
Total Person-trips:	102 person-trips	Total Person-trips:		13		9
Work Trips [2]: 4%	4 person-trips	Work Person-trips:	4% [2]	1	4% [2]	0

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	0	0	0	0	0	0
SF Superdistrict 1	Transit	36.0%		0		0		0	
12.8%	Walk	47.5%		0		0		0	
	Other	2.7%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
	Auto	31.6%	1.23	0	0	0	0	0	0
SF Superdistrict 2	Transit	65.8%		0		0		0	
14.4%	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
	Auto	39.5%	1.29	0	0	0	0	0	0
SF Superdistrict 3	Transit	54.4%		0		0		0	
17.0%	Walk	3.8%		0		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
	Auto	41.7%	1.53	0	0	0	0	0	0
SF Superdistrict 4	Transit	54.5%		0		0		0	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
	Auto	39.4%	3.33	0	0	0	0	0	0
East Bay	Transit	57.0%		1		0		0	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
	Auto	52.8%	1.70	0	0	0	0	0	0
North Bay	Transit	45.3%		0		0		0	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
	Auto	58.0%	1.23	0	0	0	0	0	0
South Bay	Transit	40.7%		0		0		0	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
	Auto	47.8%	1.50	0	0	0	0	0	0
Outside of Bay Area	Transit	50.0%		0		0		0	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
	Auto	**38.9%**	**1.54**	**2**	**1**	**0**	**0**	**0**	**0**
All Origins	**Transit**	**51.7%**		**2**		**0**		**0**	
100.0%	**Walk**	**6.9%**		**0**		**0**		**0**	
	Other	**2.5%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**4**	**1**	**1**	**0**	**0**	**0**

Notes:
[1] Traffic Generators, San Diego Association of Governments, 2002 (Regional Park)
[2] Mission Bay FSEIR estimated 0.1 employee per acre; assuming 2 daily trips per employee it means 4% work trips (0.1 x 2 / 5 = 0.04)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)

Mission Rock Mixed-Use Project

LAND USE: CHINA BASIN PARK (NON-WORK TRIPS)

Proposed Size:	5.12 acres					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	20.0 trips/acre	Person-trip Gen Rate:	13.0% [1]	2.6	9.0% [1]	1.8
Total Person-trips:	102 person-trips	Total Person-trips:		13		9
Non-Work Trips [2]: 96%	98 person-trips	Non-Work Person-trips:	96% [2]	13	96% [2]	9

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	12.9%	2.29	3	1	0	0	0	0
SF Superdistrict 1	Transit	17.1%		4		0		0	
22.0%	Walk	65.3%		14		2		1	
	Other	4.7%		1		0		0	
	All Modes	100.0%		22	1	3	0	2	0
	Auto	31.9%	2.07	4	2	1	0	0	0
SF Superdistrict 2	Transit	35.0%		5		1		0	
14.0%	Walk	26.7%		4		0		0	
	Other	6.4%		1		0		0	
	All Modes	100.0%		14	2	2	0	1	0
	Auto	38.8%	2.39	5	2	1	0	0	0
SF Superdistrict 3	Transit	36.8%		5		1		0	
13.0%	Walk	17.4%		2		0		0	
	Other	7.0%		1		0		0	
	All Modes	100.0%		13	2	2	0	1	0
	Auto	42.5%	1.93	3	2	0	0	0	0
SF Superdistrict 4	Transit	32.7%		2		0		0	
7.0%	Walk	17.7%		1		0		0	
	Other	7.1%		0		0		0	
	All Modes	100.0%		7	2	1	0	1	0
	Auto	47.4%	2.43	5	2	1	0	0	0
East Bay	Transit	24.9%		3		0		0	
11.0%	Walk	25.4%		3		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		11	2	1	0	1	0
	Auto	71.1%	1.91	3	2	0	0	0	0
North Bay	Transit	9.6%		0		0		0	
5.0%	Walk	15.8%		1		0		0	
	Other	3.5%		0		0		0	
	All Modes	100.0%		5	2	1	0	0	0
	Auto	59.5%	2.46	4	2	1	0	0	0
South Bay	Transit	24.6%		2		0		0	
7.0%	Walk	13.5%		1		0		0	
	Other	2.4%		0		0		0	
	All Modes	100.0%		7	2	1	0	1	0
	Auto	35.9%	3.17	7	2	1	0	1	0
Outside of Bay Area	Transit	24.1%		5		1		0	
21.0%	Walk	27.7%		6		1		1	
	Other	12.3%		3		0		0	
	All Modes	100.0%		21	2	3	0	2	0
	Auto	**35.8%**	**2.37**	**35**	**15**	**5**	**2**	**3**	**1**
All Origins	**Transit**	**25.7%**		**25**		**3**		**2**	
100.0%	**Walk**	**32.0%**		**31**		**4**		**3**	
	Other	**6.5%**		**6**		**1**		**1**	
	All Modes	**100.0%**		**98**	**15**	**13**	**2**	**9**	**1**

Notes:
[1] Traffic Generators, San Diego Association of Governments, 2002 (Regional Park)
[2] Mission Bay FSEIR estimated 0.1 employee per acre; assuming 2 daily trips per employee it means 4% work trips (0.1 x 2 / 5 = 0.04)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)

APPENDIX D
TRAVEL DEMAND FOR SCENARIO B

AGGREGATE TRAVEL DEMAND CALCULATIONS

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

LAND USES	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential 1,579,499 gsf 1,579 d.u.	Office 972,175 gsf	General Retail 120,519 gsf	Quality Restaurant 84,363 gsf	Quick Service Restaurant 36,156 gsf	Subtotal SWL 337 2,792,712 gsf	Brewery/ Distillery 190,500 gsf 75 empl.	Brewery Retail/ Exhibition 11,000 gsf 500 visitors	Brewery Quality Restaurant 11,000 gsf	Mezzanine Retail 10,000 gsf	Mezzanine Office 7,875 gsf	Mezzanine Production 9,625 gsf	Subtotal Pier 48 240,000 gsf	5.12 acres	3,032,712 gsf plus open space

INTERNAL AND EXTERNAL TRIP GENERATION RATES	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Daily Trip Rate (per 1,000 gsf)	10.0	18.1	150.0	200.0	600.0	32.2	1.6	90.9	200.0	150.0	18.1	0.0	21.4	0.5	31.4
AM Peak Hour as a % of daily	14.2%	8.9%	2.3%	1.5%	14.8%	8.5%	10.6%	0.0%	1.5%	2.3%	8.9%	0.0%	2.2%	13.0%	8.2%
AM Peak Hour Trip Rate (per 1,000 gs)	1.42	1.61	3.49	2.92	88.89	2.76	0.17	0.00	2.92	3.49	1.61	0.00	0.47	0.06	2.58
PM Peak Hour as a % of daily	17.3%	8.5%	9.0%	13.5%	13.5%	12.3%	10.6%	15.0%	13.5%	9.0%	8.5%	0.0%	12.2%	9.0%	12.3%
PM Peak Hour Trip Rate (per 1,000 gs)	1.73	1.54	13.50	27.00	81.00	3.96	0.17	13.64	27.00	13.50	1.54	0.00	2.61	0.04	3.86
% Modal Share															
Auto	27%	37%	36%	36%	36%	35%	54%	36%	36%	36%	37%	0%	37%	36%	35%
Transit	42%	35%	17%	27%	27%	29%	39%	26%	17%	17%	35%	0%	21%	27%	29%
Walk/Other	31%	28%	47%	37%	37%	36%	7%	38%	47%	47%	28%	0%	42%	37%	37%
Average Vehicle Occupancy Rate															
Weekday Daily	1.11	1.97	2.38	2.31	2.31	1.96	1.23	2.37	2.38	2.38	1.97	0.00	2.19	2.31	1.97
Weekday AM Peak Hour	1.11	1.63	1.54	1.54	2.31	1.66	1.35	0.00	1.54	1.54	1.63	0.00	1.48	2.31	1.65
Weekday PM Peak Hour	1.11	1.63	2.38	2.31	2.31	1.82	1.35	2.37	2.38	2.38	1.63	0.00	2.24	2.31	1.84

INTERNAL AND EXTERNAL TRIPS BY MODE	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Auto Person Trips	4,269	6,496	6,484	6,061	7,792	31,101	164	358	789	538	53		1,901	37	33,039
Transit Person Trips	6,625	6,173	3,093	4,518	5,808	26,216	116	257	376	257	50		1,057	27	27,300
Walk/Other Person trips	4,896	4,928	8,502	6,294	8,093	32,713	21	385	1,035	705	40		2,186	38	34,937
Total Person Trips	15,790	17,596	18,078	16,873	21,694	90,030	301	1,000	2,200	1,500	143	-	5,144	102	95,276
Total Vehicle Trips	3,854	3,300	2,729	2,620	3,369	15,873	133	151	332	226	27		869	16	16,758
Weekday AM Peak Hour															
Auto Person Trips	607	601	164	96	1,155	2,623	15	-	12	14	5		46	5	2,673
Transit Person Trips	943	740	218	127	861	2,889	14	-	17	18	6		55	4	2,947
Walk/Other Person trips	697	225	40	23	1,199	2,183	3	-	3	3	2		11	5	2,199
Total Person Trips	2,247	1,566	421	246	3,214	7,694	32	-	32	35	13	-	112	13	7,819
Total Vehicle Trips	548	368	106	62	499	1,584	11	-	8	9	3		31	2	1,617
Weekday PM Peak Hour															
Auto Person Trips	739	574	584	818	1,052	3,766	15	54	107	48	5		228	3	3,998
Transit Person Trips	1,146	707	278	610	784	3,526	14	39	51	23	6		133	2	3,661
Walk/Other Person trips	847	215	765	850	1,093	3,769	3	58	140	63	2		265	3	4,038
Total Person Trips	2,732	1,496	1,627	2,278	2,929	11,061	32	150	297	135	12	-	626	9	11,696
Total Vehicle Trips	667	351	246	354	455	2,072	11	23	45	20	3		102	1	2,176

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

INTERNAL AND EXTERNAL TRIPS INBOUND/OUTBOUND SPLITS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday AM Peak Hour															
Work															
Inbound	0%	100%	100%	100%	100%		80%		100%	100%	100%			100%	
Outbound	100%	0%	0%	0%	0%		20%		0%	0%	0%			0%	
Non Work															
Inbound	67%	50%	50%	50%	50%		50%	50%	50%	50%	50%			50%	
Outbound	33%	50%	50%	50%	50%		50%	50%	50%	50%	50%			50%	
All trip purposes combined															
Inbound	33%	92%	100%	100%	52%	59%	76%	0%	100%	100%	92%		92%	52%	59%
Outbound	67%	9%	0%	0%	48%	41%	24%	0%	0%	0%	9%		8%	48%	41%
Person Trips															
Inbound	749	1,433	421	246	1,671	4,521	24	-	32	35	12		103	7	4,630
Outbound	1,498	133	-	-	1,543	3,174	8	-	-	-	1		9	6	3,189
Total Person Trips	2,247	1,566	421	246	3,214	7,694	32	-	32	35	13	-	112	13	7,819
Vehicle Trips															
Inbound	183	348	106	62	266	964	8	-	8	9	3		27	1	993
Outbound	366	20	-	-	233	619	3	-	-	-	0		4	1	624
Total Vehicle Trips	548	368	106	62	499	1,584	11	-	8	9	3	-	31	2	1,617
Weekday PM Peak Hour															
Work															
Inbound	100%	0%	0%	0%	0%		20%		0%	0%	0%			0%	
Outbound	0%	100%	100%	100%	100%		80%		100%	100%	100%			100%	
Non Work															
Inbound	33%	50%	50%	50%	50%		50%	50%	50%	50%	50%			50%	
Outbound	67%	50%	50%	50%	50%		50%	50%	50%	50%	50%			50%	
All trip purposes combined															
Inbound	67%	9%	48%	48%	48%	47%	24%	50%	48%	48%	9%		46%	48%	47%
Outbound	33%	92%	52%	52%	52%	53%	76%	50%	52%	52%	92%		54%	52%	53%
Person Trips															
Inbound	1,821	127	781	1,093	1,406	5,228	8	75	143	65	1		291	4	5,524
Outbound	911	1,369	846	1,184	1,523	5,833	24	75	154	70	11		335	5	6,172
Total Person Trips	2,732	1,496	1,627	2,278	2,929	11,061	32	150	297	135	12	-	626	9	11,696
Vehicle Trips															
Inbound	445	19	115	165	213	956	3	11	21	10	0		45	1	1,002
Outbound	222	332	131	188	242	1,116	8	11	24	11	3		56	1	1,173
Total Vehicle Trips	667	351	246	354	455	2,072	11	23	45	20	3	-	102	1	2,176

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

INTERNAL AND LINKED PERSON TRIP ADJUSTMENT FACTORS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Internal trip factor	35%	10%	15%	15%	17%		5%	0%	10%	10%	10%			10%	
Internal linked trip factor	15%	25%	50%	50%	80%		25%	0%	80%	80%	25%			80%	
Internal person trips	4,698	1,320	1,356	1,265	738	9,417	11	-	44	30	11	-	55	2	9,474
Total internal person trip productions															4,728
Total internal person trip attractions															4,736
Difference															8
% difference															0%
Internal and linked person trips (Walk)	5,527	1,760	2,712	2,531	3,688	16,381	15	-	220	150	14	-	235	10	16,626
Overall total trip reduction	35%	10%	15%	15%	17%	18%	5%	0%	10%	10%	10%	0%	5%	10%	17%
Weekday AM Peak Hour															
Internal trip factor	20%	15%	22%	15%	20%		5%	0%	0%	0%	15%			10%	
Internal linked trip factor	15%	20%	50%	50%	80%		25%	0%	80%	80%	20%			80%	
Internal person trips	382	188	46	18	129	765	1	-	-	-	2	-	1	0	766
Total internal person trip productions															382
Total internal person trip attractions															383
Difference															1
% difference															0%
Internal and linked person trips (Walk)	449	235	93	37	643	1,459	2	-	-	-	2	-	2	1	1,462
Overall total trip reduction	20%	15%	22%	15%	20%	19%	5%	0%	0%	0%	15%	0%	1%	10%	19%
Weekday PM Peak Hour															
Internal trip factor	35%	25%	25%	17%	25%		5%	0%	10%	10%	25%			10%	
Internal linked trip factor	15%	30%	50%	50%	80%		25%	0%	80%	80%	30%			80%	
Internal person trips	813	262	203	194	146	1,623	1	-	6	3	2	-	7	0	1,630
Total internal person trip productions															815
Total internal person trip attractions															812
Difference															(3)
% difference					1,019										0%
Internal and linked person trips (Walk)	956	374	407	387	732	2,873	2	-	30	14	3	-	31	1	2,905
Overall total trip reduction	35%	25%	25%	17%	25%	26%	5%	0%	10%	10%	25%	0%	5%	10%	25%
TRIP SUBTRACTION CHECK															
Weekday Daily	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Weekday AM Peak Hour	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Weekday PM Peak Hour	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
PEAK HOUR CHECK															
Auto Person Trips SD1+SD3															
Daily External Trips	880	995	488	759	877	4,064	23	79	84	57	8	-	186	6	4,255
AM+PM External Trips	192	21	6	35	61	319	1	4	7	3	0	-	13	0	332
Avearge Peak Hour Factor	11%	1%	1%	2%	3%	4%	3%	3%	4%	3%	1%	0%	3%	4%	4%
Transit Person Trips SD1+SD3															
Daily External Trips	1,674	1,285	396	841	972	5,223	25	85	68	46	10	-	179	6	5,408
AM+PM External Trips	365	48	9	50	83	560	2	6	7	4	0	-	15	1	575
Avearge Peak Hour Factor	11%	2%	1%	3%	4%	5%	4%	3%	5%	4%	2%	0%	4%	5%	5%
Walk/Other Person Trips SD1+SD3															
Daily External Trips	1,782	1,790	1,306	1,740	2,011	8,797	14	186	225	153	15	-	424	13	9,234
AM+PM External Trips	389	86	23	183	330	1,024	3	23	26	13	1	-	52	2	1,078
Avearge Peak Hour Factor	11%	2%	1%	5%	8%	6%	11%	6%	6%	4%	2%	0%	6%	9%	6%

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Superdistrict 1															
Auto Person Trips	489	301	272	268	310	1,641	9	28	47	32	2	-	119	2	1,762
Transit Person Trips	930	500	231	364	421	2,446	8	38	40	27	4	-	117	3	2,566
Walk/Other Person trips	990	1,495	1,011	1,444	1,669	6,608	12	154	174	118	12	-	470	11	7,089
Total Person Trips	2,409	2,296	1,514	2,076	2,400	10,695	29	220	260	178	19	-	706	16	11,417
Vehicle Trips	442	158	169	119	138	1,027	9	12	29	20	1	-	71	1	1,099
Superdistrict 2															
Auto Person Trips	111	791	372	754	970	2,998	18	45	45	31	6		145	5	3,148
Transit Person Trips	211	1,152	465	858	1,103	3,788	21	49	57	39	9		175	5	3,968
Walk/Other Person trips	225	546	483	753	968	2,975	1	46	59	40	4		150	5	3,130
Total Person Trips	548	2,489	1,319	2,365	3,041	9,761	40	140	161	109	20	-	470	14	10,246
Vehicle Trips	100	477	231	374	481	1,665	16	22	28	19	4		89	2	1,755
Superdistrict 3															
Auto Person Trips	391	694	215	491	567	2,357	14	50	37	25	6	-	132	4	2,493
Transit Person Trips	744	785	164	476	551	2,720	17	48	28	19	6	-	118	4	2,842
Walk/Other Person trips	792	295	295	296	342	2,021	2	32	51	35	2	-	121	2	2,145
Total Person Trips	1,927	1,774	675	1,263	1,460	7,099	33	130	116	79	14	-	372	10	7,481
Vehicle Trips	353	396	110	214	248	1,322	11	21	19	13	3	-	67	2	1,390
Superdistrict 4															
Auto Person Trips	111	631	211	513	660	2,126	13	30	26	17	5		91	3	2,220
Transit Person Trips	211	644	221	412	530	2,019	14	23	27	18	5		87	3	2,108
Walk/Other Person trips	225	222	170	284	365	1,267	1	17	21	14	2		55	2	1,323
Total Person Trips	548	1,498	602	1,209	1,555	5,412	27	70	73	50	12	-	233	7	5,652
Vehicle Trips	100	367	139	270	348	1,224	9	15	17	12	3		56	2	1,282
East Bay															
Auto Person Trips	564	1,146	791	904	1,162	4,568	23	52	96	66	9		246	5	4,820
Transit Person Trips	695	1,117	535	530	681	3,558	29	27	65	44	9		175	3	3,736
Walk/Other Person trips	131	394	745	499	642	2,410	2	30	91	62	3		188	3	2,601
Total Person Trips	1,390	2,658	2,071	1,933	2,485	10,536	53	110	252	172	22	-	609	12	11,157
Vehicle Trips	509	410	329	365	470	2,083	9	21	40	27	3		101	2	2,186
North Bay															
Auto Person Trips	84	604	423	598	768	2,478	10	36	52	35	5		137	4	2,619
Transit Person Trips	42	229	173	96	124	664	6	5	21	14	2		48	1	713
Walk/Other Person trips	-	116	316	157	202	791	0	10	38	26	1		75	1	867
Total Person Trips	126	949	912	851	1,094	3,933	17	50	111	76	8	-	261	5	4,199
Vehicle Trips	76	330	190	314	404	1,314	7	19	23	16	3		67	2	1,383
South Bay															
Auto Person Trips	1,396	994	1,085	731	939	5,145	22	42	132	90	8		293	4	5,443
Transit Person Trips	1,658	563	238	318	409	3,186	13	17	29	20	5		84	2	3,271
Walk/Other Person trips	262	137	169	182	233	983	0	11	21	14	1		47	1	1,032
Total Person Trips	3,316	1,694	1,492	1,230	1,582	9,314	35	70	182	124	14	-	424	7	9,746
Vehicle Trips	1,260	618	410	320	411	3,019	18	17	50	34	5		124	2	3,145
Outside of Bay Area															
Auto Person Trips	-	904	2,511	1,227	1,578	6,219	49	75	306	208	7		646	7	6,872
Transit Person Trips	-	627	575	826	1,062	3,090	2	51	70	48	5		175	5	3,270
Walk/Other Person trips	-	948	3,696	1,361	1,750	7,755	0	84	450	307	8		848	8	8,611
Total Person Trips	-	2,479	6,781	3,414	4,389	17,063	51	210	825	563	20	-	1,669	21	18,753
Vehicle Trips	-	304	807	389	500	2,000	48	24	98	67	2		240	2	2,242
All Origins															
Auto Person Trips	3,147	6,065	5,880	5,486	6,954	27,532	158	358	740	505	49	-	1,810	34	29,376
Transit Person Trips	4,491	5,617	2,602	3,881	4,880	21,472	110	257	337	229	46	-	979	25	22,476
Walk/Other Person trips	2,625	4,154	6,884	4,976	6,171	24,810	18	385	903	616	34	-	1,956	33	26,798
Total Person Trips	10,264	15,837	15,366	14,342	18,006	73,814	286	1,000	1,980	1,350	128	-	4,744	92	78,650
Vehicle Trips	2,841	3,060	2,384	2,367	3,000	13,653	128	151	304	207	25	-	815	15	14,483
Total Internal Person Trips	5,527	1,760	2,712	2,531	3,688	16,217	15	-	220	150	14	-	399	10	16,626
Person-trip reduction	35%	10%	15%	15%	17%	18%	5%	0%	10%	10%	10%	0%	8%	10%	17%
Average Vehicle Occupancy	1.11	1.98	2.47	2.32	2.32	2.02	1.23	2.37	2.43	2.43	1.98	-	2.22	2.32	2.03

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday AM Peak Hour															
Superdistrict 1															
Auto Person Trips	108	16	2	2	38	165	1	-	1	1	0	-	2	0	168
Transit Person Trips	205	36	5	6	52	303	1	-	1	2	0	-	4	0	308
Walk/Other Person trips	218	64	7	8	206	502	1	-	2	2	1	-	6	1	510
Total Person Trips	530	115	14	16	296	970	3	-	4	4	1	-	13	2	985
Vehicle Trips	97	11	2	2	17	128	1	-	0	0	0	-	2	0	130
Superdistrict 2															
Auto Person Trips	16	71	19	11	144	261	2	-	1	2	1		5	1	267
Transit Person Trips	30	136	40	23	163	393	3	-	3	3	1		10	1	404
Walk/Other Person trips	32	17	2	1	143	195	0	-	0	0	0		0	1	196
Total Person Trips	78	224	61	35	450	849	4	-	5	5	2	-	16	2	867
Vehicle Trips	14	54	16	9	71	164	1	-	1	1	0		4	0	169
Superdistrict 3															
Auto Person Trips	86	51	7	8	70	223	2	-	2	2	0	-	7	0	230
Transit Person Trips	164	68	10	11	68	321	2	-	3	3	1	-	9	0	330
Walk/Other Person trips	174	11	1	1	42	230	0	-	0	0	0	-	1	0	231
Total Person Trips	424	131	19	21	180	774	4	-	5	6	1	-	16	1	792
Vehicle Trips	78	37	6	6	31	158	1	-	2	2	0	-	5	0	163
Superdistrict 4															
Auto Person Trips	16	69	20	12	98	213	1	-	2	2	1		5	0	219
Transit Person Trips	30	85	26	15	78	235	2	-	2	2	1		6	0	242
Walk/Other Person trips	32	10	2	1	54	99	0	-	0	0	0		0	0	100
Total Person Trips	78	164	47	28	230	547	3	-	4	4	1	-	12	1	560
Vehicle Trips	14	44	13	8	51	130	1	-	1	1	0		3	0	134
East Bay															
Auto Person Trips	80	129	37	22	172	440	3	-	3	3	1		10	1	450
Transit Person Trips	99	173	54	31	101	458	4	-	4	4	1		14	0	472
Walk/Other Person trips	19	19	3	2	95	138	0	-	0	0	0		1	0	139
Total Person Trips	198	320	94	55	368	1,036	6	-	7	8	3	-	24	2	1,061
Vehicle Trips	72	40	11	7	70	200	1	-	1	1	0		3	0	203
North Bay															
Auto Person Trips	12	51	14	8	114	199	1	-	1	1	0		4	0	203
Transit Person Trips	6	37	12	7	18	80	1	-	1	1	0		3	0	83
Walk/Other Person trips	-	4	0	0	30	35	0	-	0	0	0		0	0	35
Total Person Trips	18	93	26	15	162	313	2	-	2	2	1	-	7	1	321
Vehicle Trips	11	30	8	5	60	113	1	-	1	1	0		2	0	115
South Bay															
Auto Person Trips	199	119	35	20	139	512	2	-	3	3	1		9	1	522
Transit Person Trips	236	80	25	14	61	416	2	-	2	2	1		6	0	422
Walk/Other Person trips	37	5	1	0	35	78	0	-	0	0	0		0	0	79
Total Person Trips	472	204	60	35	234	1,006	4	-	5	5	2	-	15	1	1,023
Vehicle Trips	179	92	28	17	61	377	2	-	2	2	1		7	0	385
Outside of Bay Area															
Auto Person Trips	-	31	4	2	234	271	3	-	0	0	0		4	1	275
Transit Person Trips	-	25	4	2	157	188	0	-	0	0	0		1	1	190
Walk/Other Person trips	-	23	0	0	259	282	0	-	0	0	0		0	1	284
Total Person Trips	-	79	8	4	650	742	3	-	1	1	1	-	5	3	749
Vehicle Trips	-	14	2	1	74	92	3	-	0	0	0		3	0	95
All Origins															
Auto Person Trips	516	537	137	85	1,008	2,284	14	-	12	14	4	-	45	4	2,333
Transit Person Trips	769	641	175	110	699	2,394	14	-	17	18	5	-	54	3	2,451
Walk/Other Person trips	512	153	16	14	864	1,560	2	-	3	3	1	-	10	4	1,574
Total Person Trips	1,798	1,331	328	209	2,571	6,238	30	-	32	35	11	-	108	12	6,358
Vehicle Trips	466	322	86	54	435	1,362	11	-	8	9	3	-	30	2	1,394
Total Internal Person Trips	449	235	93	37	643	1,457	2	-	-	-	2	-	3	1	1,462
Person-trip reduction	20%	15%	22%	15%	20%	19%	5%	0%	0%	0%	15%	0%	3%	10%	19%
Average Vehicle Occupancy	1.11	1.67	1.61	1.58	2.32	1.68	1.35	-	1.54	1.54	1.67	-	1.49	2.32	1.67

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday PM Peak Hour															
Superdistrict 1															
Auto Person Trips	85	5	4	33	23	150	1	4	6	3	0	-	14	0	164
Transit Person Trips	161	12	4	44	31	252	1	6	5	2	0	-	15	0	267
Walk/Other Person trips	171	22	16	175	124	508	1	23	23	11	0	-	59	1	568
Total Person Trips	417	40	24	252	178	911	3	33	35	16	0	-	88	1	1,000
Vehicle Trips	76	4	3	15	10	108	1	2	4	2	0	-	8	0	116
Superdistrict 2															
Auto Person Trips	19	68	33	102	131	353	2	7	6	3	1		18	0	371
Transit Person Trips	37	130	42	116	149	473	3	7	8	3	1		22	0	496
Walk/Other Person trips	39	16	43	102	131	331	0	7	8	4	0		19	0	350
Total Person Trips	95	214	119	319	410	1,158	4	21	22	10	2	-	59	1	1,218
Vehicle Trips	17	51	21	51	65	205	1	3	4	2	0		11	0	216
Superdistrict 3															
Auto Person Trips	68	18	3	60	42	191	2	8	5	2	0	-	17	0	207
Transit Person Trips	129	24	3	58	41	253	2	7	4	2	0	-	15	0	269
Walk/Other Person trips	137	4	5	36	25	207	0	5	7	3	0	-	15	0	222
Total Person Trips	333	45	11	153	108	651	4	20	16	7	0	-	47	1	698
Vehicle Trips	61	13	2	26	18	120	1	3	3	1	0	-	8	0	129
Superdistrict 4															
Auto Person Trips	19	66	19	69	89	262	1	4	3	2	1		11	0	274
Transit Person Trips	37	82	20	56	72	265	2	3	4	2	1		11	0	277
Walk/Other Person trips	39	10	15	38	49	152	0	3	3	1	0		7	0	159
Total Person Trips	95	157	54	163	210	679	3	11	10	4	1	-	29	1	709
Vehicle Trips	17	42	13	36	47	155	1	2	2	1	0		7	0	162
East Bay															
Auto Person Trips	98	123	71	122	157	571	3	8	13	6	1		30	0	601
Transit Person Trips	120	165	48	72	92	497	4	4	9	4	1		22	0	519
Walk/Other Person trips	23	18	67	67	87	261	0	5	12	6	0		23	0	284
Total Person Trips	240	306	186	261	336	1,329	6	17	34	15	2	-	75	1	1,405
Vehicle Trips	88	38	30	49	63	269	1	3	5	2	0		12	0	281
North Bay															
Auto Person Trips	15	49	38	81	104	286	1	5	7	3	0		17	0	303
Transit Person Trips	7	36	16	13	17	88	1	1	3	1	0		6	0	94
Walk/Other Person trips	-	4	28	21	27	81	0	1	5	2	0		9	0	90
Total Person Trips	22	88	82	115	148	455	2	8	15	7	1	-	32	0	487
Vehicle Trips	13	28	17	42	55	155	1	3	3	1	0		8	0	164
South Bay															
Auto Person Trips	242	114	98	99	127	678	2	6	18	8	1		36	0	714
Transit Person Trips	287	77	21	43	55	483	2	3	4	2	1		11	0	494
Walk/Other Person trips	45	5	15	25	32	122	0	2	3	1	0		6	0	128
Total Person Trips	574	195	134	166	214	1,283	4	11	25	11	2	-	52	1	1,335
Vehicle Trips	218	88	37	43	56	442	2	3	7	3	1		15	0	457
Outside of Bay Area															
Auto Person Trips	-	30	226	166	213	634	3	11	41	19	0		74	1	709
Transit Person Trips	-	24	52	111	143	331	0	8	9	4	0		22	0	353
Walk/Other Person trips	-	22	333	184	236	774	0	13	61	28	0		101	1	876
Total Person Trips	-	76	610	461	593	1,739	3	32	111	51	1	-	197	2	1,938
Vehicle Trips	-	13	73	53	68	206	3	4	13	6	0		26	0	232
All Origins															
Auto Person Trips	544	472	493	730	886	3,125	14	54	100	45	4	-	217	3	3,345
Transit Person Trips	777	549	205	512	600	2,643	14	39	45	21	4	-	123	2	2,768
Walk/Other Person trips	454	101	523	648	711	2,436	2	58	122	55	1	-	238	3	2,677
Total Person Trips	1,776	1,122	1,220	1,891	2,196	8,205	30	150	267	122	9	-	578	8	8,791
Vehicle Trips	492	278	194	315	382	1,660	11	23	41	19	2	-	95	1	1,756
Total Internal Person Trips	956	374	407	387	732	2,856	2	-	30	14	3	-	48	1	2,905
Person-trip reduction	35%	25%	25%	17%	25%	26%	5%	0%	10%	10%	25%	0%	8%	10%	25%
Average Vehicle Occupancy	1.11	1.70	2.54	2.32	2.32	1.88	1.35	2.37	2.43	2.43	1.70	-	2.28	2.32	1.90

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

MODAL SPLIT SUMMARY FOR INTERNAL AND EXTERNAL TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Internal + External Before Adjustment															
Auto Person Trips	27%	37%	36%	36%	36%	35%	54%	36%	36%	36%	37%	0%	37%	36%	35%
Transit Person Trips	42%	35%	17%	27%	27%	29%	39%	26%	17%	17%	35%	0%	21%	27%	29%
Walk/Other Person trips	31%	28%	47%	37%	37%	36%	7%	38%	47%	47%	28%	0%	42%	37%	37%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Internal + External After Adjustment															
Auto Person Trips	20%	34%	33%	33%	32%	31%	52%	36%	34%	34%	34%	0%	35%	34%	31%
Transit Person Trips	28%	32%	14%	23%	22%	24%	37%	26%	15%	15%	32%	0%	19%	24%	24%
Walk/Other Person trips	52%	34%	53%	44%	45%	46%	11%	38%	51%	51%	34%	0%	46%	42%	46%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
External Only Trips															
Auto Person Trips	31%	38%	38%	38%	39%	37%	55%	36%	37%	37%	38%	0%	38%	37%	37%
Transit Person Trips	44%	35%	17%	27%	27%	29%	39%	26%	17%	17%	35%	0%	21%	27%	29%
Walk/Other Person trips	26%	26%	45%	35%	34%	34%	6%	38%	46%	46%	26%	0%	41%	36%	34%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Weekday AM Peak Hour															
Internal + External Before Adjustment															
Auto Person Trips	27%	38%	39%	39%	36%	34%	47%	0%	39%	39%	38%	0%	41%	36%	34%
Transit Person Trips	42%	47%	52%	52%	27%	38%	45%	0%	52%	52%	47%	0%	49%	27%	38%
Walk/Other Person trips	31%	14%	9%	9%	37%	28%	8%	0%	9%	9%	14%	0%	10%	37%	28%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	0%	100%	100%	100%
Internal + External After Adjustment															
Auto Person Trips	23%	34%	33%	35%	31%	30%	45%	0%	39%	39%	34%	0%	40%	34%	30%
Transit Person Trips	34%	41%	41%	45%	22%	31%	43%	0%	52%	52%	41%	0%	48%	24%	31%
Walk/Other Person trips	43%	25%	26%	21%	47%	39%	12%	0%	9%	9%	25%	0%	12%	42%	39%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	0%	100%	100%	100%
External Only Trips															
Auto Person Trips	29%	40%	42%	41%	39%	37%	47%	0%	39%	39%	40%	0%	41%	37%	37%
Transit Person Trips	43%	48%	53%	53%	27%	38%	45%	0%	52%	52%	48%	0%	50%	27%	39%
Walk/Other Person trips	28%	12%	5%	7%	34%	25%	7%	0%	9%	9%	12%	0%	9%	36%	25%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	0%	100%	100%	100%
Weekday PM Peak Hour															
Internal + External Before Adjustment															
Auto Person Trips	27%	38%	36%	36%	36%	34%	47%	36%	36%	36%	38%	0%	36%	36%	34%
Transit Person Trips	42%	47%	17%	27%	27%	32%	45%	26%	17%	17%	47%	0%	21%	27%	31%
Walk/Other Person trips	31%	14%	47%	37%	37%	34%	8%	38%	47%	47%	14%	0%	42%	37%	35%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Internal + External After Adjustment															
Auto Person Trips	20%	32%	30%	32%	30%	28%	45%	36%	34%	34%	32%	0%	35%	34%	29%
Transit Person Trips	28%	37%	13%	22%	20%	24%	43%	26%	15%	15%	37%	0%	20%	24%	24%
Walk/Other Person trips	52%	32%	57%	45%	49%	48%	12%	38%	51%	51%	32%	0%	46%	42%	48%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
External Only Trips															
Auto Person Trips	31%	42%	40%	39%	40%	38%	47%	36%	37%	37%	42%	0%	38%	37%	38%
Transit Person Trips	44%	49%	17%	27%	27%	32%	45%	26%	17%	17%	49%	0%	21%	27%	31%
Walk/Other Person trips	26%	9%	43%	34%	32%	30%	7%	38%	46%	46%	9%	0%	41%	36%	30%
Total Person Trips	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday AM Peak Hour															
Auto Person Trips: All origins	516	537	137	85	1,008	2,284	14	-	12	14	4	-	45	4	2,333
Inbound	172	491	137	85	524	1,410	11	-	12	14	4	-	41	2	1,454
Outbound	344	46	-	-	484	874	3	-	-	-	0	-	4	2	880
Transit Person Trips: All origins	769	641	175	110	699	2,394	14	-	17	18	5	-	54	3	2,451
Inbound	256	587	175	110	363	1,491	10	-	17	18	5	-	50	2	1,543
Outbound	513	54	-	-	335	903	3	-	-	-	0	-	4	2	908
Walk/Other Person Trips: All origins	512	153	16	14	864	1,560	2	-	3	3	1	-	10	4	1,574
Inbound	171	140	16	14	449	790	2	-	3	3	1	-	9	2	802
Outbound	341	13	-	-	415	769	1	-	-	-	0	-	1	2	772
Total Person Trips: All origins	1,798	1,331	328	209	2,571	6,238	30	-	32	35	11	-	108	12	6,358
Inbound	599	1,218	328	209	1,337	3,692	23	-	32	35	10	-	100	6	3,798
Outbound	1,198	113	-	-	1,234	2,546	7	-	-	-	1	-	8	6	2,560
Total Vehicle Trips: All origins	466	322	86	54	435	1,362	11	-	8	9	3	-	30	2	1,394
Inbound	155	304	86	54	232	830	7	-	8	9	2	-	27	1	858
Outbound	311	18	-	-	203	532	3	-	-	-	0	-	3	1	536
Weekday PM Peak Hour															
Auto Person Trips: All origins	544	472	493	730	886	3,125	14	54	100	45	4	-	217	3	3,345
Inbound	363	40	237	350	425	1,415	3	27	48	22	0	-	100	1	1,517
Outbound	181	432	256	380	461	1,710	11	27	52	24	3	-	117	2	1,828
Transit Person Trips: All origins	777	549	205	512	600	2,643	14	39	45	21	4	-	123	2	2,768
Inbound	518	47	98	246	288	1,197	3	19	22	10	0	-	55	1	1,253
Outbound	259	503	106	266	312	1,446	10	19	24	11	4	-	68	1	1,516
Walk/Other Person Trips: All origins	454	101	523	648	711	2,436	2	58	122	55	1	-	238	3	2,677
Inbound	303	9	251	311	341	1,214	1	29	59	27	0	-	115	1	1,330
Outbound	151	92	272	337	370	1,222	2	29	63	29	1	-	124	2	1,347
Total Person Trips: All origins	1,776	1,122	1,220	1,891	2,196	8,205	30	150	267	122	9	-	578	8	8,791
Inbound	1,184	95	586	907	1,054	3,827	7	75	128	58	1	-	270	4	4,100
Outbound	592	1,026	635	983	1,142	4,378	23	75	139	63	8	-	309	4	4,691
Total Vehicle Trips: All origins	492	278	194	315	382	1,660	11	23	41	19	2	-	95	1	1,756
Inbound	328	15	90	147	178	759	3	11	19	9	0	-	43	1	802
Outbound	164	263	103	168	203	901	7	11	22	10	2	-	53	1	954

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday Daily															
Auto Person Trips															
Superdistrict 1	489	301	272	268	310	1,641	9	28	47	32	2	-	119	2	1,762
Superdistrict 2	111	791	372	754	970	2,998	18	45	45	31	6	-	145	5	3,148
Superdistrict 3	391	694	215	491	567	2,357	14	50	37	25	6	-	132	4	2,493
Superdistrict 4	111	631	211	513	660	2,126	13	30	26	17	5	-	91	3	2,220
East Bay	564	1,146	791	904	1,162	4,568	23	52	96	66	9	-	246	5	4,820
North Bay	84	604	423	598	768	2,478	10	36	52	35	5	-	137	4	2,619
South Bay	1,396	994	1,085	731	939	5,145	22	42	132	90	8	-	293	4	5,443
Outside of Bay Area	-	904	2,511	1,227	1,578	6,219	49	75	306	208	7	-	646	7	6,872
All Origins	3,147	6,065	5,880	5,486	6,954	27,532	158	358	740	505	49	-	1,810	34	29,376
Transit Person Trips															
Superdistrict 1	930	500	231	364	421	2,446	8	38	40	27	4	-	117	3	2,566
Superdistrict 2	211	1,152	465	858	1,103	3,788	21	49	57	39	9	-	175	5	3,968
Superdistrict 3	744	785	164	476	551	2,720	17	48	28	19	6	-	118	4	2,842
Superdistrict 4	211	644	221	412	530	2,019	14	23	27	18	5	-	87	3	2,108
East Bay	695	1,117	535	530	681	3,558	29	27	65	44	9	-	175	3	3,736
North Bay	42	229	173	96	124	664	6	5	21	14	2	-	48	1	713
South Bay	1,658	563	238	318	409	3,186	13	17	29	20	5	-	84	2	3,271
Outside of Bay Area	-	627	575	826	1,062	3,090	2	51	70	48	5	-	175	5	3,270
All Origins	4,491	5,617	2,602	3,881	4,880	21,472	110	257	337	229	46	-	979	25	22,476
Walk/Other Person trips															
Superdistrict 1	990	1,495	1,011	1,444	1,669	6,608	12	154	174	118	12	-	470	11	7,089
Superdistrict 2	225	546	483	753	968	2,975	1	46	59	40	4	-	150	5	3,130
Superdistrict 3	792	295	295	296	342	2,021	2	32	51	35	2	-	121	2	2,145
Superdistrict 4	225	222	170	284	365	1,267	1	17	21	14	2	-	55	2	1,323
East Bay	131	394	745	499	642	2,410	2	30	91	62	3	-	188	3	2,601
North Bay	-	116	316	157	202	791	0	10	38	26	1	-	75	1	867
South Bay	262	137	169	182	233	983	0	11	21	14	1	-	47	1	1,032
Outside of Bay Area	-	948	3,696	1,361	1,750	7,755	0	84	450	307	8	-	848	8	8,611
All Origins	2,625	4,154	6,884	4,976	6,171	24,810	18	385	903	616	34	-	1,956	33	26,798
Total Person trips															
Superdistrict 1	2,409	2,296	1,514	2,076	2,400	10,695	29	220	260	178	19	-	706	16	11,417
Superdistrict 2	548	2,489	1,319	2,365	3,041	9,761	40	140	161	109	20	-	470	14	10,246
Superdistrict 3	1,927	1,774	675	1,263	1,460	7,099	33	130	116	79	14	-	372	10	7,481
Superdistrict 4	548	1,498	602	1,209	1,555	5,412	27	70	73	50	12	-	233	7	5,652
East Bay	1,390	2,658	2,071	1,933	2,485	10,536	53	110	252	172	22	-	609	12	11,157
North Bay	126	949	912	851	1,094	3,933	17	50	111	76	8	-	261	5	4,199
South Bay	3,316	1,694	1,492	1,230	1,582	9,314	35	70	182	124	14	-	424	7	9,746
Outside of Bay Area	-	2,479	6,781	3,414	4,389	17,063	51	210	825	563	20	-	1,669	21	18,753
All Origins	10,264	15,837	15,366	14,342	18,006	73,814	286	1,000	1,980	1,350	128	-	4,744	92	78,650
Vehicle trips															
Superdistrict 1	442	158	169	119	138	1,027	9	12	29	20	1	-	71	1	1,099
Superdistrict 2	100	477	231	374	481	1,665	16	22	28	19	4	-	89	2	1,755
Superdistrict 3	353	396	110	214	248	1,322	11	21	19	13	3	-	67	2	1,390
Superdistrict 4	100	367	139	270	348	1,224	9	15	17	12	3	-	56	2	1,282
East Bay	509	410	329	365	470	2,083	9	21	40	27	3	-	101	2	2,186
North Bay	76	330	190	314	404	1,314	7	19	23	16	3	-	67	2	1,383
South Bay	1,260	618	410	320	411	3,019	18	17	50	34	5	-	124	2	3,145
Outside of Bay Area	-	304	807	389	500	2,000	48	24	98	67	2	-	240	2	2,242
All Origins	2,841	3,060	2,384	2,367	3,000	13,653	128	151	304	207	25	-	815	15	14,483

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday AM Peak Hour															
Auto Person Trips															
Superdistrict 1	108	16	2	2	38	165	1	-	1	1	0	-	2	0	168
Superdistrict 2	16	71	19	11	144	261	2	-	1	2	1	-	5	1	267
Superdistrict 3	86	51	7	8	70	223	2	-	2	2	0	-	7	0	230
Superdistrict 4	16	69	20	12	98	213	1	-	2	2	1	-	5	0	219
East Bay	80	129	37	22	172	440	3	-	3	3	1	-	10	1	450
North Bay	12	51	14	8	114	199	1	-	1	1	0	-	4	0	203
South Bay	199	119	35	20	139	512	2	-	3	3	1	-	9	1	522
Outside of Bay Area	-	31	4	2	234	271	3	-	0	0	0	-	4	1	275
All Origins	516	537	137	85	1,008	2,284	14	-	12	14	4	-	45	4	2,333
Transit Person Trips															
Superdistrict 1	205	36	5	6	52	303	1	-	1	2	0	-	4	0	308
Superdistrict 2	30	136	40	23	163	393	3	-	3	3	1	-	10	1	404
Superdistrict 3	164	68	10	11	68	321	2	-	3	3	1	-	9	0	330
Superdistrict 4	30	85	26	15	78	235	2	-	2	2	1	-	6	0	242
East Bay	99	173	54	31	101	458	4	-	4	4	1	-	14	0	472
North Bay	6	37	12	7	18	80	1	-	1	1	0	-	3	0	83
South Bay	236	80	25	14	61	416	2	-	2	2	1	-	6	0	422
Outside of Bay Area	-	25	4	2	157	188	0	-	0	0	0	-	1	1	190
All Origins	769	641	175	110	699	2,394	14	-	17	18	5	-	54	3	2,451
Walk/Other Person trips															
Superdistrict 1	218	64	7	8	206	502	1	-	2	2	1	-	6	1	510
Superdistrict 2	32	17	2	1	143	195	0	-	0	0	0	-	0	1	196
Superdistrict 3	174	11	1	1	42	230	0	-	0	0	0	-	1	0	231
Superdistrict 4	32	10	2	1	54	99	0	-	0	0	0	-	0	0	100
East Bay	19	19	3	2	95	138	0	-	0	0	0	-	1	0	139
North Bay	-	4	0	0	30	35	0	-	0	0	0	-	0	0	35
South Bay	37	5	1	0	35	78	0	-	0	0	0	-	0	0	79
Outside of Bay Area	-	23	0	0	259	282	0	-	0	0	0	-	0	1	284
All Origins	512	153	16	14	864	1,560	2	-	3	3	1	-	10	4	1,574
Total Person trips															
Superdistrict 1	530	115	14	16	296	970	3	-	4	4	1	-	13	2	985
Superdistrict 2	78	224	61	35	450	849	4	-	5	5	2	-	16	2	867
Superdistrict 3	424	131	19	21	180	774	4	-	5	6	1	-	16	1	792
Superdistrict 4	78	164	47	28	230	547	3	-	4	4	1	-	12	1	560
East Bay	198	320	94	55	368	1,036	6	-	7	8	3	-	24	2	1,061
North Bay	18	93	26	15	162	313	2	-	2	2	1	-	7	1	321
South Bay	472	204	60	35	234	1,006	4	-	5	5	2	-	15	1	1,023
Outside of Bay Area	-	79	8	4	650	742	3	-	1	1	1	-	5	3	749
All Origins	1,798	1,331	328	209	2,571	6,238	30	-	32	35	11	-	108	12	6,358
Vehicle trips															
Superdistrict 1	97	11	2	2	17	128	1	-	0	0	0	-	2	0	130
Superdistrict 2	14	54	16	9	71	164	1	-	1	1	0	-	4	0	169
Superdistrict 3	78	37	6	6	31	158	1	-	2	2	0	-	5	0	163
Superdistrict 4	14	44	13	8	51	130	1	-	1	1	0	-	3	0	134
East Bay	72	40	11	7	70	200	1	-	1	1	0	-	3	0	203
North Bay	11	30	8	5	60	113	1	-	1	1	0	-	2	0	115
South Bay	179	92	28	17	61	377	2	-	2	2	1	-	7	0	385
Outside of Bay Area	-	14	2	1	74	92	3	-	0	0	0	-	3	0	95
All Origins	466	322	86	54	435	1,362	11	-	8	9	3	-	30	2	1,394

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

EXTERNAL ONLY TRIPS	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Weekday PM Peak Hour															
Auto Person Trips															
Superdistrict 1	85	5	4	33	23	150	1	4	6	3	0	-	14	0	164
Superdistrict 2	19	68	33	102	131	353	2	7	6	3	1	-	18	0	371
Superdistrict 3	68	18	3	60	42	191	2	8	5	2	0	-	17	0	207
Superdistrict 4	19	66	19	69	89	262	1	4	3	2	1	-	11	0	274
East Bay	98	123	71	122	157	571	3	8	13	6	1	-	30	0	601
North Bay	15	49	38	81	104	286	1	5	7	3	0	-	17	0	303
South Bay	242	114	98	99	127	678	2	6	18	8	1	-	36	0	714
Outside of Bay Area	-	30	226	166	213	634	3	11	41	19	0	-	74	1	709
All Origins	544	472	493	730	886	3,125	14	54	100	45	4	-	217	3	3,345
Transit Person Trips															
Superdistrict 1	161	12	4	44	31	252	1	6	5	2	0	-	15	0	267
Superdistrict 2	37	130	42	116	149	473	3	7	8	3	1	-	22	0	496
Superdistrict 3	129	24	3	58	41	253	2	7	4	2	0	-	15	0	269
Superdistrict 4	37	82	20	56	72	265	2	3	4	2	1	-	11	0	277
East Bay	120	165	48	72	92	497	4	4	9	4	1	-	22	0	519
North Bay	7	36	16	13	17	88	1	1	3	1	0	-	6	0	94
South Bay	287	77	21	43	55	483	2	3	4	2	1	-	11	0	494
Outside of Bay Area	-	24	52	111	143	331	0	8	9	4	0	-	22	0	353
All Origins	777	549	205	512	600	2,643	14	39	45	21	4	-	123	2	2,768
Walk/Other Person trips															
Superdistrict 1	171	22	16	175	124	508	1	23	23	11	0	-	59	1	568
Superdistrict 2	39	16	43	102	131	331	0	7	8	4	0	-	19	0	350
Superdistrict 3	137	4	5	36	25	207	0	5	7	3	0	-	15	0	222
Superdistrict 4	39	10	15	38	49	152	0	3	3	1	0	-	7	0	159
East Bay	23	18	67	67	87	261	0	5	12	6	0	-	23	0	284
North Bay	-	4	28	21	27	81	0	1	5	2	0	-	9	0	90
South Bay	45	5	15	25	32	122	0	2	3	1	0	-	6	0	128
Outside of Bay Area	-	22	333	184	236	774	0	13	61	28	0	-	101	1	876
All Origins	454	101	523	648	711	2,436	2	58	122	55	1	-	238	3	2,677
Total Person trips															
Superdistrict 1	417	40	24	252	178	911	3	33	35	16	0	-	88	1	1,000
Superdistrict 2	95	214	119	319	410	1,158	4	21	22	10	2	-	59	1	1,218
Superdistrict 3	333	45	11	153	108	651	4	20	16	7	0	-	47	1	698
Superdistrict 4	95	157	54	163	210	679	3	11	10	4	1	-	29	1	709
East Bay	240	306	186	261	336	1,329	6	17	34	15	2	-	75	1	1,405
North Bay	22	88	82	115	148	455	2	8	15	7	1	-	32	0	487
South Bay	574	195	134	166	214	1,283	4	11	25	11	2	-	52	1	1,335
Outside of Bay Area	-	76	610	461	593	1,739	3	32	111	51	1	-	197	2	1,938
All Origins	1,776	1,122	1,220	1,891	2,196	8,205	30	150	267	122	9	-	578	8	8,791
Vehicle trips															
Superdistrict 1	76	4	3	15	10	108	1	2	4	2	0	-	8	0	116
Superdistrict 2	17	51	21	51	65	205	1	3	4	2	0	-	11	0	216
Superdistrict 3	61	13	2	26	18	120	1	3	3	1	0	-	8	0	129
Superdistrict 4	17	42	13	36	47	155	1	2	2	1	0	-	7	0	162
East Bay	88	38	30	49	63	269	1	3	5	2	0	-	12	0	281
North Bay	13	28	17	42	55	155	1	3	3	1	0	-	8	0	164
South Bay	218	88	37	43	56	442	2	3	7	3	1	-	15	0	457
Outside of Bay Area	-	13	73	53	68	206	3	4	13	6	0	-	26	0	232
All Origins	492	278	194	315	382	1,660	11	23	41	19	2	-	95	1	1,756

INDIVIDUAL LAND USE TRIP GENERATION CALCULATIONS

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)

LAND USE: RESIDENTIAL (WORK TRIPS)

Proposed Size:	1,579 units					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	10.0 trips/unit	Person-trip Gen Rate:	14.2% [5]	1.4	17.3% [1]	1.7
Total Person-trips:	15,790 person-trips	Total Person-trips:		2,247		2,732
Work Trips [2]: 33%	5,211 person-trips	Work Person-trips:	50% [6]	1,124	50% [2]	1,366

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [4]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 34.7%	Auto	20.3%	1.11	367	331	79	71	96	87
	Transit	38.6%		698		150		183	
	Walk	34.7%		627		135		164	
	Other	6.4%		116		25		30	
	All Modes	100.0%		1,808	331	390	71	474	87
SF Superdistrict 2 3.5%	Auto	20.3%	1.11	37	33	8	7	10	9
	Transit	38.6%		70		15		18	
	Walk	34.7%		63		14		16	
	Other	6.4%		12		2		3	
	All Modes	100.0%		181	33	39	7	47	9
SF Superdistrict 3 27.8%	Auto	20.3%	1.11	294	265	63	57	77	69
	Transit	38.6%		558		120		146	
	Walk	34.7%		502		108		132	
	Other	6.4%		93		20		24	
	All Modes	100.0%		1,446	265	312	57	379	69
SF Superdistrict 4 3.5%	Auto	20.3%	1.11	37	33	8	7	10	9
	Transit	38.6%		70		15		18	
	Walk	34.7%		63		14		16	
	Other	6.4%		12		2		3	
	All Modes	100.0%		181	33	39	7	47	9
East Bay 8.8%	Auto	40.6%	1.11	186	168	40	36	49	44
	Transit	50.0%		229		49		60	
	Walk	0.0%		0		0		0	
	Other	9.4%		43		9		11	
	All Modes	100.0%		459	168	99	36	120	44
North Bay 0.8%	Auto	66.7%	1.11	28	25	6	5	7	7
	Transit	33.3%		14		3		4	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		42	25	9	5	11	7
South Bay 21.0%	Auto	42.1%	1.11	461	416	99	90	121	109
	Transit	50.0%		547		118		143	
	Walk	0.0%		0		0		0	
	Other	7.9%		86		19		23	
	All Modes	100.0%		1,094	416	236	90	287	109
Outside of Bay Area 0.0%	Auto	0.0%	1.11	0	0	0	0	0	0
	Transit	0.0%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	0.0%		0	0	0	0	0	0
All Origins 100.0%	**Auto**	**27.0%**	**1.11**	**1,409**	**1,272**	**304**	**274**	**369**	**333**
	Transit	**42.0%**		**2,186**		**471**		**573**	
	Walk	**24.1%**		**1,255**		**271**		**329**	
	Other	**6.9%**		**361**		**78**		**95**	
	All Modes	**100.0%**		**5,211**	**1,272**	**1,124**	**274**	**1,366**	**333**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Residential)
[2] SF Guidelines, Appendix C - Table C-2 (Residential)
[3] 2008 San Francisco Planning Department Travel Behavior Survey for South Beach/South Park/Rincon Hill Area
[4] 2008-2012 American Community Survey 5-Year Estimate (Tract 607)
[5] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[6] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)

LAND USE: RESIDENTIAL (NON-WORK TRIPS)

Proposed Size:	1,579 units					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	10.0 trips/unit	Person-trip Gen Rate:	14.2% [5]	1.4	17.3% [1]	1.7
Total Person-trips:	15,790 person-trips	Total Person-trips:		2,247		2,732
Non-Work Trips [2]: 67%	10,579 person-trips	Non-Work Person-trips:	50% [6]	1,124	50% [2]	1,366

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [4]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 34.7%	Auto	20.3%	1.11	745	673	79	71	96	87
	Transit	38.6%		1,417		150		183	
	Walk	34.7%		1,274		135		164	
	Other	6.4%		235		25		30	
	All Modes	100.0%		3,671	673	390	71	474	87
SF Superdistrict 2 3.5%	Auto	20.3%	1.11	75	67	8	7	10	9
	Transit	38.6%		142		15		18	
	Walk	34.7%		127		14		16	
	Other	6.4%		23		2		3	
	All Modes	100.0%		367	67	39	7	47	9
SF Superdistrict 3 27.8%	Auto	20.3%	1.11	596	538	63	57	77	69
	Transit	38.6%		1,134		120		146	
	Walk	34.7%		1,019		108		132	
	Other	6.4%		188		20		24	
	All Modes	100.0%		2,937	538	312	57	379	69
SF Superdistrict 4 3.5%	Auto	20.3%	1.11	75	67	8	7	10	9
	Transit	38.6%		142		15		18	
	Walk	34.7%		127		14		16	
	Other	6.4%		23		2		3	
	All Modes	100.0%		367	67	39	7	47	9
East Bay 8.8%	Auto	40.6%	1.11	378	341	40	36	49	44
	Transit	50.0%		465		49		60	
	Walk	0.0%		0		0		0	
	Other	9.4%		88		9		11	
	All Modes	100.0%		931	341	99	36	120	44
North Bay 0.8%	Auto	66.7%	1.11	56	51	6	5	7	7
	Transit	33.3%		28		3		4	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		85	51	9	5	11	7
South Bay 21.0%	Auto	42.1%	1.11	935	844	99	90	121	109
	Transit	50.0%		1,111		118		143	
	Walk	0.0%		0		0		0	
	Other	7.9%		176		19		23	
	All Modes	100.0%		2,222	844	236	90	287	109
Outside of Bay Area 0.0%	Auto	0.0%	1.11	0	0	0	0	0	0
	Transit	0.0%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	0.0%		0	0	0	0	0	0
All Origins 100.0%	**Auto**	**27.0%**	**1.11**	**2,860**	**2,582**	**304**	**274**	**369**	**333**
	Transit	**42.0%**		**4,439**		**471**		**573**	
	Walk	**24.1%**		**2,548**		**271**		**329**	
	Other	**6.9%**		**733**		**78**		**95**	
	All Modes	**100.0%**		**10,579**	**2,582**	**1,124**	**274**	**1,366**	**333**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Residential)
[2] SF Guidelines, Appendix C - Table C-2 (Residential)
[3] 2008 San Francisco Planning Department Travel Behavior Survey for South Beach/South Park/Rincon Hill Area
[4] 2008-2012 American Community Survey 5-Year Estimate (Tract 607)
[5] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[6] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)
LAND USE: GENERAL OFFICE (WORK TRIPS)

Proposed Size:	972,175 sq.ft.					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	18.1 trips/1,000 gsf	Person-trip Gen Rate:	8.9% [4]	1.6	8.5% [1]	1.5
Total Person-trips:	17,596 person-trips	Total Person-trips:		1,566		1,496
Work Trips [2]: 36%	6,335 person-trips	Work Person-trips:	83% [5]	1,300	83% [2]	1,241

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	112	87	23	18	22	17
SF Superdistrict 1	Transit	36.0%		292		60		57	
12.8%	Walk	47.5%		385		79		75	
	Other	2.7%		22		4		4	
	All Modes	100.0%		811	87	166	18	159	17
	Auto	31.6%	1.23	288	234	59	48	56	46
SF Superdistrict 2	Transit	65.8%		600		123		118	
14.4%	Walk	1.3%		12		2		2	
	Other	1.3%		12		2		2	
	All Modes	100.0%		912	234	187	48	179	46
	Auto	39.5%	1.29	425	330	87	68	83	65
SF Superdistrict 3	Transit	54.4%		586		120		115	
17.0%	Walk	3.8%		41		8		8	
	Other	2.3%		25		5		5	
	All Modes	100.0%		1,077	330	221	68	211	65
	Auto	41.7%	1.53	296	193	61	40	58	38
SF Superdistrict 4	Transit	54.5%		387		79		76	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		27		6		5	
	All Modes	100.0%		709	193	146	40	139	38
	Auto	39.4%	3.33	559	168	115	34	110	33
East Bay	Transit	57.0%		809		166		159	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		51		10		10	
	All Modes	100.0%		1,419	168	291	34	278	33
	Auto	52.8%	1.70	204	120	42	25	40	24
North Bay	Transit	45.3%		175		36		34	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		7		2		1	
	All Modes	100.0%		386	120	79	25	76	24
	Auto	58.0%	1.23	525	427	108	88	103	84
South Bay	Transit	40.7%		369		76		72	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		12		2		2	
	All Modes	100.0%		906	427	186	88	178	84
	Auto	47.8%	1.50	55	36	11	7	11	7
Outside of Bay Area	Transit	50.0%		57		12		11	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		3		1		0	
	All Modes	100.0%		114	36	23	7	22	7
	Auto	**38.9%**	**1.54**	**2,464**	**1,596**	**506**	**328**	**483**	**313**
All Origins	**Transit**	**51.7%**		**3,274**		**672**		**642**	
100.0%	**Walk**	**6.9%**		**438**		**90**		**86**	
	Other	**2.5%**		**158**		**32**		**31**	
	All Modes	**100.0%**		**6,335**	**1,596**	**1,300**	**328**	**1,241**	**313**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Office)
[2] SF Guidelines, Appendix C - Table C-2 (General Office)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)
LAND USE: GENERAL OFFICE (NON-WORK TRIPS)

Proposed Size:	972,175 sq.ft.					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	18.1 trips/1,000 gsf	Person-trip Gen Rate:	8.9% [4]	1.6	8.5% [1]	1.5
Total Person-trips:	17,596 person-trips	Total Person-trips:		1,566		1,496
Non-Work Trips [2]: 64%	11,262 person-trips	Non-Work Person-trips:	17% [5]	266	17% [2]	254

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	12.9%	2.29	320	140	8	3	7	3
SF Superdistrict 1	Transit	17.1%		424		10		10	
22.0%	Walk	65.3%		1,618		38		37	
	Other	4.7%		116		3		3	
	All Modes	100.0%		2,478	140	59	3	56	3
	Auto	31.9%	2.07	503	243	12	6	11	5
SF Superdistrict 2	Transit	35.0%		552		13		12	
14.0%	Walk	26.7%		421		10		10	
	Other	6.4%		101		2		2	
	All Modes	100.0%		1,577	243	37	6	36	5
	Auto	38.8%	2.39	568	238	13	6	13	5
SF Superdistrict 3	Transit	36.8%		539		13		12	
13.0%	Walk	17.4%		255		6		6	
	Other	7.0%		102		2		2	
	All Modes	100.0%		1,464	238	35	6	33	5
	Auto	42.5%	1.93	335	174	8	4	8	4
SF Superdistrict 4	Transit	32.7%		258		6		6	
7.0%	Walk	17.7%		140		3		3	
	Other	7.1%		56		1		1	
	All Modes	100.0%		788	174	19	4	18	4
	Auto	47.4%	2.43	587	242	14	6	13	5
East Bay	Transit	24.9%		308		7		7	
11.0%	Walk	25.4%		315		7		7	
	Other	2.3%		28		1		1	
	All Modes	100.0%		1,239	242	29	6	28	5
	Auto	71.1%	1.91	400	210	9	5	9	5
North Bay	Transit	9.6%		54		1		1	
5.0%	Walk	15.8%		89		2		2	
	Other	3.5%		20		0		0	
	All Modes	100.0%		563	210	13	5	13	5
	Auto	59.5%	2.46	469	191	11	5	11	4
South Bay	Transit	24.6%		194		5		4	
7.0%	Walk	13.5%		106		3		2	
	Other	2.4%		19		0		0	
	All Modes	100.0%		788	191	19	5	18	4
	Auto	35.9%	3.17	849	268	20	6	19	6
Outside of Bay Area	Transit	24.1%		570		13		13	
21.0%	Walk	27.7%		655		15		15	
	Other	12.3%		291		7		7	
	All Modes	100.0%		2,365	268	56	6	53	6
	Auto	**35.8%**	**2.37**	**4,031**	**1,704**	**95**	**40**	**91**	**38**
All Origins	**Transit**	**25.7%**		**2,898**		**69**		**65**	
100.0%	**Walk**	**32.0%**		**3,598**		**85**		**81**	
	Other	**6.5%**		**734**		**17**		**17**	
	All Modes	**100.0%**		**11,262**	**1,704**	**266**	**40**	**254**	**38**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Office)
[2] SF Guidelines, Appendix C - Table C-2 (General Office)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)
LAND USE: GENERAL RETAIL (WORK TRIPS)

Proposed Size:	120,519 sq.ft.					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**
Person-trip Generation Rate [1]:	150.0 trips/1,000 gsf	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5
Total Person-trips:	18,078 person-trips	Total Person-trips:		421		1,627
Work Trips [2]: 4%	723 person-trips	Work Person-trips:	100% [5]	421	4% [2]	65

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	13	10	7	6	1	1
SF Superdistrict 1	Transit	36.0%		33		19		3	
12.8%	Walk	47.5%		44		26		4	
	Other	2.7%		2		1		0	
	All Modes	100.0%		93	10	54	6	8	1
	Auto	31.6%	1.23	33	27	19	16	3	2
SF Superdistrict 2	Transit	65.8%		69		40		6	
14.4%	Walk	1.3%		1		1		0	
	Other	1.3%		1		1		0	
	All Modes	100.0%		104	27	61	16	9	2
	Auto	39.5%	1.29	49	38	28	22	4	3
SF Superdistrict 3	Transit	54.4%		67		39		6	
17.0%	Walk	3.8%		5		3		0	
	Other	2.3%		3		2		0	
	All Modes	100.0%		123	38	72	22	11	3
	Auto	41.7%	1.53	34	22	20	13	3	2
SF Superdistrict 4	Transit	54.5%		44		26		4	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		3		2		0	
	All Modes	100.0%		81	22	47	13	7	2
	Auto	39.4%	3.33	64	19	37	11	6	2
East Bay	Transit	57.0%		92		54		8	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		6		3		1	
	All Modes	100.0%		162	19	94	11	15	2
	Auto	52.8%	1.70	23	14	14	8	2	1
North Bay	Transit	45.3%		20		12		2	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		1		0		0	
	All Modes	100.0%		44	14	26	8	4	1
	Auto	58.0%	1.23	60	49	35	28	5	4
South Bay	Transit	40.7%		42		25		4	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		1		1		0	
	All Modes	100.0%		103	49	60	28	9	4
	Auto	47.8%	1.50	6	4	4	2	1	0
Outside of Bay Area	Transit	50.0%		7		4		1	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		13	4	8	2	1	0
	Auto	**38.9%**	**1.54**	**281**	**182**	**164**	**106**	**25**	**16**
All Origins	**Transit**	**51.7%**		**374**		**218**		**34**	
100.0%	**Walk**	**6.9%**		**50**		**29**		**4**	
	Other	**2.5%**		**18**		**11**		**2**	
	All Modes	**100.0%**		**723**	**182**	**421**	**106**	**65**	**16**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Retail)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)
LAND USE: GENERAL RETAIL (NON-WORK TRIPS)

Proposed Size:	120,519 sq.ft.					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**
Person-trip Generation Rate [1]:	150.0 trips/1,000 gsf	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5
Total Person-trips:	18,078 person-trips	Total Person-trips:		421		1,627
Non-Work Trips [2]: 96%	17,355 person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	1,562

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	18.1%	1.62	597	368	0	0	54	33
SF Superdistrict 1	Transit	14.7%		485		0		44	
19.0%	Walk	63.0%		2,077		0		187	
	Other	4.2%		138		0		12	
	All Modes	100.0%		3,297	368	0	0	297	33
	Auto	27.9%	1.66	339	204	0	0	31	18
SF Superdistrict 2	Transit	32.6%		396		0		36	
7.0%	Walk	34.1%		414		0		37	
	Other	5.4%		66		0		6	
	All Modes	100.0%		1,215	204	0	0	109	18
	Auto	31.2%	2.08	433	208	0	0	39	19
SF Superdistrict 3	Transit	21.7%		301		0		27	
8.0%	Walk	41.3%		573		0		52	
	Other	5.8%		81		0		7	
	All Modes	100.0%		1,388	208	0	0	125	19
	Auto	34.0%	1.51	177	117	0	0	16	11
SF Superdistrict 4	Transit	34.0%		177		0		16	
3.0%	Walk	28.0%		146		0		13	
	Other	4.0%		21		0		2	
	All Modes	100.0%		521	117	0	0	47	11
	Auto	38.1%	2.35	727	310	0	0	65	28
East Bay	Transit	23.2%		443		0		40	
11.0%	Walk	36.6%		699		0		63	
	Other	2.1%		40		0		4	
	All Modes	100.0%		1,909	310	0	0	172	28
	Auto	46.1%	2.27	400	176	0	0	36	16
North Bay	Transit	17.6%		153		0		14	
5.0%	Walk	34.1%		296		0		27	
	Other	2.2%		19		0		2	
	All Modes	100.0%		868	176	0	0	78	16
	Auto	73.8%	2.84	1,025	361	0	0	92	32
South Bay	Transit	14.1%		196		0		18	
8.0%	Walk	10.1%		140		0		13	
	Other	2.0%		28		0		2	
	All Modes	100.0%		1,388	361	0	0	125	32
	Auto	37.0%	3.12	2,504	803	0	0	225	72
Outside of Bay Area	Transit	8.4%		569		0		51	
39.0%	Walk	28.3%		1,915		0		172	
	Other	26.3%		1,780		0		160	
	All Modes	100.0%		6,768	803	0	0	609	72
	Auto	**35.7%**	**2.43**	**6,202**	**2,547**	**0**	**0**	**558**	**229**
All Origins	**Transit**	**15.7%**		**2,719**		**0**		**245**	
100.0%	**Walk**	**36.1%**		**6,261**		**0**		**563**	
	Other	**12.5%**		**2,172**		**0**		**196**	
	All Modes	**100.0%**		**17,355**	**2,547**	**0**	**0**	**1,562**	**229**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Retail)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-10 Visitor Trips to SD1 (Retail)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)
LAND USE: QUALITY RESTAURANT (WORK TRIPS)

Proposed Size:		**84,363 sq.ft.**					
DAILY					**AM PEAK HOUR**		**PM PEAK HOUR**
Person-trip Generation Rate [1]:		200.0 trips/1,000 gsf	Person-trip Gen Rate:	1.5% [4]	2.9	13.5% [1]	27.0
Total Person-trips:		16,873 person-trips	Total Person-trips:		246		2,278
Work Trips [2]:	4%	675 person-trips	Work Person-trips:	100% [5]	246	4% [2]	91

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	13.8%	1.28	12	9	4	3	2	1
SF Superdistrict 1	Transit	36.0%		31		11		4	
12.8%	Walk	47.5%		41		15		6	
	Other	2.7%		2		1		0	
	All Modes	100.0%		86	9	32	3	12	1
	Auto	31.6%	1.23	31	25	11	9	4	3
SF Superdistrict 2	Transit	65.8%		64		23		9	
14.4%	Walk	1.3%		1		0		0	
	Other	1.3%		1		0		0	
	All Modes	100.0%		97	25	35	9	13	3
	Auto	39.5%	1.29	45	35	17	13	6	5
SF Superdistrict 3	Transit	54.4%		62		23		8	
17.0%	Walk	3.8%		4		2		1	
	Other	2.3%		3		1		0	
	All Modes	100.0%		115	35	42	13	15	5
	Auto	41.7%	1.53	32	21	12	8	4	3
SF Superdistrict 4	Transit	54.5%		41		15		6	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		3		1		0	
	All Modes	100.0%		76	21	28	8	10	3
	Auto	39.4%	3.33	60	18	22	7	8	2
East Bay	Transit	57.0%		86		31		12	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		5		2		1	
	All Modes	100.0%		151	18	55	7	20	2
	Auto	52.8%	1.70	22	13	8	5	3	2
North Bay	Transit	45.3%		19		7		3	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		1		0		0	
	All Modes	100.0%		41	13	15	5	6	2
	Auto	58.0%	1.23	56	46	20	17	8	6
South Bay	Transit	40.7%		39		14		5	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		1		0		0	
	All Modes	100.0%		97	46	35	17	13	6
	Auto	47.8%	1.50	6	4	2	1	1	1
Outside of Bay Area	Transit	50.0%		6		2		1	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		12	4	4	1	2	1
	Auto	**38.9%**	**1.54**	**263**	**170**	**96**	**62**	**35**	**23**
All Origins	**Transit**	**51.7%**		**349**		**127**		**47**	
100.0%	**Walk**	**6.9%**		**47**		**17**		**6**	
	Other	**2.5%**		**17**		**6**		**2**	
	All Modes	**100.0%**		**675**	**170**	**246**	**62**	**91**	**23**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Quality Sit-down Restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All quality restaurant trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)
LAND USE: QUALITY RESTAURANT (NON-WORK TRIPS)

Proposed Size:		**84,363 sq.ft.**					
DAILY					**AM PEAK HOUR**		**PM PEAK HOUR**
Person-trip Generation Rate [1]:		200.0 trips/1,000 gsf	Person-trip Gen Rate:	1.5% [4]	2.9	13.5% [1]	27.0
Total Person-trips:		16,873 person-trips	Total Person-trips:		246		2,278
Non-Work Trips [2]:	96%	16,198 person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	2,187

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	12.9%	2.29	460	201	0	0	62	27
SF Superdistrict 1	Transit	17.1%		609		0		82	
22.0%	Walk	65.3%		2,327		0		314	
	Other	4.7%		167		0		23	
	All Modes	100.0%		3,563	201	0	0	481	27
	Auto	31.9%	2.07	723	349	0	0	98	47
SF Superdistrict 2	Transit	35.0%		794		0		107	
14.0%	Walk	26.7%		605		0		82	
	Other	6.4%		145		0		20	
	All Modes	100.0%		2,268	349	0	0	306	47
	Auto	38.8%	2.39	817	342	0	0	110	46
SF Superdistrict 3	Transit	36.8%		775		0		105	
13.0%	Walk	17.4%		366		0		49	
	Other	7.0%		147		0		20	
	All Modes	100.0%		2,106	342	0	0	284	46
	Auto	42.5%	1.93	482	250	0	0	65	34
SF Superdistrict 4	Transit	32.7%		371		0		50	
7.0%	Walk	17.7%		201		0		27	
	Other	7.1%		81		0		11	
	All Modes	100.0%		1,134	250	0	0	153	34
	Auto	47.4%	2.43	845	348	0	0	114	47
East Bay	Transit	24.9%		444		0		60	
11.0%	Walk	25.4%		453		0		61	
	Other	2.3%		41		0		6	
	All Modes	100.0%		1,782	348	0	0	241	47
	Auto	71.1%	1.91	576	301	0	0	78	41
North Bay	Transit	9.6%		78		0		10	
5.0%	Walk	15.8%		128		0		17	
	Other	3.5%		28		0		4	
	All Modes	100.0%		810	301	0	0	109	41
	Auto	59.5%	2.46	675	274	0	0	91	37
South Bay	Transit	24.6%		279		0		38	
7.0%	Walk	13.5%		153		0		21	
	Other	2.4%		27		0		4	
	All Modes	100.0%		1,134	274	0	0	153	37
	Auto	35.9%	3.17	1,221	385	0	0	165	52
Outside of Bay Area	Transit	24.1%		820		0		111	
21.0%	Walk	27.7%		942		0		127	
	Other	12.3%		418		0		56	
	All Modes	100.0%		3,402	385	0	0	459	52
	Auto	**35.8%**	**2.37**	**5,798**	**2,450**	**0**	**0**	**783**	**331**
All Origins	**Transit**	**25.7%**		**4,169**		**0**		**563**	
100.0%	**Walk**	**32.0%**		**5,175**		**0**		**699**	
	Other	**6.5%**		**1,055**		**0**		**142**	
	All Modes	**100.0%**		**16,198**	**2,450**	**0**	**0**	**2,187**	**331**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Quality Sit-down Restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All quality restaurant trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)
LAND USE: QUICK SERVICE RESTAURANT (WORK TRIPS)

Proposed Size:		**36,156 sq.ft.**						
DAILY					**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		600.0	trips/1,000 gsf	Person-trip Gen Rate:	14.8% [4]	88.9	13.5% [1]	81.0
Total Person-trips:		21,694	person-trips	Total Person-trips:		3,214		2,929
Work Trips [2]:	4%	868	person-trips	Work Person-trips:	4% [5]	129	4% [2]	117

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	15	12	2	2	2	2
SF Superdistrict 1	Transit	36.0%		40		6		5	
12.8%	Walk	47.5%		53		8		7	
	Other	2.7%		3		0		0	
	All Modes	100.0%		111	12	16	2	15	2
	Auto	31.6%	1.23	39	32	6	5	5	4
SF Superdistrict 2	Transit	65.8%		82		12		11	
14.4%	Walk	1.3%		2		0		0	
	Other	1.3%		2		0		0	
	All Modes	100.0%		125	32	19	5	17	4
	Auto	39.5%	1.29	58	45	9	7	8	6
SF Superdistrict 3	Transit	54.4%		80		12		11	
17.0%	Walk	3.8%		6		1		1	
	Other	2.3%		3		1		0	
	All Modes	100.0%		148	45	22	7	20	6
	Auto	41.7%	1.53	41	26	6	4	5	4
SF Superdistrict 4	Transit	54.5%		53		8		7	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		4		1		0	
	All Modes	100.0%		97	26	14	4	13	4
	Auto	39.4%	3.33	77	23	11	3	10	3
East Bay	Transit	57.0%		111		16		15	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		7		1		1	
	All Modes	100.0%		194	23	29	3	26	3
	Auto	52.8%	1.70	28	16	4	2	4	2
North Bay	Transit	45.3%		24		4		3	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		1		0		0	
	All Modes	100.0%		53	16	8	2	7	2
	Auto	58.0%	1.23	72	59	11	9	10	8
South Bay	Transit	40.7%		51		7		7	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		2		0		0	
	All Modes	100.0%		124	59	18	9	17	8
	Auto	47.8%	1.50	7	5	1	1	1	1
Outside of Bay Area	Transit	50.0%		8		1		1	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		16	5	2	1	2	1
	Auto	**38.9%**	**1.54**	**338**	**219**	**50**	**32**	**46**	**30**
All Origins	**Transit**	**51.7%**		**449**		**66**		**61**	
100.0%	**Walk**	**6.9%**		**60**		**9**		**8**	
	Other	**2.5%**		**22**		**3**		**3**	
	All Modes	**100.0%**		**868**	**219**	**129**	**32**	**117**	**30**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Fast food restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

SCENARIO B (High Residential/ Low Commercial)
LAND USE: QUICK SERVICE REST. (NON-WORK TRIPS)

Proposed Size:		**36,156 sq.ft.**						
DAILY					**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		600.0	trips/1,000 gsf	Person-trip Gen Rate:	14.8% [4]	88.9	13.5% [1]	81.0
Total Person-trips:		21,694	person-trips	Total Person-trips:		3,214		2,929
Non-Work Trips [2]:	96%	20,826	person-trips	Non-Work Person-trips:	96% [5]	3,086	96% [2]	2,811

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	12.9%	2.29	591	258	88	38	80	35
SF Superdistrict 1	Transit	17.1%		783		116		106	
22.0%	Walk	65.3%		2,992		443		404	
	Other	4.7%		215		32		29	
	All Modes	100.0%		4,582	258	679	38	619	35
	Auto	31.9%	2.07	930	449	138	67	126	61
SF Superdistrict 2	Transit	35.0%		1,020		151		138	
14.0%	Walk	26.7%		778		115		105	
	Other	6.4%		187		28		25	
	All Modes	100.0%		2,916	449	432	67	394	61
	Auto	38.8%	2.39	1,050	440	156	65	142	59
SF Superdistrict 3	Transit	36.8%		996		148		135	
13.0%	Walk	17.4%		471		70		64	
	Other	7.0%		190		28		26	
	All Modes	100.0%		2,707	440	401	65	365	59
	Auto	42.5%	1.93	620	321	92	48	84	43
SF Superdistrict 4	Transit	32.7%		477		71		64	
7.0%	Walk	17.7%		258		38		35	
	Other	7.1%		104		15		14	
	All Modes	100.0%		1,458	321	216	48	197	43
	Auto	47.4%	2.43	1,086	447	161	66	147	60
East Bay	Transit	24.9%		570		85		77	
11.0%	Walk	25.4%		582		86		79	
	Other	2.3%		53		8		7	
	All Modes	100.0%		2,291	447	339	66	309	60
	Auto	71.1%	1.91	740	388	110	57	100	52
North Bay	Transit	9.6%		100		15		13	
5.0%	Walk	15.8%		165		24		22	
	Other	3.5%		36		5		5	
	All Modes	100.0%		1,041	388	154	57	141	52
	Auto	59.5%	2.46	867	353	129	52	117	48
South Bay	Transit	24.6%		359		53		48	
7.0%	Walk	13.5%		197		29		27	
	Other	2.4%		35		5		5	
	All Modes	100.0%		1,458	353	216	52	197	48
	Auto	35.9%	3.17	1,570	495	233	73	212	67
Outside of Bay Area	Transit	24.1%		1,054		156		142	
21.0%	Walk	27.7%		1,211		179		164	
	Other	12.3%		538		80		73	
	All Modes	100.0%		4,373	495	648	73	590	67
	Auto	**35.8%**	**2.37**	**7,455**	**3,150**	**1,104**	**467**	**1,006**	**425**
All Origins	**Transit**	**25.7%**		**5,360**		**794**		**724**	
100.0%	**Walk**	**32.0%**		**6,654**		**986**		**898**	
	Other	**6.5%**		**1,357**		**201**		**183**	
	All Modes	**100.0%**		**20,826**	**3,150**	**3,086**	**467**	**2,811**	**425**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Fast food restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 BREWERY (WORK TRIPS)

Proposed Size:		75 employees						
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		3.0 trips/employee	Person-trip Gen Rate:	12.4% [4]	0.4	12.4% [5]	0.4
Total Person-trips:		225 person-trips	Total Person-trips:		28		28
Work Trips [2]:	100%	225 person-trips	Work Person-trips:	100% [2]	28	100% [2]	28

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	13.8%	1.28	4	3	0	0	0	0
SF Superdistrict 1	Transit	36.0%		10		1		1	
12.8%	Walk	47.5%		14		2		2	
	Other	2.7%		1		0		0	
	All Modes	100.0%		29	3	4	0	4	0
	Auto	31.6%	1.23	10	8	1	1	1	1
SF Superdistrict 2	Transit	65.8%		21		3		3	
14.4%	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		32	8	4	1	4	1
	Auto	39.5%	1.29	15	12	2	1	2	1
SF Superdistrict 3	Transit	54.4%		21		3		3	
17.0%	Walk	3.8%		1		0		0	
	Other	2.3%		1		0		0	
	All Modes	100.0%		38	12	5	1	5	1
	Auto	41.7%	1.53	11	7	1	1	1	1
SF Superdistrict 4	Transit	54.5%		14		2		2	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		1		0		0	
	All Modes	100.0%		25	7	3	1	3	1
	Auto	39.4%	3.33	20	6	2	1	2	1
East Bay	Transit	57.0%		29		4		4	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		2		0		0	
	All Modes	100.0%		50	6	6	1	6	1
	Auto	52.8%	1.70	7	4	1	1	1	1
North Bay	Transit	45.3%		6		1		1	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		14	4	2	1	2	1
	Auto	58.0%	1.23	19	15	2	2	2	2
South Bay	Transit	40.7%		13		2		2	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		32	15	4	2	4	2
	Auto	47.8%	1.50	2	1	0	0	0	0
Outside of Bay Area	Transit	50.0%		2		0		0	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		4	1	1	0	1	0
	Auto	**38.9%**	**1.54**	**88**	**57**	**11**	**7**	**11**	**7**
All Origins	**Transit**	**51.7%**		**116**		**14**		**14**	
100.0%	**Walk**	**6.9%**		**16**		**2**		**2**	
	Other	**2.5%**		**6**		**1**		**1**	
	All Modes	**100.0%**		**225**	**57**	**28**	**7**	**28**	**7**

Notes:
[1] Assumes that half of the employees will make four daily trips to/from the project site (e.g., for lunch, errands, etc.).
[2] All employee trips are accounted for as work trips
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] SF Guidelines, Appendix C - Table C-1 (Industrial/Manufacturing)

Mission Rock Mixed-Use Project

LAND USE: PIER 48 BREWERY (TRUCK TRIPS)

Proposed Size:		38 trucks per day						
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0 trips/truck	Truck-trip Gen Rate:	5.3% [4]	0.1	5.3% [4]	0.1
Total truck-trips:		76 truck-trips	Total Truck-trips:		4		4
Work Trips [2]:	100%	76 truck-trips	Work Truck-trips:	100% [2]	4	100% [2]	4

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution	Average Vehicle Occupancy	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	100.0%	1.00	8	8	0	0	0	0
SF Superdistrict 1	Transit	0.0%		0		0		0	
10.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		8	8	0	0	0	0
	Auto	100.0%	1.00	8	8	0	0	0	0
SF Superdistrict 2	Transit	0.0%		0		0		0	
10.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		8	8	0	0	0	0
	Auto	100.0%	1.00	2	2	0	0	0	0
SF Superdistrict 3	Transit	0.0%		0		0		0	
3.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		2	2	0	0	0	0
	Auto	100.0%	1.00	2	2	0	0	0	0
SF Superdistrict 4	Transit	0.0%		0		0		0	
3.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		2	2	0	0	0	0
	Auto	100.0%	1.00	3	3	0	0	0	0
East Bay	Transit	0.0%		0		0		0	
4.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		3	3	0	0	0	0
	Auto	100.0%	1.00	3	3	0	0	0	0
North Bay	Transit	0.0%		0		0		0	
4.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		3	3	0	0	0	0
	Auto	100.0%	1.00	3	3	0	0	0	0
South Bay	Transit	0.0%		0		0		0	
4.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		3	3	0	0	0	0
	Auto	100.0%	1.00	47	47	2	2	2	2
Outside of Bay Area	Transit	0.0%		0		0		0	
62.0%	Walk	0.0%		0		0		0	
	Other	0.0%		0		0		0	
	All Modes	100.0%		47	47	2	2	2	2
	Auto	**100.0%**	**1.00**	**76**	**76**	**4**	**4**	**4**	**4**
All Origins	**Transit**	**0.0%**		**0**		**0**		**0**	
100.0%	**Walk**	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**76**	**76**	**4**	**4**	**4**	**4**

Notes:
[1] Each truck makes two one-way truck-trips to the brewery (one empty, one full)
[2] All truck trips are considered work trips
[3] SF 26%, Northern Calif (excluding SF) 22%, Southern Calif 9%, Out of State and International 43%
[4] Based on two trucks arriving/departing during the peak hour.

Mission Rock Mixed-Use Project

LAND USE: PIER 48 BREWERY (VISITOR TRIPS)

Proposed Size:	**500 daily visitors**					
DAILY				**AM PEAK HOUR**		**PM PEAK HOUR**
Person-trip Generation Rate [1]:	2.0 trips/visitor	Person-trip Gen Rate:	0.0% [4]	0.0	15.0% [5]	0.3
Total Person-trips:	1,000 person-trips	Total Person-trips:		0		150
Non-Work Trips [2]: 100%	1,000 person-trips	Non-Work Person-trips:	100% [2]	0	100% [2]	150

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	12.9%	2.29	28	12	0	0	4	2
SF Superdistrict 1	Transit	17.1%		38		0		6	
22.0%	Walk	65.3%		144		0		22	
	Other	4.7%		10		0		2	
	All Modes	100.0%		220	12	0	0	33	2
	Auto	31.9%	2.07	45	22	0	0	7	3
SF Superdistrict 2	Transit	35.0%		49		0		7	
14.0%	Walk	26.7%		37		0		6	
	Other	6.4%		9		0		1	
	All Modes	100.0%		140	22	0	0	21	3
	Auto	38.8%	2.39	50	21	0	0	8	3
SF Superdistrict 3	Transit	36.8%		48		0		7	
13.0%	Walk	17.4%		23		0		3	
	Other	7.0%		9		0		1	
	All Modes	100.0%		130	21	0	0	20	3
	Auto	42.5%	1.93	30	15	0	0	4	2
SF Superdistrict 4	Transit	32.7%		23		0		3	
7.0%	Walk	17.7%		12		0		2	
	Other	7.1%		5		0		1	
	All Modes	100.0%		70	15	0	0	11	2
	Auto	47.4%	2.43	52	21	0	0	8	3
East Bay	Transit	24.9%		27		0		4	
11.0%	Walk	25.4%		28		0		4	
	Other	2.3%		3		0		0	
	All Modes	100.0%		110	21	0	0	17	3
	Auto	71.1%	1.91	36	19	0	0	5	3
North Bay	Transit	9.6%		5		0		1	
5.0%	Walk	15.8%		8		0		1	
	Other	3.5%		2		0		0	
	All Modes	100.0%		50	19	0	0	8	3
	Auto	59.5%	2.46	42	17	0	0	6	3
South Bay	Transit	24.6%		17		0		3	
7.0%	Walk	13.5%		9		0		1	
	Other	2.4%		2		0		0	
	All Modes	100.0%		70	17	0	0	11	3
	Auto	35.9%	3.17	75	24	0	0	11	4
Outside of Bay Area	Transit	24.1%		51		0		8	
21.0%	Walk	27.7%		58		0		9	
	Other	12.3%		26		0		4	
	All Modes	100.0%		210	24	0	0	32	4
	Auto	**35.8%**	**2.37**	**358**	**151**	**0**	**0**	**54**	**23**
All Origins	**Transit**	**25.7%**		**257**		**0**		**39**	
100.0%	**Walk**	**32.0%**		**320**		**0**		**48**	
	Other	**6.5%**		**65**		**0**		**10**	
	All Modes	**100.0%**		**1,000**	**151**	**0**	**0**	**150**	**23**

Notes:
[1] Assumes that each visitor will make two daily trips to/from the project site.
[2] All visitor trips are accounted for as non-work trips
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Assumes that visits/tours of the brewery will start after 9 AM
[5] One hour over a 10-hour day = 10%; increase by 50% for a more conservative analysis

Mission Rock Mixed-Use Project

LAND USE: PIER 48 RESTAURANT (WORK TRIPS)

Proposed Size:		**11,000**	**sq.ft.**					
DAILY					**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		200.0	trips/1,000 gsf	Person-trip Gen Rate:	1.5% [4]	2.9	13.5% [1]	27.0
Total Person-trips:		2,200	person-trips	Total Person-trips:		32		297
Work Trips [2]:	4%	88	person-trips	Work Person-trips:	100% [5]	32	4% [2]	12

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	13.8%	1.28	2	1	1	0	0	0
SF Superdistrict 1	Transit	36.0%		4		1		1	
12.8%	Walk	47.5%		5		2		1	
	Other	2.7%		0		0		0	
	All Modes	100.0%		11	1	4	0	2	0
	Auto	31.6%	1.23	4	3	1	1	1	0
SF Superdistrict 2	Transit	65.8%		8		3		1	
14.4%	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		13	3	5	1	2	0
	Auto	39.5%	1.29	6	5	2	2	1	1
SF Superdistrict 3	Transit	54.4%		8		3		1	
17.0%	Walk	3.8%		1		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		15	5	5	2	2	1
	Auto	41.7%	1.53	4	3	2	1	1	0
SF Superdistrict 4	Transit	54.5%		5		2		1	
11.2%	Walk	0.0%		0		0		0	
	Other	3.8%		0		0		0	
	All Modes	100.0%		10	3	4	1	1	0
	Auto	39.4%	3.33	8	2	3	1	1	0
East Bay	Transit	57.0%		11		4		2	
22.4%	Walk	0.0%		0		0		0	
	Other	3.6%		1		0		0	
	All Modes	100.0%		20	2	7	1	3	0
	Auto	52.8%	1.70	3	2	1	1	0	0
North Bay	Transit	45.3%		2		1		0	
6.1%	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		5	2	2	1	1	0
	Auto	58.0%	1.23	7	6	3	2	1	1
South Bay	Transit	40.7%		5		2		1	
14.3%	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		13	6	5	2	2	1
	Auto	47.8%	1.50	1	1	0	0	0	0
Outside of Bay Area	Transit	50.0%		1		0		0	
1.8%	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		2	1	1	0	0	0
	Auto	**38.9%**	**1.54**	**34**	**22**	**12**	**8**	**5**	**3**
All Origins	**Transit**	**51.7%**		**45**		**17**		**6**	
100.0%	**Walk**	**6.9%**		**6**		**2**		**1**	
	Other	**2.5%**		**2**		**1**		**0**	
	All Modes	**100.0%**		**88**	**22**	**32**	**8**	**12**	**3**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Quality Sit-down Restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All quality restaurant trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 RESTAURANT (NON-WORK TRIPS)

Proposed Size:		**11,000**	**sq.ft.**					
DAILY					**AM PEAK HOUR**		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:		200.0	trips/1,000 gsf	Person-trip Gen Rate:	1.5% [4]	2.9	13.5% [1]	27.0
Total Person-trips:		2,200	person-trips	Total Person-trips:		32		297
Non-Work Trips [2]:	96%	2,112	person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	285

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
	Auto	18.1%	1.62	73	45	0	0	10	6
SF Superdistrict 1	Transit	14.7%		59		0		8	
19.0%	Walk	63.0%		253		0		34	
	Other	4.2%		17		0		2	
	All Modes	100.0%		401	45	0	0	54	6
	Auto	27.9%	1.66	41	25	0	0	6	3
SF Superdistrict 2	Transit	32.6%		48		0		7	
7.0%	Walk	34.1%		50		0		7	
	Other	5.4%		8		0		1	
	All Modes	100.0%		148	25	0	0	20	3
	Auto	31.2%	2.08	53	25	0	0	7	3
SF Superdistrict 3	Transit	21.7%		37		0		5	
8.0%	Walk	41.3%		70		0		9	
	Other	5.8%		10		0		1	
	All Modes	100.0%		169	25	0	0	23	3
	Auto	34.0%	1.51	22	14	0	0	3	2
SF Superdistrict 4	Transit	34.0%		22		0		3	
3.0%	Walk	28.0%		18		0		2	
	Other	4.0%		3		0		0	
	All Modes	100.0%		63	14	0	0	9	2
	Auto	38.1%	2.35	89	38	0	0	12	5
East Bay	Transit	23.2%		54		0		7	
11.0%	Walk	36.6%		85		0		11	
	Other	2.1%		5		0		1	
	All Modes	100.0%		232	38	0	0	31	5
	Auto	46.1%	2.27	49	21	0	0	7	3
North Bay	Transit	17.6%		19		0		3	
5.0%	Walk	34.1%		36		0		5	
	Other	2.2%		2		0		0	
	All Modes	100.0%		106	21	0	0	14	3
	Auto	73.8%	2.84	125	44	0	0	17	6
South Bay	Transit	14.1%		24		0		3	
8.0%	Walk	10.1%		17		0		2	
	Other	2.0%		3		0		0	
	All Modes	100.0%		169	44	0	0	23	6
	Auto	37.0%	3.12	305	98	0	0	41	13
Outside of Bay Area	Transit	8.4%		69		0		9	
39.0%	Walk	28.3%		233		0		31	
	Other	26.3%		217		0		29	
	All Modes	100.0%		824	98	0	0	111	13
	Auto	**35.7%**	**2.43**	**755**	**310**	**0**	**0**	**102**	**42**
All Origins	**Transit**	**15.7%**		**331**		**0**		**45**	
100.0%	**Walk**	**36.1%**		**762**		**0**		**103**	
	Other	**12.5%**		**264**		**0**		**36**	
	All Modes	**100.0%**		**2,112**	**310**	**0**	**0**	**285**	**42**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (Quality Sit-down Restaurant)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All quality restaurant trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 MEZZANINE RETAIL (WORK TRIPS)

Proposed Size:	10,000	sq.ft.					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	150.0	trips/1,000 gsf	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5
Total Person-trips:	1,500	person-trips	Total Person-trips:		35		135
Work Trips [2]: 4%	60	person-trips	Work Person-trips:	100% [5]	35	4% [2]	5

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 12.8%	Auto	13.8%	1.28	1	1	1	0	0	0
	Transit	36.0%		3		2		0	
	Walk	47.5%		4		2		0	
	Other	2.7%		0		0		0	
	All Modes	100.0%		8	1	4	0	1	0
SF Superdistrict 2 14.4%	Auto	31.6%	1.23	3	2	2	1	0	0
	Transit	65.8%		6		3		1	
	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		9	2	5	1	1	0
SF Superdistrict 3 17.0%	Auto	39.5%	1.29	4	3	2	2	0	0
	Transit	54.4%		6		3		0	
	Walk	3.8%		0		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		10	3	6	2	1	0
SF Superdistrict 4 11.2%	Auto	41.7%	1.53	3	2	2	1	0	0
	Transit	54.5%		4		2		0	
	Walk	0.0%		0		0		0	
	Other	3.8%		0		0		0	
	All Modes	100.0%		7	2	4	1	1	0
East Bay 22.4%	Auto	39.4%	3.33	5	2	3	1	0	0
	Transit	57.0%		8		4		1	
	Walk	0.0%		0		0		0	
	Other	3.6%		0		0		0	
	All Modes	100.0%		13	2	8	1	1	0
North Bay 6.1%	Auto	52.8%	1.70	2	1	1	1	0	0
	Transit	45.3%		2		1		0	
	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		4	1	2	1	0	0
South Bay 14.3%	Auto	58.0%	1.23	5	4	3	2	0	0
	Transit	40.7%		3		2		0	
	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		9	4	5	2	1	0
Outside of Bay Area 1.8%	Auto	47.8%	1.50	1	0	0	0	0	0
	Transit	50.0%		1		0		0	
	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		1	0	1	0	0	0
All Origins 100.0%	**Auto**	**38.9%**	**1.54**	**23**	**15**	**14**	**9**	**2**	**1**
	Transit	**51.7%**		**31**		**18**		**3**	
	Walk	**6.9%**		**4**		**2**		**0**	
	Other	**2.5%**		**1**		**1**		**0**	
	All Modes	**100.0%**		**60**	**15**	**35**	**9**	**5**	**1**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Retail)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 MEZZANINE RETAIL (NON-WORK TRIPS)

Proposed Size:	10,000	sq.ft.					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	150.0	trips/1,000 gsf	Person-trip Gen Rate:	2.3% [4]	3.5	9.0% [1]	13.5
Total Person-trips:	1,500	person-trips	Total Person-trips:		35		135
Non-Work Trips [2]: 96%	1,440	person-trips	Non-Work Person-trips:	0% [5]	0	96% [2]	130

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 19.0%	Auto	18.1%	1.62	50	31	0	0	4	3
	Transit	14.7%		40		0		4	
	Walk	63.0%		172		0		16	
	Other	4.2%		11		0		1	
	All Modes	100.0%		274	31	0	0	25	3
SF Superdistrict 2 7.0%	Auto	27.9%	1.66	28	17	0	0	3	2
	Transit	32.6%		33		0		3	
	Walk	34.1%		34		0		3	
	Other	5.4%		5		0		0	
	All Modes	100.0%		101	17	0	0	9	2
SF Superdistrict 3 8.0%	Auto	31.2%	2.08	36	17	0	0	3	2
	Transit	21.7%		25		0		2	
	Walk	41.3%		48		0		4	
	Other	5.8%		7		0		1	
	All Modes	100.0%		115	17	0	0	10	2
SF Superdistrict 4 3.0%	Auto	34.0%	1.51	15	10	0	0	1	1
	Transit	34.0%		15		0		1	
	Walk	28.0%		12		0		1	
	Other	4.0%		2		0		0	
	All Modes	100.0%		43	10	0	0	4	1
East Bay 11.0%	Auto	38.1%	2.35	60	26	0	0	5	2
	Transit	23.2%		37		0		3	
	Walk	36.6%		58		0		5	
	Other	2.1%		3		0		0	
	All Modes	100.0%		158	26	0	0	14	2
North Bay 5.0%	Auto	46.1%	2.27	33	15	0	0	3	1
	Transit	17.6%		13		0		1	
	Walk	34.1%		25		0		2	
	Other	2.2%		2		0		0	
	All Modes	100.0%		72	15	0	0	6	1
South Bay 8.0%	Auto	73.8%	2.84	85	30	0	0	8	3
	Transit	14.1%		16		0		1	
	Walk	10.1%		12		0		1	
	Other	2.0%		2		0		0	
	All Modes	100.0%		115	30	0	0	10	3
Outside of Bay Area 39.0%	Auto	37.0%	3.12	208	67	0	0	19	6
	Transit	8.4%		47		0		4	
	Walk	28.3%		159		0		14	
	Other	26.3%		148		0		13	
	All Modes	100.0%		562	67	0	0	51	6
All Origins 100.0%	**Auto**	**35.7%**	**2.43**	**515**	**211**	**0**	**0**	**46**	**19**
	Transit	**15.7%**		**226**		**0**		**20**	
	Walk	**36.1%**		**520**		**0**		**47**	
	Other	**12.5%**		**180**		**0**		**16**	
	All Modes	**100.0%**		**1,440**	**211**	**0**	**0**	**130**	**19**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Retail)
[2] SF Guidelines, Appendix C - Table C-2 (Retail)
[3] SF Guidelines, Appendix E - Table E-10 Visitor Trips to SD1 (Retail)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] All retail trips occurring before 9 AM are assumed to be work trips

Mission Rock Mixed-Use Project

LAND USE: PIER 48 MEZZANINE OFFICE (WORK TRIPS)

Proposed Size:	7,875 sq.ft.					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	18.1 trips/1,000 gsf	Person-trip Gen Rate:	8.9% [4]	1.6	8.5% [1]	1.5
Total Person-trips:	143 person-trips	Total Person-trips:		13		12
Work Trips [2]: 36%	51 person-trips	Work Person-trips:	83% [5]	11	83% [2]	10

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 12.8%	Auto	13.8%	1.28	1	1	0	0	0	0
	Transit	36.0%		2		0		0	
	Walk	47.5%		3		1		1	
	Other	2.7%		0		0		0	
	All Modes	100.0%		7	1	1	0	1	0
SF Superdistrict 2 14.4%	Auto	31.6%	1.23	2	2	0	0	0	0
	Transit	65.8%		5		1		1	
	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		7	2	2	0	1	0
SF Superdistrict 3 17.0%	Auto	39.5%	1.29	3	3	1	1	1	1
	Transit	54.4%		5		1		1	
	Walk	3.8%		0		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		9	3	2	1	2	1
SF Superdistrict 4 11.2%	Auto	41.7%	1.53	2	2	0	0	0	0
	Transit	54.5%		3		1		1	
	Walk	0.0%		0		0		0	
	Other	3.8%		0		0		0	
	All Modes	100.0%		6	2	1	0	1	0
East Bay 22.4%	Auto	39.4%	3.33	5	1	1	0	1	0
	Transit	57.0%		7		1		1	
	Walk	0.0%		0		0		0	
	Other	3.6%		0		0		0	
	All Modes	100.0%		11	1	2	0	2	0
North Bay 6.1%	Auto	52.8%	1.70	2	1	0	0	0	0
	Transit	45.3%		1		0		0	
	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		3	1	1	0	1	0
South Bay 14.3%	Auto	58.0%	1.23	4	3	1	1	1	1
	Transit	40.7%		3		1		1	
	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		7	3	2	1	1	1
Outside of Bay Area 1.8%	Auto	47.8%	1.50	0	0	0	0	0	0
	Transit	50.0%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
All Origins 100.0%	**Auto**	**38.9%**	**1.54**	**20**	**13**	**4**	**3**	**4**	**3**
	Transit	**51.7%**		**27**		**5**		**5**	
	Walk	**6.9%**		**4**		**1**		**1**	
	Other	**2.5%**		**1**		**0**		**0**	
	All Modes	**100.0%**		**51**	**13**	**11**	**3**	**10**	**3**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Office)
[2] SF Guidelines, Appendix C - Table C-2 (General Office)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

LAND USE: PIER 48 MEZZANINE OFFICE (WORK TRIPS)

Proposed Size:	7,875 sq.ft.					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	18.1 trips/attendee	Person-trip Gen Rate:	8.9% [4]	1.6	8.5% [1]	1.5
Total Person-trips:	143 person-trips	Total Person-trips:		13		12
Non-Work Trips [2]: 64%	91 person-trips	Non-Work Person-trips:	17% [5]	2	17% [2]	2

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 22.0%	Auto	12.9%	2.29	3	1	0	0	0	0
	Transit	17.1%		3		0		0	
	Walk	65.3%		13		0		0	
	Other	4.7%		1		0		0	
	All Modes	100.0%		20	1	0	0	0	0
SF Superdistrict 2 14.0%	Auto	31.9%	2.07	4	2	0	0	0	0
	Transit	35.0%		4		0		0	
	Walk	26.7%		3		0		0	
	Other	6.4%		1		0		0	
	All Modes	100.0%		13	2	0	0	0	0
SF Superdistrict 3 13.0%	Auto	38.8%	2.39	5	2	0	0	0	0
	Transit	36.8%		4		0		0	
	Walk	17.4%		2		0		0	
	Other	7.0%		1		0		0	
	All Modes	100.0%		12	2	0	0	0	0
SF Superdistrict 4 7.0%	Auto	42.5%	1.93	3	1	0	0	0	0
	Transit	32.7%		2		0		0	
	Walk	17.7%		1		0		0	
	Other	7.1%		0		0		0	
	All Modes	100.0%		6	1	0	0	0	0
East Bay 11.0%	Auto	47.4%	2.43	5	2	0	0	0	0
	Transit	24.9%		2		0		0	
	Walk	25.4%		3		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		10	2	0	0	0	0
North Bay 5.0%	Auto	71.1%	1.91	3	2	0	0	0	0
	Transit	9.6%		0		0		0	
	Walk	15.8%		1		0		0	
	Other	3.5%		0		0		0	
	All Modes	100.0%		5	2	0	0	0	0
South Bay 7.0%	Auto	59.5%	2.46	4	2	0	0	0	0
	Transit	24.6%		2		0		0	
	Walk	13.5%		1		0		0	
	Other	2.4%		0		0		0	
	All Modes	100.0%		6	2	0	0	0	0
Outside of Bay Area 21.0%	Auto	35.9%	3.17	7	2	0	0	0	0
	Transit	24.1%		5		0		0	
	Walk	27.7%		5		0		0	
	Other	12.3%		2		0		0	
	All Modes	100.0%		19	2	0	0	0	0
All Origins 100.0%	**Auto**	**35.8%**	**2.37**	**33**	**14**	**1**	**0**	**1**	**0**
	Transit	**25.7%**		**23**		**1**		**1**	
	Walk	**32.0%**		**29**		**1**		**1**	
	Other	**6.5%**		**6**		**0**		**0**	
	All Modes	**100.0%**		**91**	**14**	**2**	**0**	**2**	**0**

Notes:
[1] SF Guidelines, Appendix C - Table C-1 (General Office)
[2] SF Guidelines, Appendix C - Table C-2 (General Office)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)
[4] Adapted from ITE Trip Generation Report, 9th Edition, 2012 in combination with SF Guidelines
[5] The AM Peak Hour % of work/non-work trips are assumed to be the same as the PM Peak Hour % shown in Table C-2 of the SF Guidelines

Mission Rock Mixed-Use Project

LAND USE: CHINA BASIN PARK (WORK TRIPS)

Proposed Size:	5.12 acres					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	20.0 trips/acre	Person-trip Gen Rate:	13.0% [1]	2.6	9.0% [1]	1.8
Total Person-trips:	102 person-trips	Total Person-trips:		13		9
Work Trips [2]: 4%	4 person-trips	Work Person-trips:	4% [2]	1	4% [2]	0

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 12.8%	Auto	13.8%	1.28	0	0	0	0	0	0
	Transit	36.0%		0		0		0	
	Walk	47.5%		0		0		0	
	Other	2.7%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
SF Superdistrict 2 14.4%	Auto	31.6%	1.23	0	0	0	0	0	0
	Transit	65.8%		0		0		0	
	Walk	1.3%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
SF Superdistrict 3 17.0%	Auto	39.5%	1.29	0	0	0	0	0	0
	Transit	54.4%		0		0		0	
	Walk	3.8%		0		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
SF Superdistrict 4 11.2%	Auto	41.7%	1.53	0	0	0	0	0	0
	Transit	54.5%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	3.8%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
East Bay 22.4%	Auto	39.4%	3.33	0	0	0	0	0	0
	Transit	57.0%		1		0		0	
	Walk	0.0%		0		0		0	
	Other	3.6%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
North Bay 6.1%	Auto	52.8%	1.70	0	0	0	0	0	0
	Transit	45.3%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	1.9%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
South Bay 14.3%	Auto	58.0%	1.23	0	0	0	0	0	0
	Transit	40.7%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	1.3%		0		0		0	
	All Modes	100.0%		1	0	0	0	0	0
Outside of Bay Area 1.8%	Auto	47.8%	1.50	0	0	0	0	0	0
	Transit	50.0%		0		0		0	
	Walk	0.0%		0		0		0	
	Other	2.2%		0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
All Origins 100.0%	**Auto**	**38.9%**	**1.54**	**2**	**1**	**0**	**0**	**0**	**0**
	Transit	**51.7%**		**2**		**0**		**0**	
	Walk	**6.9%**		**0**		**0**		**0**	
	Other	**2.5%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**4**	**1**	**1**	**0**	**0**	**0**

Notes:
[1] Traffic Generators, San Diego Association of Governments, 2002 (Regional Park)
[2] Mission Bay FSEIR estimated 0.1 employee per acre; assuming 2 daily trips per employee it means 4% work trips (0.1 x 2 / 5 = 0.04)
[3] SF Guidelines, Appendix E - Table E-3 Work Trips to SD1 (All)

Mission Rock Mixed-Use Project

LAND USE: CHINA BASIN PARK (NON-WORK TRIPS)

Proposed Size:	5.12 acres					
DAILY			AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:	20.0 trips/acre	Person-trip Gen Rate:	13.0% [1]	2.6	9.0% [1]	1.8
Total Person-trips:	102 person-trips	Total Person-trips:		13		9
Non-Work Trips [2]: 96%	98 person-trips	Non-Work Person-trips:	96% [2]	13	96% [2]	9

Place of Origin Distribution [3]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [3]	Daily		AM Peak Hour		PM Peak Hour	
				Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
SF Superdistrict 1 22.0%	Auto	12.9%	2.29	3	1	0	0	0	0
	Transit	17.1%		4		0		0	
	Walk	65.3%		14		2		1	
	Other	4.7%		1		0		0	
	All Modes	100.0%		22	1	3	0	2	0
SF Superdistrict 2 14.0%	Auto	31.9%	2.07	4	2	1	0	0	0
	Transit	35.0%		5		1		0	
	Walk	26.7%		4		0		0	
	Other	6.4%		1		0		0	
	All Modes	100.0%		14	2	2	0	1	0
SF Superdistrict 3 13.0%	Auto	38.8%	2.39	5	2	1	0	0	0
	Transit	36.8%		5		1		0	
	Walk	17.4%		2		0		0	
	Other	7.0%		1		0		0	
	All Modes	100.0%		13	2	2	0	1	0
SF Superdistrict 4 7.0%	Auto	42.5%	1.93	3	2	0	0	0	0
	Transit	32.7%		2		0		0	
	Walk	17.7%		1		0		0	
	Other	7.1%		0		0		0	
	All Modes	100.0%		7	2	1	0	1	0
East Bay 11.0%	Auto	47.4%	2.43	5	2	1	0	0	0
	Transit	24.9%		3		0		0	
	Walk	25.4%		3		0		0	
	Other	2.3%		0		0		0	
	All Modes	100.0%		11	2	1	0	1	0
North Bay 5.0%	Auto	71.1%	1.91	3	2	0	0	0	0
	Transit	9.6%		0		0		0	
	Walk	15.8%		1		0		0	
	Other	3.5%		0		0		0	
	All Modes	100.0%		5	2	1	0	0	0
South Bay 7.0%	Auto	59.5%	2.46	4	2	1	0	0	0
	Transit	24.6%		2		0		0	
	Walk	13.5%		1		0		0	
	Other	2.4%		0		0		0	
	All Modes	100.0%		7	2	1	0	1	0
Outside of Bay Area 21.0%	Auto	35.9%	3.17	7	2	1	0	1	0
	Transit	24.1%		5		1		0	
	Walk	27.7%		6		1		1	
	Other	12.3%		3		0		0	
	All Modes	100.0%		21	2	3	0	2	0
All Origins 100.0%	**Auto**	**35.8%**	**2.37**	**35**	**15**	**5**	**2**	**3**	**1**
	Transit	**25.7%**		**25**		**3**		**2**	
	Walk	**32.0%**		**31**		**4**		**3**	
	Other	**6.5%**		**6**		**1**		**1**	
	All Modes	**100.0%**		**98**	**15**	**13**	**2**	**9**	**1**

Notes:
[1] Traffic Generators, San Diego Association of Governments, 2002 (Regional Park)
[2] Mission Bay FSEIR estimated 0.1 employee per acre; assuming 2 daily trips per employee it means 4% work trips (0.1 x 2 / 5 = 0.04)
[3] SF Guidelines, Appendix E - Table E-11 Visitor Trips to SD1 (All Other)

APPENDIX E
SFCTA TRIP DATA FOR TAZ 655

SFCTA Travel Demand Model
2040 Master Run - July 2013
External Person Trips for TAZ 655

ORIGIN/DESTINATION	AM PEAK HOUR											
	Auto Person Trips			Transit Trips			Other Trips			Total Person Trips		
	Out	In	Total	Out	In	Total	Out	In	Total	Out	In	Total
Superdistrict 1	35	42	77	65	104	169	128	167	295	228	313	541
Superdistrict 2	18	44	62	17	102	119	6	34	40	41	180	221
Superdistrict 3	36	111	147	25	129	154	48	90	138	109	330	439
Superdistrict 4	8	42	50	4	44	48	0	2	2	12	88	100
East Bay	19	121	140	7	151	158	0	5	5	26	277	303
North Bay	4	41	45	0	13	13	0	4	4	4	58	62
South Bay	16	127	143	3	69	72	0	2	2	19	198	217
Outside of Bay Area	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**136**	**528**	**664**	121	**612**	**733**	**182**	**304**	**486**	**439**	**1,444**	**1,883**
			35%			**39%**			**26%**			**100%**
Superdistrict 1			11.6%			23.1%			60.7%			28.7%
Superdistrict 2			9.3%			16.2%			8.2%			11.7%
Superdistrict 3			22.1%			21.0%			28.4%			23.3%
Superdistrict 4			7.5%			6.5%			0.4%			5.3%
East Bay			21.1%			21.6%			1.0%			16.1%
North Bay			6.8%			1.8%			0.8%			3.3%
South Bay			21.5%			9.8%			0.4%			11.5%
Outside of Bay Area			0.0%			0.0%			0.0%			0.0%
TOTAL			**100.0%**			**100.0%**			**100.0%**			**100.0%**

SFCTA Travel Demand Model
2040 Master Run - July 2013
External Person Trips for TAZ 655

ORIGIN/DESTINATION	PM PEAK HOUR											
	Auto Person Trips			Transit Trips			Other Trips			Total Person Trips		
	Out	In	Total	Out	In	Total	Out	In	Total	Out	In	Total
Superdistrict 1	92	77	169	152	99	251	277	237	514	521	413	934
Superdistrict 2	68	37	105	108	34	142	38	17	55	214	88	302
Superdistrict 3	147	93	240	138	55	193	131	103	234	416	251	667
Superdistrict 4	42	19	61	40	10	50	2	0	2	84	29	113
East Bay	128	45	173	114	21	135	4	2	6	246	68	314
North Bay	35	9	44	8	1	9	3	1	4	46	11	57
South Bay	116	39	155	54	9	63	1	0	1	171	48	219
Outside of Bay Area	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**628**	**319**	**947**	**614**	**229**	**843**	**456**	**360**	**816**	**1,698**	**908**	**2,606**
			36%			**32%**			**31%**			**100%**
Superdistrict 1			17.8%			29.8%			63.0%			35.8%
Superdistrict 2			11.1%			16.8%			6.7%			11.6%
Superdistrict 3			25.3%			22.9%			28.7%			25.6%
Superdistrict 4			6.4%			5.9%			0.2%			4.3%
East Bay			18.3%			16.0%			0.7%			12.0%
North Bay			4.6%			1.1%			0.5%			2.2%
South Bay			16.4%			7.5%			0.1%			8.4%
Outside of Bay Area			0.0%			0.0%			0.0%			0.0%
TOTAL			**100.0%**			**100.0%**			**100.0%**			**100.0%**

APPENDIX F
PARKING DEMAND

MISSION ROCK PROJECT – SCENARIO A

Mission Rock Mixed-Use Project
SCENARIO A - (Low Residential/ High Commercial)

	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Midday Period (Noon to 2 PM) Peak Parking Demand															
SHORT-TERM DEMAND															
Daily visitors vehicle trips		2,305	2,371	2,330	2,894	9,900		151	284	194	13		642	14	10,556
Turnover rate (vehicles per space)		5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5
Peak short-term demand (spaces)		210	216	212	263	900		14	26	18	1		58	1	960
% of peak demand during period		100%	100%	75%	100%	94%		100%	100%	100%	100%		101%	100%	95%
Total short-term demand (spaces)		210	216	159	263	848		14	26	18	1		59	1	908
LONG-TERM DEMAND															
Residential Demand															
Peak parking demand (spaces per unit)	1.50														
Peak parking demand (spaces)	1,572					1,572							-		1,572
% of peak demand during period	80%					80%							0%		80%
Subtotal long-term demand (spaces)	*1,258*					*1,258*							-		*1,258*
Employee Demand															
Avg. gsf or acres per employee		276	350	350	240				350	350	276			10	
Number of daytime employees		4,932	350	245	153	5,679	75		31	29	29		164	1	5,843
% of employees who drive		39%	40%	40%	40%	39%	55%		40%	40%	39%		47%	40%	40%
Number of employees who drive		1,943	141	98	62	2,243	41		13	11	11		77	0	2,320
Avg employee vehicle occupancy		1.55	1.57	1.56	1.58	1.56	1.23		1.57	1.57	1.55		1.37	1.56	1.55
Peak parking demand (spaces)		1,250	89	62	39	1,441	34		8	7	7		56	0	1,497
% of peak demand during period		100%	100%	90%	100%	100%	100%		90%	100%	100%		98%	100%	99%
Subtotal long-term demand (spaces)		*1,250*	*89*	*56*	*39*	*1,434*	*34*		*7*	*7*	*7*		*55*	-	*1,489*
Total long-term demand (spaces)	1,258	1,250	89	56	39	2,692	34		7	7	7		55	-	2,747
TOTAL PARKING DEMAND (spaces)	1,258	1,460	305	215	302	3,540	34	14	33	25	8		114	1	3,655
Evening Period (7 PM to 9 PM) Peak Parking Demand - NO SF GIANTS GAME															
SHORT-TERM DEMAND															
Daily visitors vehicle trips		2,305	2,371	2,330	2,894	9,900		151	284	194	13		642	14	10,556
Turnover rate (vehicles per space)		5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5
Peak short-term demand (spaces)		210	216	212	263	900		14	26	18	1		58	1	960
% of peak demand during period		5%	90%	100%	80%	70%		90%	100%	90%	5%		92%	50%	71%
Total short-term demand (spaces)		10	194	212	210	626		12	26	16	-		54	1	681
LONG-TERM DEMAND															
Residential Demand															
Peak parking demand (spaces per unit)	1.50														
Peak parking demand (spaces)	1,572					1,572							-		1,572
% of peak demand during period	100%					100%							0%		100%
Subtotal long-term demand (spaces)	*1,572*					*1,572*							-		*1,572*
Employee Demand															
Avg. gsf or acres per employee		276	350	350	240				350	350	276			10	
Number of daytime employees		4,932	350	245	153	5,679	75		31	29	29		164	1	5,843
% of employees who drive		39%	40%	40%	40%	39%	55%		40%	40%	39%		47%	40%	40%
Number of employees who drive		1,943	141	98	62	2,243	41		13	11	11		77	0	2,320
Avg employee vehicle occupancy		1.55	1.57	1.56	1.58	1.56	1.23		1.57	1.57	1.55		1.37	1.56	1.55
Peak parking demand (spaces)		1,250	89	62	39	1,441	34		8	7	7		56	0	1,497
% of peak demand during period		10%	100%	100%	90%	22%	100%		100%	100%	10%		89%	100%	24%
Subtotal long-term demand (spaces)		*125*	*89*	*62*	*35*	*311*	*34*		*8*	*7*	*1*		*50*	-	*361*
Total long-term demand (spaces)	1,572	125	89	62	35	1,883	34		8	7	1		50	-	1,933
TOTAL PARKING DEMAND (spaces)	1,572	135	283	274	245	2,509	34	12	34	23	1		104	1	2,614

MISSION ROCK PROJECT – SCENARIO B

Mission Rock Mixed-Use Project
SCENARIO B - (High Residential/ Low Commercial)

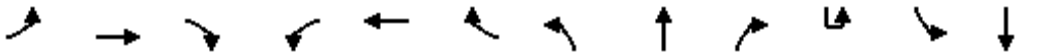
	SEAWALL LOT 337						PIER 48							China Basin Park Open Space	TOTAL DEVELOPMENT
	Residential	Office	General Retail	Quality Restaurant	Quick Service Restaurant	Subtotal SWL 337	Brewery/ Distillery	Brewery Retail/ Exhibition	Brewery Quality Restaurant	Mezzanine Retail	Mezzanine Office	Mezzanine Production	Subtotal Pier 48		
Midday Period (Noon to 2 PM) Peak Parking Demand															
SHORT-TERM DEMAND															
Daily visitors vehicle trips		1,590	2,228	2,216	2,809	8,844		151	284	194	13		642	14	9,500
Turnover rate (vehicles per space)		5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5
Peak short-term demand (spaces)		145	203	201	255	804		14	26	18	1		58	1	864
% of peak demand during period		100%	100%	75%	100%	94%		100%	100%	100%	100%		101%	100%	94%
Total short-term demand (spaces)		145	203	151	255	754		14	26	18	1		59	1	814
LONG-TERM DEMAND															
Residential Demand															
Peak parking demand (spaces per unit)	1.50														
Peak parking demand (spaces)	2,369					2,369							-		2,369
% of peak demand during period	80%					80%							0%		80%
Subtotal long-term demand (spaces)	*1,895*					*1,895*							-		*1,895*
Employee Demand															
Avg. gsf or acres per employee		276	350	350	240				350	350	276			10	
Number of daytime employees		3,522	344	241	151	4,258	75		31	29	29		164	1	4,422
% of employees who drive		40%	41%	40%	41%	40%	55%		40%	40%	40%		47%	40%	40%
Number of employees who drive		1,407	141	97	61	1,706	41		13	11	11		77	0	1,784
Avg employee vehicle occupancy		1.57	1.59	1.58	1.58	1.57	1.23		1.57	1.57	1.57		1.37	1.56	1.56
Peak parking demand (spaces)		898	89	62	39	1,088	34		8	7	7		56	0	1,144
% of peak demand during period		100%	100%	90%	100%	99%	100%		90%	100%	100%		98%	100%	99%
Subtotal long-term demand (spaces)		*898*	*89*	*56*	*39*	*1,082*	*34*		*7*	*7*	*7*		*55*	-	*1,137*
Total long-term demand (spaces)	1,895	898	89	56	39	2,977	34		7	7	7		55	-	3,032
TOTAL PARKING DEMAND (spaces)	1,895	1,043	292	207	294	3,731	34	14	33	25	8		114	1	3,846
Evening Period (7 PM to 9 PM) Peak Parking Demand - NO SF GIANTS GAME															
SHORT-TERM DEMAND															
Daily visitors vehicle trips		1,590	2,228	2,216	2,809	8,844		151	284	194	13		642	14	9,500
Turnover rate (vehicles per space)		5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5
Peak short-term demand (spaces)		145	203	201	255	804		14	26	18	1		58	1	864
% of peak demand during period		5%	90%	100%	80%	74%		90%	100%	90%	5%		93%	50%	75%
Total short-term demand (spaces)		7	182	201	204	594		12	26	16	-		54	1	649
LONG-TERM DEMAND															
Residential Demand															
Peak parking demand (spaces per unit)	1.50														
Peak parking demand (spaces)	2,369					2,369							-		2,369
% of peak demand during period	100%					100%							0%		100%
Subtotal long-term demand (spaces)	*2,369*					*2,369*							-		*2,369*
Employee Demand															
Avg. gsf or acres per employee		276	350	350	240				350	350	276			10	
Number of daytime employees		3,522	344	241	151	4,258	75		31	29	29		164	1	4,422
% of employees who drive		40%	41%	40%	41%	40%	55%		40%	40%	40%		47%	40%	40%
Number of employees who drive		1,407	141	97	61	1,706	41		13	11	11		77	0	1,784
Avg employee vehicle occupancy		1.57	1.59	1.58	1.58	1.57	1.23		1.57	1.57	1.57		1.37	1.56	1.56
Peak parking demand (spaces)		898	89	62	39	1,088	34		8	7	7		56	0	1,144
% of peak demand during period		10%	100%	100%	90%	25%	100%		100%	100%	10%		89%	100%	28%
Subtotal long-term demand (spaces)		*90*	*89*	*62*	*35*	*276*	*34*		*8*	*7*	*1*		*50*	-	*326*
Total long-term demand (spaces)	2,369	90	89	62	35	2,645	34		8	7	1		50	-	2,695
TOTAL PARKING DEMAND (spaces)	2,369	97	271	263	239	3,239	34	12	34	23	1		104	1	3,344

APPENDIX H: INTERSECTION LEVEL OF SERVICE CALCULATIONS AND PROPOSED PROJECT CONTRIBUTION

Intersection LOS Calculations

Existing

FEHR PEERS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	111	4	155	0	5	3	119	1090	2	10	16	881
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5			5.9	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.97			0.99		1.00	1.00			1.00	1.00
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.85			0.95		1.00	1.00			1.00	1.00
Flt Protected	0.95	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1501	1342			1517		1540	2846			1540	3079
Flt Permitted	0.75	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1189	1342			1517		1540	2846			1540	3079
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	117	4	163	0	5	3	125	1147	2	11	17	927
RTOR Reduction (vph)	0	107	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	60	0	0	6	0	125	1149	0	0	28	927
Confl. Peds. (#/hr)	29		22	22		29			125			
Confl. Bikes (#/hr)									145			
Parking (#/hr)								10	10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5			15.1	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5			15.1	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34			0.14	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5			5.9	5.2
Lane Grp Cap (vph)	411	464			525		231	970			211	1030
v/s Ratio Prot		0.05			0.00		0.08	c0.40			0.02	c0.30
v/s Ratio Perm	c0.10											
v/c Ratio	0.28	0.13			0.01		0.54	1.18			0.13	0.90
Uniform Delay, d1	26.1	24.6			23.6		43.2	36.2			41.7	34.8
Progression Factor	1.00	1.00			1.00		0.88	0.78			1.00	1.00
Incremental Delay, d2	1.7	0.6			0.0		4.5	88.6			1.3	12.3
Delay (s)	27.8	25.2			23.6		42.6	116.9			43.0	47.2
Level of Service	C	C			C		D	F			D	D
Approach Delay (s)		26.3			23.6			109.6				45.8
Approach LOS		C			C			F				D

Intersection Summary			
HCM 2000 Control Delay	75.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	55
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.2
Lane Util. Factor	1.00
Frpb, ped/bikes	0.71
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	976
Flt Permitted	1.00
Satd. Flow (perm)	976
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	58
RTOR Reduction (vph)	39
Lane Group Flow (vph)	19
Confl. Peds. (#/hr)	88
Confl. Bikes (#/hr)	148
Parking (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	36.8
Effective Green, g (s)	36.8
Actuated g/C Ratio	0.33
Clearance Time (s)	5.2
Lane Grp Cap (vph)	326
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.06
Uniform Delay, d1	24.9
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	25.2
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Volume (vph)	142	18	1	16	1048	3	946	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9		6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.93		1.00	1.00	1.00	1.00	0.74
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1309	1090		1540	3079	1540	3079	1018
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1309	1090		1540	3079	1540	3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	153	19	1	17	1127	3	1017	162
RTOR Reduction (vph)	0	8	0	0	0	0	0	58
Lane Group Flow (vph)	153	11	0	18	1127	3	1017	104
Confl. Peds. (#/hr)	49	67						214
Confl. Bikes (#/hr)								137
Parking (#/hr)	10	10						
Turn Type	NA	Perm	Prot	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	5	2	1	6	
Permitted Phases		4						6
Actuated Green, G (s)	38.1	38.1		15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1		15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35		0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9		6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	453	377		215	1226	140	1035	342
v/s Ratio Prot	c0.12			0.01	c0.37	0.00	c0.33	
v/s Ratio Perm		0.01						0.10
v/c Ratio	0.34	0.03		0.08	0.92	0.02	0.98	0.30
Uniform Delay, d1	26.6	23.7		41.2	31.4	45.5	36.2	27.0
Progression Factor	1.00	1.00		0.60	0.57	0.71	0.61	0.37
Incremental Delay, d2	2.0	0.1		0.4	7.6	0.2	18.7	1.5
Delay (s)	28.6	23.9		25.1	25.5	32.3	40.7	11.6
Level of Service	C	C		C	C	C	D	B
Approach Delay (s)	28.1				25.5		36.7	
Approach LOS	C				C		D	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

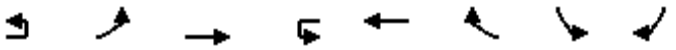
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Volume (vph)	59	3	12	3	4	2	7	12	1009	4	4	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0			7.0	7.0			5.8
Lane Util. Factor		1.00			1.00			1.00	0.95			1.00
Frpb, ped/bikes		0.99			0.99			1.00	1.00			1.00
Flpb, ped/bikes		0.97			0.99			1.00	1.00			1.00
Frt		0.98			0.97			1.00	1.00			1.00
Flt Protected		0.96			0.98			0.95	1.00			0.95
Satd. Flow (prot)		1474			1516			1540	3075			1540
Flt Permitted		0.79			0.95			0.28	1.00			0.95
Satd. Flow (perm)		1204			1464			461	3075			1540
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	61	3	12	3	4	2	7	12	1051	4	4	15
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	70	0	0	8	0	0	19	1055	0	0	19
Confl. Peds. (#/hr)	39		36	36		39				84		
Confl. Bikes (#/hr)										96		
Turn Type	Perm	NA		Perm	NA		custom	Prot	NA		Prot	Prot
Protected Phases		4			8			5	2		1	1
Permitted Phases	4			8			5					
Actuated Green, G (s)		38.0			38.0			15.0	43.0			9.2
Effective Green, g (s)		38.0			38.0			15.0	43.0			9.2
Actuated g/C Ratio		0.35			0.35			0.14	0.39			0.08
Clearance Time (s)		7.0			7.0			7.0	7.0			5.8
Lane Grp Cap (vph)		415			505			62	1202			128
v/s Ratio Prot									c0.34			0.01
v/s Ratio Perm		c0.06			0.01			0.04				
v/c Ratio		0.17			0.02			0.31	0.88			0.15
Uniform Delay, d1		25.0			23.7			42.8	31.1			46.8
Progression Factor		1.00			1.00			0.57	0.31			1.30
Incremental Delay, d2		0.9			0.1			6.9	5.3			0.7
Delay (s)		25.9			23.7			31.2	15.1			61.4
Level of Service		C			C			C	B			E
Approach Delay (s)		25.9			23.7				15.4			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

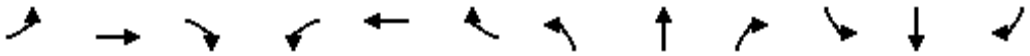
Movement	SBT	SBR
Lane Configurations		
Volume (vph)	869	99
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.4	
Lane Util. Factor	0.95	
Frpb, ped/bikes	0.97	
Flpb, ped/bikes	1.00	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	2951	
Flt Permitted	1.00	
Satd. Flow (perm)	2951	
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	905	103
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	1000	0
Confl. Peds. (#/hr)		103
Confl. Bikes (#/hr)		102
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	37.6	
Effective Green, g (s)	37.6	
Actuated g/C Ratio	0.34	
Clearance Time (s)	5.4	
Lane Grp Cap (vph)	1008	
v/s Ratio Prot	c0.34	
v/s Ratio Perm		
v/c Ratio	0.99	
Uniform Delay, d1	36.1	
Progression Factor	0.11	
Incremental Delay, d2	13.7	
Delay (s)	17.7	
Level of Service	B	
Approach Delay (s)	18.5	
Approach LOS	B	

Intersection Summary



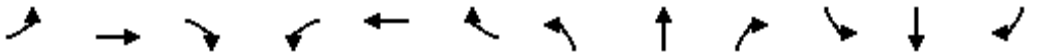
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Volume (vph)	4	120	991	4	846	24	4	281
Ideal Flow (vphpl)	1900	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)		6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor		1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00
Frt		1.00	1.00	1.00	1.00		1.00	0.85
Flt Protected		0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1459	2917	1540	2676		1459	1144
Flt Permitted		0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1459	2917	1540	2676		1459	1144
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	4	124	1022	4	872	25	4	290
RTOR Reduction (vph)	0	0	0	0	2	0	0	189
Lane Group Flow (vph)	0	128	1022	4	895	0	4	101
Confl. Peds. (#/hr)						99	56	132
Confl. Bikes (#/hr)						89		
Parking (#/hr)					10	10		
Turn Type	Prot	Prot	NA	Prot	NA		NA	Perm
Protected Phases	5	5	2	1	6		4	
Permitted Phases								4
Actuated Green, G (s)		15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)		15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio		0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)		6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)		204	1188	117	885		506	397
v/s Ratio Prot		0.09	c0.35	0.00	c0.33		0.00	
v/s Ratio Perm								c0.09
v/c Ratio		0.63	0.86	0.03	1.01		0.01	0.25
Uniform Delay, d1		44.6	29.7	47.0	36.8		23.5	25.7
Progression Factor		0.60	0.85	0.42	0.25		1.00	1.00
Incremental Delay, d2		9.1	5.5	0.2	19.0		0.0	1.5
Delay (s)		35.7	30.7	19.8	28.1		23.5	27.2
Level of Service		D	C	B	C		C	C
Approach Delay (s)			31.3		28.1		27.2	
Approach LOS			C		C		C	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	682	817	35	319	711	31	53	873	379	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3046		2987	3028			5539	1264			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3046		2987	3028			5539	1264			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	726	869	37	339	756	33	56	929	403	0	0	0
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	231	0	0	0
Lane Group Flow (vph)	726	903	0	339	786	0	0	985	172	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	21.1	40.3		15.5	36.2			33.8	33.8			
Effective Green, g (s)	21.1	40.3		15.5	36.2			33.8	33.8			
Actuated g/C Ratio	0.19	0.37		0.14	0.33			0.31	0.31			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	832	1115		420	996			1701	388			
v/s Ratio Prot	0.17	c0.30		0.11	c0.26							
v/s Ratio Perm								0.18	0.14			
v/c Ratio	0.87	0.81		0.81	0.79			0.58	0.44			
Uniform Delay, d1	43.1	31.4		45.8	33.4			32.1	30.6			
Progression Factor	0.96	0.97		1.18	0.31			1.18	2.57			
Incremental Delay, d2	4.7	2.9		5.2	2.0			0.4	0.7			
Delay (s)	46.2	33.4		59.1	12.3			38.3	79.1			
Level of Service	D	C		E	B			D	E			
Approach Delay (s)		39.1			26.3			50.1			0.0	
Approach LOS		D			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	39.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



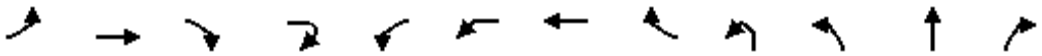
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	1333	14	38	760	27	7	47	28	72	335	203
Ideal Flow (vphpl)	1500	1500	1500	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	1.00		1.00	0.98			1.00	0.71	1.00	0.95	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.97	1.00	0.74	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.98	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1215	3481		1459	2846			1478	911	1080	2621	669
Flt Permitted	0.95	1.00		0.95	1.00			0.93	1.00	0.72	1.00	1.00
Satd. Flow (perm)	1215	3481		1459	2846			1391	911	817	2621	669
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	92	1433	15	41	817	29	8	51	30	77	360	218
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	20	0	8	112
Lane Group Flow (vph)	92	1447	0	41	844	0	0	59	10	77	396	62
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	11.5	43.0		8.9	38.8			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	11.5	43.0		8.9	38.8			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.10	0.39		0.08	0.35			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	127	1360		118	1003			483	316	291	934	238
v/s Ratio Prot	0.08	c0.42		0.03	c0.30						c0.15	
v/s Ratio Perm								0.04	0.01	0.09		0.09
v/c Ratio	0.72	1.06		0.35	0.84			0.12	0.03	0.26	0.42	0.26
Uniform Delay, d1	47.7	33.5		47.8	32.8			24.5	23.7	25.2	26.8	25.1
Progression Factor	1.24	0.63		0.67	0.61			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	30.8		1.2	4.6			0.1	0.0	0.5	0.3	0.6
Delay (s)	61.3	51.9		33.3	24.5			24.6	23.7	25.6	27.1	25.7
Level of Service	E	D		C	C			C	C	C	C	C
Approach Delay (s)		52.4			24.9			24.3			26.6	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1681	93	0	843	111	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3049			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3049			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1769	98	0	887	117	11
RTOR Reduction (vph)	3	0	0	0	0	7
Lane Group Flow (vph)	1864	0	0	887	117	4
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	NA	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1721			1738	512	451
v/s Ratio Prot	c0.61			0.29	c0.08	
v/s Ratio Perm						0.00
v/c Ratio	1.08			0.51	0.23	0.01
Uniform Delay, d1	23.9			14.7	26.5	24.6
Progression Factor	1.00			2.23	1.00	1.00
Incremental Delay, d2	47.9			0.7	1.0	0.0
Delay (s)	71.9			33.4	27.5	24.6
Level of Service	E			C	C	C
Approach Delay (s)	71.9			33.4	27.3	
Approach LOS	E			C	C	

Intersection Summary			
HCM 2000 Control Delay	58.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



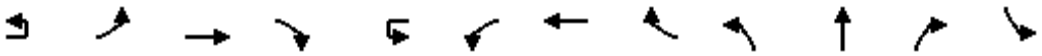
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Volume (vph)	123	281	5	3	3	13	50	5	2	4	8	36
Ideal Flow (vphpl)	1900	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		1.00					1.00				0.96	
Flpb, ped/bikes		0.99					0.99				0.97	
Frt		1.00					0.99				0.90	
Flt Protected		0.99					0.99				0.99	
Satd. Flow (prot)		1489					1264				1088	
Flt Permitted		0.87					0.88				0.97	
Satd. Flow (perm)		1315					1127				1056	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	143	327	6	3	3	15	58	6	2	5	9	42
RTOR Reduction (vph)	0	0	0	0	0	0	3	0	0	0	29	0
Lane Group Flow (vph)	0	479	0	0	0	0	79	0	0	0	29	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		25.0					25.0				20.2	
Effective Green, g (s)		25.0					25.0				20.2	
Actuated g/C Ratio		0.37					0.37				0.30	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		492					421				319	
v/s Ratio Prot												
v/s Ratio Perm		c0.36					0.07				0.03	
v/c Ratio		0.97					0.19				0.09	
Uniform Delay, d1		20.6					14.1				16.7	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		33.6					0.2				0.1	
Delay (s)		54.1					14.3				16.8	
Level of Service		D					B				B	
Approach Delay (s)		54.1					14.3				16.8	
Approach LOS		D					B				B	

Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Volume (vph)	112	3	35	61	5	51	82	3
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	0.95	
Frpb, ped/bikes		0.89		0.62		1.00	0.83	
Flpb, ped/bikes		1.00		1.00		0.93	1.00	
Frt		0.96		0.85		0.96	0.85	
Flt Protected		0.97		1.00		0.96	1.00	
Satd. Flow (prot)		1207		769		1328	1028	
Flt Permitted		0.76		1.00		0.96	1.00	
Satd. Flow (perm)		950		769		1328	1028	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	130	3	41	71	6	59	95	3
RTOR Reduction (vph)	0	2	0	44	0	0	70	0
Lane Group Flow (vph)	0	179	0	20	0	85	8	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	NA	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		21.2		21.2		6.6	6.6	
Effective Green, g (s)		21.2		21.2		6.6	6.6	
Actuated g/C Ratio		0.32		0.32		0.10	0.10	
Clearance Time (s)		4.0		4.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		301		244		131	101	
v/s Ratio Prot								
v/s Ratio Perm		c0.19		0.03		0.06	0.01	
v/c Ratio		0.59		0.08		0.65	0.08	
Uniform Delay, d1		19.2		16.0		29.0	27.3	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		3.1		0.1		10.6	0.3	
Delay (s)		22.3		16.1		39.6	27.7	
Level of Service		C		B		D	C	
Approach Delay (s)		20.7				33.9		
Approach LOS		C				C		

Intersection Summary

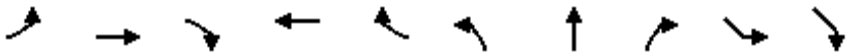


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Volume (vph)	4	118	122	0	1	0	407	39	240	350	308	4
Ideal Flow (vphpl)	1900	1800	1800	1800	1900	1000	1000	1000	1800	1800	1800	1800
Total Lost time (s)			5.0				5.0	5.0	5.0	5.0		
Lane Util. Factor			1.00				*0.80	1.00	1.00	0.95		
Frpb, ped/bikes			1.00				1.00	0.91	1.00	0.96		
Flpb, ped/bikes			0.98				1.00	1.00	0.98	1.00		
Frt			1.00				1.00	0.85	1.00	0.93		
Flt Protected			0.98				1.00	1.00	0.95	1.00		
Satd. Flow (prot)			1246				2047	657	1435	2603		
Flt Permitted			0.56				0.94	1.00	0.70	1.00		
Satd. Flow (perm)			712				1923	657	1054	2603		
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	5	139	144	0	1	0	479	46	282	412	362	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	169	0	0
Lane Group Flow (vph)	0	0	288	0	0	0	480	46	282	605	0	0
Confl. Peds. (#/hr)		84		4		4		84	32		72	72
Confl. Bikes (#/hr)												
Parking (#/hr)		10	10									10
Turn Type	Perm	Perm	NA		Perm		NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2			6			6	8			4
Actuated Green, G (s)			18.0				18.0	18.0	32.0	32.0		
Effective Green, g (s)			18.0				18.0	18.0	32.0	32.0		
Actuated g/C Ratio			0.30				0.30	0.30	0.53	0.53		
Clearance Time (s)			5.0				5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)			213				576	197	562	1388		
v/s Ratio Prot										0.23		
v/s Ratio Perm			c0.40				0.25	0.07	c0.27			
v/c Ratio			1.35				0.83	0.23	0.50	0.44		
Uniform Delay, d1			21.0				19.6	15.8	8.9	8.5		
Progression Factor			1.00				1.00	1.00	1.00	1.00		
Incremental Delay, d2			186.1				13.3	2.8	3.2	1.0		
Delay (s)			207.1				32.9	18.6	12.1	9.5		
Level of Service			F				C	B	B	A		
Approach Delay (s)			207.1				31.6			10.2		
Approach LOS			F				C			B		

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Volume (vph)	0	74
Ideal Flow (vphpl)	1800	1800
Total Lost time (s)	5.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.97	
Flpb, ped/bikes	1.00	
Frt	0.87	
Flt Protected	1.00	
Satd. Flow (prot)	1102	
Flt Permitted	0.97	
Satd. Flow (perm)	1068	
Peak-hour factor, PHF	0.85	0.85
Adj. Flow (vph)	0	87
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	92	0
Confl. Peds. (#/hr)		32
Confl. Bikes (#/hr)		1
Parking (#/hr)	10	10
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	32.0	
Effective Green, g (s)	32.0	
Actuated g/C Ratio	0.53	
Clearance Time (s)	5.0	
Lane Grp Cap (vph)	569	
v/s Ratio Prot		
v/s Ratio Perm	0.09	
v/c Ratio	0.16	
Uniform Delay, d1	7.1	
Progression Factor	1.00	
Incremental Delay, d2	0.6	
Delay (s)	7.8	
Level of Service	A	
Approach Delay (s)	7.8	
Approach LOS	A	

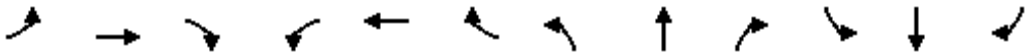
Intersection Summary



Movement	EBL	EBT	EBR	WBT	WBR2	NBL2	NBT	NBR	SEL	SER
Lane Configurations										
Volume (vph)	246	611	15	65	35	1	372	120	299	53
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0		2.0			2.0		6.0	
Lane Util. Factor	1.00	0.95		1.00			1.00		0.97	
Frpb, ped/bikes	1.00	1.00		0.90			0.97		1.00	
Flpb, ped/bikes	1.00	1.00		1.00			1.00		1.00	
Frt	1.00	1.00		0.95			0.97		0.98	
Flt Protected	0.95	1.00		1.00			1.00		0.96	
Satd. Flow (prot)	1459	2678		1319			1441		2793	
Flt Permitted	0.95	1.00		1.00			1.00		0.96	
Satd. Flow (perm)	1459	2678		1319			1441		2793	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	262	650	16	69	37	1	396	128	318	56
RTOR Reduction (vph)	0	2	0	89	0	0	13	0	0	0
Lane Group Flow (vph)	262	664	0	17	0	0	512	0	374	0
Confl. Peds. (#/hr)			149		124			91		
Confl. Bikes (#/hr)			77							
Parking (#/hr)		10	10					10		
Turn Type	Prot	NA		NA		Perm	NA		NA	
Protected Phases	5	2		6			8		4	
Permitted Phases						8				
Actuated Green, G (s)	12.2	27.0		10.8			23.2		14.8	
Effective Green, g (s)	14.2	30.0		12.8			26.2		14.8	
Actuated g/C Ratio	0.17	0.37		0.16			0.32		0.18	
Clearance Time (s)	6.0	6.0		4.0			5.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0		3.0	
Lane Grp Cap (vph)	252	979		205			460		504	
v/s Ratio Prot	c0.18	c0.25		0.01					c0.13	
v/s Ratio Perm							0.36			
v/c Ratio	1.04	0.68		0.08			1.11		0.74	
Uniform Delay, d1	33.9	21.9		29.6			27.9		31.8	
Progression Factor	1.00	1.00		1.00			1.00		1.00	
Incremental Delay, d2	67.4	1.9		0.2			76.5		5.8	
Delay (s)	101.3	23.8		29.7			104.4		37.6	
Level of Service	F	C		C			F		D	
Approach Delay (s)		45.7		29.7			104.4		37.6	
Approach LOS		D		C			F		D	

Intersection Summary			
HCM 2000 Control Delay	59.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

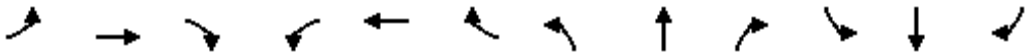
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	254	319	59	22	260	68	15	281	24	68	395	154
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.98			0.98			0.99			0.95	
Flpb, ped/bikes		0.99			1.00			1.00			0.99	
Frt		0.99			0.97			0.99			0.96	
Flt Protected		0.98			1.00			1.00			0.99	
Satd. Flow (prot)		2525			2559			2807			2435	
Flt Permitted		0.66			0.90			0.92			0.87	
Satd. Flow (perm)		1697			2302			2586			2129	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	295	371	69	26	302	79	17	327	28	79	459	179
RTOR Reduction (vph)	0	13	0	0	35	0	0	10	0	0	54	0
Lane Group Flow (vph)	0	722	0	0	372	0	0	362	0	0	663	0
Confl. Peds. (#/hr)	93		138	138		93	250		186	186		250
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	5	0	0	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		791			1074			1206			958	
v/s Ratio Prot												
v/s Ratio Perm		c0.43			0.16			0.14			c0.31	
v/c Ratio		1.02dl			0.35			0.30			0.69	
Uniform Delay, d1		14.9			10.2			9.9			13.2	
Progression Factor		1.00			1.00			1.00			0.49	
Incremental Delay, d2		16.7			0.9			0.6			3.7	
Delay (s)		31.6			11.1			10.6			10.1	
Level of Service		C			B			B			B	
Approach Delay (s)		31.6			11.1			10.6			10.1	
Approach LOS		C			B			B			B	

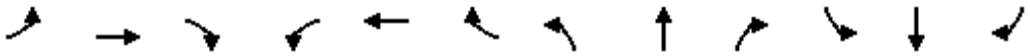
Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



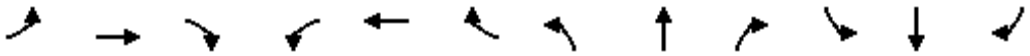
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	347	520	42	0	0	0	0	426	119	42	545	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0			2.0	
Lane Util. Factor	0.97	0.91						0.95			0.95	
Frpb, ped/bikes	1.00	0.99						0.93			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			0.99	
Frt	1.00	0.99						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	2617	3917						2624			2665	
Flt Permitted	0.95	1.00						1.00			0.89	
Satd. Flow (perm)	2617	3917						2624			2387	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	369	553	45	0	0	0	0	453	127	45	580	0
RTOR Reduction (vph)	0	16	0	0	0	0	0	43	0	0	0	0
Lane Group Flow (vph)	369	582	0	0	0	0	0	537	0	0	625	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Parking (#/hr)	10	10	10								10	
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2									4		
Actuated Green, G (s)	27.0	27.0						26.0			26.0	
Effective Green, g (s)	28.5	28.5						27.5			27.5	
Actuated g/C Ratio	0.48	0.48						0.46			0.46	
Clearance Time (s)	3.5	3.5						3.5			3.5	
Lane Grp Cap (vph)	1243	1860						1202			1094	
v/s Ratio Prot		c0.15						0.20				
v/s Ratio Perm	0.14										c0.26	
v/c Ratio	0.30	0.31						0.45			0.57	
Uniform Delay, d1	9.6	9.7						11.1			11.9	
Progression Factor	0.38	0.35						1.02			1.00	
Incremental Delay, d2	0.6	0.4						1.0			2.2	
Delay (s)	4.2	3.8						12.3			14.1	
Level of Service	A	A						B			B	
Approach Delay (s)		4.0			0.0			12.3			14.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	73.3%	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												
Volume (vph)	1061	786	0	0	0	0	0	1502	194	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	0.91						0.91	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.78			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	2830	4052						3982	1015			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	2830	4052						3982	1015			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1105	819	0	0	0	0	0	1565	202	0	0	0
RTOR Reduction (vph)	16	0	0	0	0	0	0	0	75	0	0	0
Lane Group Flow (vph)	1089	819	0	0	0	0	0	1565	127	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	28.3	28.3						22.3	22.3			
Effective Green, g (s)	29.8	29.8						23.8	23.8			
Actuated g/C Ratio	0.50	0.50						0.40	0.40			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	1405	2012						1579	402			
v/s Ratio Prot		0.20						c0.39				
v/s Ratio Perm	c0.39								0.13			
v/c Ratio	0.78	0.41						0.99	0.32			
Uniform Delay, d1	12.4	9.5						18.0	12.5			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	4.2	0.6						20.6	2.1			
Delay (s)	16.6	10.1						38.6	14.5			
Level of Service	B	B						D	B			
Approach Delay (s)		13.9			0.0			35.9			0.0	
Approach LOS		B			A			D			A	

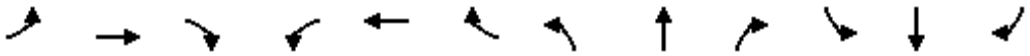
Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	1091	161	176	1823	144	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.98		1.00	1.00	0.48			
Flpb, ped/bikes					1.00		0.80	1.00	1.00			
Frt					0.98		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4011		1168	4191	621			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4011		1168	4191	621			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1161	171	187	1939	153	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	59	0	65	0	0	0
Lane Group Flow (vph)	0	0	0	0	1332	0	128	1939	88	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1570		535	1920	279			
v/s Ratio Prot					c0.33			c0.46				
v/s Ratio Perm							0.11		0.14			
v/c Ratio					0.85		0.24	1.01	0.32			
Uniform Delay, d1					16.6		9.9	16.2	10.6			
Progression Factor					1.00		1.19	1.07	1.32			
Incremental Delay, d2					5.9		0.4	15.6	1.2			
Delay (s)					22.5		12.2	33.0	15.2			
Level of Service					C		B	C	B			
Approach Delay (s)		0.0			22.5			30.1			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

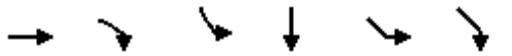
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	1032	259	207	1870	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0		-1.1	-1.1				
Lane Util. Factor					0.86		0.81	0.81				
Frpb, ped/bikes					0.94		1.00	1.00				
Flpb, ped/bikes					1.00		0.68	1.00				
Frt					0.97		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4267		583	3578				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4267		583	3578				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1098	276	220	1989	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1372	0	198	2011	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Perm	NA				
Protected Phases					6			8				
Permitted Phases							8					
Actuated Green, G (s)					22.0		23.1	23.1				
Effective Green, g (s)					24.5		29.6	29.6				
Actuated g/C Ratio					0.41		0.49	0.49				
Clearance Time (s)					9.5		5.4	5.4				
Lane Grp Cap (vph)					1742		287	1765				
v/s Ratio Prot					c0.32							
v/s Ratio Perm							0.34	0.56				
v/c Ratio					0.79		0.69	1.14				
Uniform Delay, d1					15.5		11.7	15.2				
Progression Factor					1.00		0.54	0.49				
Incremental Delay, d2					3.7		4.3	65.3				
Delay (s)					19.2		10.7	72.7				
Level of Service					B		B	E				
Approach Delay (s)		0.0			19.2			67.2			0.0	
Approach LOS		A			B			E			A	

Intersection Summary			
HCM 2000 Control Delay	48.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Volume (vph)	508	156	85	588	1253	72
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	0.91	0.94	0.86
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5761		1459	3982	4121	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5761		1459	3982	4121	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	558	171	93	646	1377	79
RTOR Reduction (vph)	62	0	68	0	0	0
Lane Group Flow (vph)	668	0	25	646	1385	71
Confl. Peds. (#/hr)		24	528			
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	NA	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	20.5		21.8	21.8	27.5	27.5
Effective Green, g (s)	22.5		23.8	23.8	31.5	31.5
Actuated g/C Ratio	0.25		0.26	0.26	0.35	0.35
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1440		385	1053	1442	392
v/s Ratio Prot	c0.12		0.02	c0.16	c0.34	
v/s Ratio Perm						0.06
v/c Ratio	0.46		0.06	0.61	0.96	0.18
Uniform Delay, d1	28.6		24.8	29.1	28.6	20.3
Progression Factor	1.00		0.35	0.67	1.00	1.00
Incremental Delay, d2	1.1		0.3	2.5	16.0	1.0
Delay (s)	29.7		9.1	21.8	44.6	21.3
Level of Service	C		A	C	D	C
Approach Delay (s)	29.7			20.2	43.5	
Approach LOS	C			C	D	

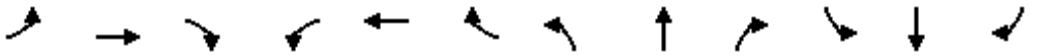
Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Volume (vph)	119	625	509	325	436	150
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)		5.4	2.4	5.7	2.7	2.7
Lane Util. Factor		0.81	0.81	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	0.98	0.96	0.96
Flpb, ped/bikes		0.97	0.99	1.00	1.00	1.00
Frt		1.00	1.00	0.94	0.85	0.85
Flt Protected		0.95	0.98	1.00	1.00	1.00
Satd. Flow (prot)		1021	4819	2133	1015	1115
Flt Permitted		0.95	0.98	1.00	1.00	1.00
Satd. Flow (perm)		1021	4819	2133	1015	1115
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	125	658	536	342	459	158
RTOR Reduction (vph)	0	0	0	0	0	71
Lane Group Flow (vph)	0	395	924	553	248	87
Confl. Peds. (#/hr)	17	17				
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)		32.6	32.6	46.3	46.3	46.3
Effective Green, g (s)		32.6	35.6	46.3	49.3	49.3
Actuated g/C Ratio		0.36	0.40	0.51	0.55	0.55
Clearance Time (s)		5.4	5.4	5.7	5.7	5.7
Lane Grp Cap (vph)		369	1906	1097	555	610
v/s Ratio Prot				c0.26		
v/s Ratio Perm		c0.39	0.19		0.24	0.08
v/c Ratio		1.07	0.48	0.50	0.45	0.14
Uniform Delay, d1		28.7	20.3	14.3	12.2	10.0
Progression Factor		1.00	1.00	1.48	1.67	4.21
Incremental Delay, d2		66.9	0.9	1.5	2.4	0.5
Delay (s)		95.6	21.2	22.7	22.7	42.4
Level of Service		F	C	C	C	D
Approach Delay (s)			43.5	26.0		
Approach LOS			D	C		

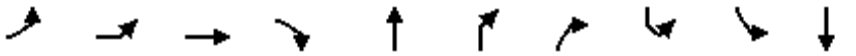
Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	385	899	0	0	0	0	0	409	175
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.96	0.70
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.98	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4941						4625	736
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4941						4625	736
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	405	946	0	0	0	0	0	431	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	259	1092	0	0	0	0	0	505	110
Confl. Peds. (#/hr)												321
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				30.0	30.0						28.0	28.0
Effective Green, g (s)				31.5	31.5						30.0	30.0
Actuated g/C Ratio				0.35	0.35						0.33	0.33
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				413	1729						1541	245
v/s Ratio Prot				0.22	c0.22						0.11	
v/s Ratio Perm												c0.15
v/c Ratio				0.63	0.63						0.33	0.45
Uniform Delay, d1				24.4	24.4						22.5	23.5
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				7.0	1.8						0.6	5.8
Delay (s)				31.4	26.2						23.0	29.4
Level of Service				C	C						C	C
Approach Delay (s)		0.0			27.2			0.0			24.2	
Approach LOS		A			C			A			C	

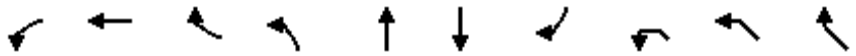
Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Volume (vph)	92	276	542	112	288	201	69	116	101	451
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.98		0.95		0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00		1.00	1.00
Frt		1.00	0.98		0.94		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	1.00
Satd. Flow (prot)		2363	3342		2453		1163		1327	2552
Flt Permitted		0.95	1.00		1.00		1.00		0.30	0.93
Satd. Flow (perm)		2363	3342		2453		1163		416	2380
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	99	297	583	120	310	216	74	125	109	485
RTOR Reduction (vph)	0	0	31	0	1	0	49	0	0	0
Lane Group Flow (vph)	0	366	702	0	532	0	18	0	206	513
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Split	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases	2	2	2		8			7	7	4
Permitted Phases							8	4	4	
Actuated Green, G (s)		16.5	16.5		20.0		20.0		33.0	33.0
Effective Green, g (s)		16.5	19.0		21.5		20.0		34.5	34.5
Actuated g/C Ratio		0.22	0.25		0.29		0.27		0.46	0.46
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		519	846		703		310		318	1118
v/s Ratio Prot		0.15	c0.21		c0.22				c0.09	0.06
v/s Ratio Perm							0.02		0.21	0.15
v/c Ratio		0.71	0.83		0.76		0.06		0.65	0.46
Uniform Delay, d1		27.0	26.5		24.4		20.5		21.2	13.9
Progression Factor		1.00	1.00		1.00		1.00		0.84	0.90
Incremental Delay, d2		7.8	9.2		7.4		0.4		3.2	0.4
Delay (s)		34.8	35.7		31.8		20.8		21.1	13.0
Level of Service		C	D		C		C		C	B
Approach Delay (s)			35.4		30.6					15.3
Approach LOS			D		C					B

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Volume (vph)	43	493	115	45	327	562	200	234	444	289
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.97			1.00	0.95			0.97	0.80
Flpb, ped/bikes		1.00			0.99	1.00			0.80	1.00
Frt		0.97			1.00	0.96			0.99	0.85
Flt Protected		1.00			0.99	1.00			0.96	1.00
Satd. Flow (prot)		5648			2855	2445			3175	902
Flt Permitted		1.00			0.71	1.00			0.96	1.00
Satd. Flow (perm)		5648			2034	2445			3175	902
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	519	121	47	344	592	211	246	467	304
RTOR Reduction (vph)	0	52	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	633	0	0	391	785	0	0	783	234
Confl. Peds. (#/hr)			159	185			97		185	159
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10	10			10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	NA	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		22.0			20.0	20.0			19.0	19.0
Effective Green, g (s)		24.0			23.0	23.0			22.0	22.0
Actuated g/C Ratio		0.32			0.31	0.31			0.29	0.29
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1807			623	749			931	264
v/s Ratio Prot						c0.32				
v/s Ratio Perm		0.11			0.19				0.25	c0.26
v/c Ratio		0.35			0.63	1.05			0.84	0.89
Uniform Delay, d1		19.5			22.3	26.0			24.9	25.3
Progression Factor		1.00			0.88	1.00			1.00	1.00
Incremental Delay, d2		0.5			3.1	46.2			9.1	32.5
Delay (s)		20.1			22.8	72.2			33.9	57.8
Level of Service		C			C	E			C	E
Approach Delay (s)		20.1			22.8	72.2			39.4	
Approach LOS		C			C	E			D	

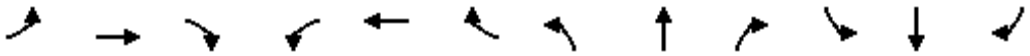
Intersection Summary			
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (vph)	5	257	915	1	2	102	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2			5.2	5.2
Lane Util. Factor	1.00	1.00	0.95			1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00			0.98	1.00
Frt	1.00	0.85	1.00			1.00	1.00
Flt Protected	0.95	1.00	1.00			0.95	1.00
Satd. Flow (prot)	1540	1378	3078			1506	3079
Flt Permitted	0.95	1.00	1.00			0.24	1.00
Satd. Flow (perm)	1540	1378	3078			388	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	286	1017	1	2	113	337
RTOR Reduction (vph)	0	40	0	0	0	0	0
Lane Group Flow (vph)	6	246	1018	0	0	115	337
Confl. Peds. (#/hr)	77			131		131	
Confl. Bikes (#/hr)				38			
Turn Type	NA	Perm	NA		Perm	Perm	NA
Protected Phases	8		2				6
Permitted Phases		8			6	6	
Actuated Green, G (s)	25.6	25.6	74.8			74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8			74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68			0.68	0.68
Clearance Time (s)	4.4	4.4	5.2			5.2	5.2
Lane Grp Cap (vph)	358	320	2093			263	2093
v/s Ratio Prot	0.00		c0.33				0.11
v/s Ratio Perm		c0.18				0.30	
v/c Ratio	0.02	0.77	0.49			0.44	0.16
Uniform Delay, d1	32.5	39.4	8.4			8.0	6.3
Progression Factor	1.00	1.00	1.00			1.81	0.36
Incremental Delay, d2	0.1	16.2	0.8			3.8	0.1
Delay (s)	32.6	55.6	9.2			18.3	2.4
Level of Service	C	E	A			B	A
Approach Delay (s)	55.2		9.2				6.4
Approach LOS	E		A				A

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	125.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	19	45	0	1	2	16	892	26	53	238	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.91		1.00	1.00		1.00	0.99	
Flt Protected		0.98	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1588	1342		1457		1459	2898		1540	3040	
Flt Permitted		0.94	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1518	1342		1457		1459	2898		1540	3040	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	12	21	51	0	1	2	18	1002	29	60	267	16
RTOR Reduction (vph)	0	0	35	0	1	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	33	16	0	2	0	18	1029	0	60	279	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		487	430		467		215	1028		254	1140	
v/s Ratio Prot					0.00		0.01	c0.36		0.04	c0.09	
v/s Ratio Perm		c0.02	0.01									
v/c Ratio		0.07	0.04		0.00		0.08	1.00		0.24	0.24	
Uniform Delay, d1		23.6	23.3		23.1		36.8	32.2		36.3	21.5	
Progression Factor		1.00	1.00		1.00		1.68	0.75		1.00	1.00	
Incremental Delay, d2		0.3	0.2		0.0		0.3	16.8		2.2	0.5	
Delay (s)		23.8	23.5		23.1		62.0	41.0		38.5	22.0	
Level of Service		C	C		C		E	D		D	C	
Approach Delay (s)		23.6			23.1			41.4			24.9	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		

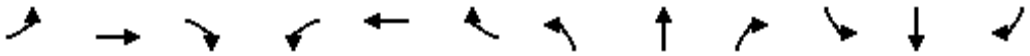
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	9	13	11	3	5	34	2	8	910	18	14	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1750	1900	1900
Total Lost time (s)		5.3			5.3			5.0	5.1		5.1	5.1
Lane Util. Factor		1.00			1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes		0.99			0.96			1.00	1.00		1.00	1.00
Flpb, ped/bikes		0.99			1.00			1.00	1.00		1.00	1.00
Frt		0.95			0.89			1.00	1.00		1.00	1.00
Flt Protected		0.99			1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)		1275			1376			1418	2820		1540	3069
Flt Permitted		0.95			0.99			0.95	1.00		0.95	1.00
Satd. Flow (perm)		1224			1368			1418	2820		1540	3069
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	10	14	12	3	5	37	2	9	1000	20	15	287
RTOR Reduction (vph)	0	8	0	0	25	0	0	0	1	0	0	1
Lane Group Flow (vph)	0	28	0	0	20	0	0	11	1019	0	15	290
Confl. Peds. (#/hr)	42		11	11		42				64		
Confl. Bikes (#/hr)			1							36		
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7			15.0	36.9		14.9	36.9
Effective Green, g (s)		32.7			32.7			15.0	36.9		14.9	36.9
Actuated g/C Ratio		0.33			0.33			0.15	0.37		0.15	0.37
Clearance Time (s)		5.3			5.3			5.0	5.1		5.1	5.1
Lane Grp Cap (vph)		400			447			212	1040		229	1132
v/s Ratio Prot								0.01	c0.36		0.01	c0.09
v/s Ratio Perm		c0.02			0.01							
v/c Ratio		0.07			0.04			0.05	0.98		0.07	0.26
Uniform Delay, d1		23.2			23.0			36.4	31.2		36.6	22.0
Progression Factor		1.00			1.00			1.54	0.84		0.54	0.60
Incremental Delay, d2		0.3			0.2			0.3	18.7		0.5	0.5
Delay (s)		23.5			23.2			56.3	44.7		20.4	13.7
Level of Service		C			C			E	D		C	B
Approach Delay (s)		23.5			23.2				44.9			14.1
Approach LOS		C			C				D			B

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	4
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.91
Adj. Flow (vph)	4
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	36
Confl. Bikes (#/hr)	31
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	10	17	0	3	28	15	54	4	62	131	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1700	1700	1700	1700	1700	1700
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			1.00	1.00	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	0.90	1.00		1.00	1.00	
Frt		0.94			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1236			1621	1375	1238	1429		1377	1416	
Flt Permitted		1.00			1.00	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (perm)		1251			1621	1375	1303	1429		1377	1416	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	11	18	0	3	30	16	59	4	67	142	12
RTOR Reduction (vph)	0	17	0	0	0	15	0	4	0	0	3	0
Lane Group Flow (vph)	0	22	0	0	3	15	16	59	0	67	151	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		1.1			1.1	18.3	3.0	3.0		17.2	25.2	
Effective Green, g (s)		1.1			1.1	18.3	3.0	3.0		17.2	25.2	
Actuated g/C Ratio		0.03			0.03	0.50	0.08	0.08		0.47	0.69	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		37			49	882	107	118		652	983	
v/s Ratio Prot					0.00	0.01		c0.04		0.05	c0.11	
v/s Ratio Perm		c0.02				0.00	0.01					
v/c Ratio		0.58			0.06	0.02	0.15	0.50		0.10	0.15	
Uniform Delay, d1		17.4			17.1	4.5	15.5	15.9		5.3	1.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		21.2			0.5	0.0	0.6	3.3		0.1	0.1	
Delay (s)		38.6			17.6	4.5	16.1	19.3		5.4	2.0	
Level of Service		D			B	A	B	B		A	A	
Approach Delay (s)		38.6			5.7			18.6			3.0	
Approach LOS		D			A			B			A	

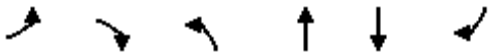
Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	36.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations							
Sign Control		Stop			Stop	Stop	
Volume (vph)	1	11	28	30	308	93	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	12	32	34	350	106	6

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	13	32	151	233	70	41
Volume Left (vph)	13	0	34	0	0	0
Volume Right (vph)	0	32	0	0	0	6
Hadj (s)	0.53	-0.67	0.15	0.03	0.03	-0.06
Departure Headway (s)	6.1	4.9	4.9	4.7	5.0	4.9
Degree Utilization, x	0.02	0.04	0.20	0.31	0.10	0.06
Capacity (veh/h)	545	672	727	746	702	717
Control Delay (s)	8.0	6.9	7.9	8.6	7.3	7.0
Approach Delay (s)	7.3		8.3		7.2	
Approach LOS	A		A		A	

Intersection Summary			
Delay	8.0		
Level of Service	A		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	432	69	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	0	0	520	83	0
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	358	56	95			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	358	56	95			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	607	989	1483			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	173	347	55	28
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1483	1700	1700	1700
Volume to Capacity	0.00	0.00	0.20	0.03	0.02
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A				

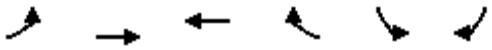
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	134	68	127	0	106	64	2	266	842	21	20	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			5.0	5.2		5.0	5.2
Lane Util. Factor	1.00	0.95			1.00			0.97	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98			0.99			1.00	1.00		1.00	0.99
Flpb, ped/bikes	0.99	1.00			1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.90			0.94			1.00	1.00		1.00	0.95
Flt Protected	0.95	1.00			1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1524	2520			1513			2987	3064		1540	2903
Flt Permitted	0.61	1.00			1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	978	2520			1513			2987	3064		1540	2903
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	143	72	135	0	113	68	2	283	896	22	21	200
RTOR Reduction (vph)	0	88	0	0	22	0	0	0	2	0	0	60
Lane Group Flow (vph)	143	119	0	0	159	0	0	285	916	0	21	238
Confl. Peds. (#/hr)	15		7	7		15				36		
Confl. Bikes (#/hr)			18			6				27		
Parking (#/hr)		10	10									
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)	34.5	34.5			34.5			14.0	37.8		12.0	35.8
Effective Green, g (s)	34.5	34.5			34.5			14.0	37.8		12.0	35.8
Actuated g/C Ratio	0.34	0.34			0.34			0.14	0.38		0.12	0.36
Clearance Time (s)	5.5	5.5			5.5			5.0	5.2		5.0	5.2
Lane Grp Cap (vph)	337	869			521			418	1158		184	1039
v/s Ratio Prot		0.05			0.11			0.10	c0.30		0.01	c0.08
v/s Ratio Perm	c0.15											
v/c Ratio	0.42	0.14			0.31			0.68	0.79		0.11	0.23
Uniform Delay, d1	25.1	22.5			24.0			40.9	27.6		39.3	22.5
Progression Factor	1.00	1.00			1.00			0.83	0.82		0.33	0.03
Incremental Delay, d2	3.9	0.3			1.5			5.8	3.7		1.2	0.5
Delay (s)	29.0	22.8			25.5			39.7	26.4		14.2	1.1
Level of Service	C	C			C			D	C		B	A
Approach Delay (s)		25.4			25.5				29.6			2.0
Approach LOS		C			C				C			A

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	116.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	92
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	98
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	4
Confl. Bikes (#/hr)	16
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

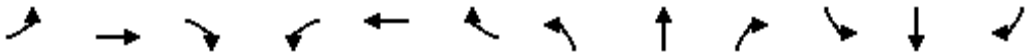
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	217	371	306	92	52	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	2848	2945		2987	1359
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1540	2848	2945		2987	1359
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	241	412	340	102	58	73
RTOR Reduction (vph)	0	0	28	0	0	65
Lane Group Flow (vph)	241	412	414	0	58	8
Confl. Peds. (#/hr)				12		4
Confl. Bikes (#/hr)				8		
Parking (#/hr)		10				
Turn Type	Prot	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	15.5	32.7	12.2		5.2	5.2
Effective Green, g (s)	15.5	32.7	12.2		5.2	5.2
Actuated g/C Ratio	0.32	0.68	0.25		0.11	0.11
Clearance Time (s)	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	498	1944	750		324	147
v/s Ratio Prot	c0.16	0.14	c0.14		c0.02	
v/s Ratio Perm						0.01
v/c Ratio	0.48	0.21	0.55		0.18	0.05
Uniform Delay, d1	13.0	2.8	15.5		19.4	19.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.1	0.9		0.3	0.2
Delay (s)	13.7	2.9	16.4		19.7	19.3
Level of Service	B	A	B		B	B
Approach Delay (s)		6.9	16.4		19.5	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



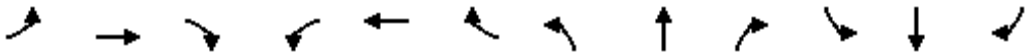
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	374	80	19	196	156	49	383	106	119	97	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.98			1.00	0.93	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.98			1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected		1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		2710			3061	1286	1540	1621	1134	1540	1539	
Flt Permitted		0.91			0.89	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		2488			2735	1286	1540	1621	1134	1540	1539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	394	84	20	206	164	52	403	112	125	102	40
RTOR Reduction (vph)	0	15	0	0	0	88	0	0	43	0	12	0
Lane Group Flow (vph)	0	500	0	0	226	76	52	403	69	125	130	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2			6		6			8			
Actuated Green, G (s)		21.4			21.4	33.4	15.6	28.4	28.4	12.0	24.8	
Effective Green, g (s)		21.4			21.4	33.4	15.6	28.4	28.4	12.0	24.8	
Actuated g/C Ratio		0.28			0.28	0.43	0.20	0.37	0.37	0.16	0.32	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		693			762	643	312	599	419	240	496	
v/s Ratio Prot						0.02	0.03	c0.25		c0.08	0.08	
v/s Ratio Perm		c0.20			0.08	0.04			0.06			
v/c Ratio		0.72			0.30	0.12	0.17	0.67	0.16	0.52	0.26	
Uniform Delay, d1		25.0			21.8	12.9	25.2	20.3	16.2	29.8	19.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.7			0.2	0.1	0.3	3.0	0.2	2.0	0.3	
Delay (s)		28.7			22.0	13.0	25.5	23.3	16.4	31.8	19.5	
Level of Service		C			C	B	C	C	B	C	B	
Approach Delay (s)		28.7			18.2			22.1			25.3	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	76.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBU	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1	24	80	606	21	56	289
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1600	1600
Total Lost time (s)		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor		1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes		1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes		0.96	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)		1478	2424	1911	1137	1296	1092
Flt Permitted		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)		1478	2424	1911	1137	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1	25	82	625	22	58	298
RTOR Reduction (vph)	0	0	75	0	4	0	0
Lane Group Flow (vph)	0	26	7	625	18	58	298
Confl. Peds. (#/hr)		50					
Confl. Bikes (#/hr)					31		
Turn Type	Perm	NA	Perm	NA	custom	Prot	NA
Protected Phases		4		2 5	5	1	6
Permitted Phases	4		4		2		
Actuated Green, G (s)		5.5	5.5	38.4	33.4	6.8	50.2
Effective Green, g (s)		5.5	5.5	38.4	33.4	6.8	50.2
Actuated g/C Ratio		0.08	0.08	0.58	0.51	0.10	0.76
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		123	202	1116	664	134	834
v/s Ratio Prot				c0.33	0.01	0.04	c0.27
v/s Ratio Perm		0.02	0.00		0.01		
v/c Ratio		0.21	0.03	0.56	0.03	0.43	0.36
Uniform Delay, d1		28.1	27.7	8.4	8.0	27.6	2.5
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.9	0.1	0.6	0.0	2.2	0.3
Delay (s)		28.9	27.7	9.1	8.1	29.9	2.8
Level of Service		C	C	A	A	C	A
Approach Delay (s)		28.0		9.0			7.2
Approach LOS		C		A			A

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	65.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	44.6%	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	81	266	29	36	29	4	29	11	184	3	53	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	93	306	33	41	33	5	33	13	211	3	61	6

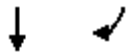
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	432	41	38	46	211	70
Volume Left (vph)	93	41	0	33	0	3
Volume Right (vph)	33	0	5	0	211	6
Hadj (s)	0.03	0.53	-0.05	0.40	-0.67	-0.01
Departure Headway (s)	5.6	6.6	6.0	6.5	5.4	6.4
Degree Utilization, x	0.67	0.08	0.06	0.08	0.32	0.13
Capacity (veh/h)	625	506	552	519	618	504
Control Delay (s)	19.2	8.9	8.2	8.9	9.8	10.3
Approach Delay (s)	19.2	8.6		9.6		10.3
Approach LOS	C	A		A		B

Intersection Summary				
Delay	14.5			
Level of Service	B			
Intersection Capacity Utilization	48.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Volume (vph)	340	286	18	1	58	9	2	83	776	79	1	15
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3			5.1	5.1			5.1
Lane Util. Factor	1.00	1.00			0.95			1.00	0.95			1.00
Frpb, ped/bikes	1.00	1.00			0.99			1.00	0.99			1.00
Flpb, ped/bikes	0.95	1.00			1.00			1.00	1.00			1.00
Frt	1.00	0.99			0.98			1.00	0.99			1.00
Flt Protected	0.95	1.00			1.00			0.95	1.00			0.95
Satd. Flow (prot)	1717	1874			3326			1711	3345			1711
Flt Permitted	0.71	1.00			0.95			0.95	1.00			0.27
Satd. Flow (perm)	1280	1874			3168			1711	3345			483
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	358	301	19	1	61	9	2	87	817	83	1	16
RTOR Reduction (vph)	0	2	0	0	6	0	0	0	8	0	0	0
Lane Group Flow (vph)	358	318	0	0	65	0	0	89	892	0	0	17
Confl. Peds. (#/hr)	51		20	20		51				41		
Confl. Bikes (#/hr)			13			4				24		
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		custom	Prot
Protected Phases		4			8		5	5	2			1
Permitted Phases	4			8							1	
Actuated Green, G (s)	29.7	29.7			29.7			16.9	39.9			14.9
Effective Green, g (s)	29.7	29.7			29.7			16.9	39.9			14.9
Actuated g/C Ratio	0.30	0.30			0.30			0.17	0.40			0.15
Clearance Time (s)	5.3	5.3			5.3			5.1	5.1			5.1
Lane Grp Cap (vph)	380	556			940			289	1334			71
v/s Ratio Prot		0.17						0.05	c0.27			
v/s Ratio Perm	c0.28				0.02							0.04
v/c Ratio	0.94	0.57			0.07			0.31	0.67			0.24
Uniform Delay, d1	34.3	29.8			25.2			36.4	24.6			37.5
Progression Factor	1.00	1.00			1.00			0.74	0.70			1.43
Incremental Delay, d2	33.6	4.2			0.1			2.7	2.6			7.7
Delay (s)	68.0	34.0			25.4			29.7	19.8			61.4
Level of Service	E	C			C			C	B			E
Approach Delay (s)		51.9			25.4				20.7			
Approach LOS		D			C				C			

Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



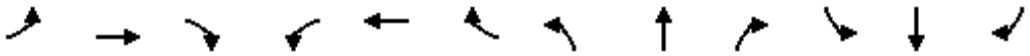
Movement	SBT	SBR
Lane Configurations		
Volume (vph)	243	60
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.1	
Lane Util. Factor	0.95	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3297	
Flt Permitted	1.00	
Satd. Flow (perm)	3297	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	256	63
RTOR Reduction (vph)	22	0
Lane Group Flow (vph)	297	0
Confl. Peds. (#/hr)		16
Confl. Bikes (#/hr)		19
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	37.9	
Effective Green, g (s)	37.9	
Actuated g/C Ratio	0.38	
Clearance Time (s)	5.1	
Lane Grp Cap (vph)	1249	
v/s Ratio Prot	c0.09	
v/s Ratio Perm		
v/c Ratio	0.24	
Uniform Delay, d1	21.2	
Progression Factor	1.71	
Incremental Delay, d2	0.4	
Delay (s)	36.7	
Level of Service	D	
Approach Delay (s)	38.0	
Approach LOS	D	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	125	0	0	261	859	802
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5			3.5	3.5	3.5
Lane Util. Factor	0.95			0.95	1.00	0.95
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.96	1.00
Satd. Flow (prot)	3421			3421	1700	1454
Flt Permitted	1.00			1.00	0.96	1.00
Satd. Flow (perm)	3421			3421	1700	1454
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	129	0	0	269	886	827
RTOR Reduction (vph)	0	0	0	0	4	250
Lane Group Flow (vph)	129	0	0	269	965	494
Turn Type	NA			NA	NA	Perm
Protected Phases	2			6	4	
Permitted Phases						4
Actuated Green, G (s)	28.0			28.0	55.0	55.0
Effective Green, g (s)	28.0			28.0	55.0	55.0
Actuated g/C Ratio	0.31			0.31	0.61	0.61
Clearance Time (s)	3.5			3.5	3.5	3.5
Lane Grp Cap (vph)	1064			1064	1038	888
v/s Ratio Prot	0.04			c0.08	c0.57	
v/s Ratio Perm						0.34
v/c Ratio	0.12			0.25	0.93	0.56
Uniform Delay, d1	22.2			23.2	15.8	10.3
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.2			0.6	15.4	2.5
Delay (s)	22.4			23.8	31.2	12.8
Level of Service	C			C	C	B
Approach Delay (s)	22.4			23.8	23.2	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	175.7%	ICU Level of Service	H
Analysis Period (min)	15		

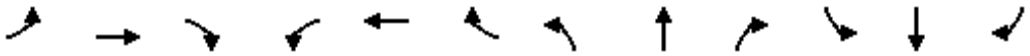
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	125	350	0	0	0	0	0	0	0	115	1002
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Hourly flow rate (vph)	0	129	361	0	0	0	0	0	0	0	125	1089
Pedestrians								5				
Lane Width (ft)								0.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	125	125	130	555	1214	0	1214			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	125	125	130	555	1214	0	1214			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	83	61	100	100	100	100			100		
cM capacity (veh/h)	849	765	920	234	181	1085	574			1623		

Direction, Lane #	EB 1	EB 2	SB 1	SB 2
Volume Total	129	361	125	1089
Volume Left	0	0	0	0
Volume Right	0	361	0	1089
cSH	765	920	1700	1700
Volume to Capacity	0.17	0.39	0.07	0.64
Queue Length 95th (ft)	15	47	0	0
Control Delay (s)	10.7	11.4	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	11.2		0.0	
Approach LOS	B			

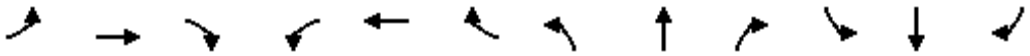
Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	175.7%	ICU Level of Service	H	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	25	46	9	32	14	0	749	36	0	263	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.98			0.99			0.99	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.95			0.97			0.99			0.98	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1260			1327			2851			2808	
Flt Permitted		0.88			0.96			1.00			1.00	
Satd. Flow (perm)		1125			1278			2851			2808	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	44	26	47	9	33	14	0	764	37	0	268	31
RTOR Reduction (vph)	0	30	0	0	12	0	0	2	0	0	5	0
Lane Group Flow (vph)	0	87	0	0	44	0	0	799	0	0	294	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		13.2			13.2			76.9			76.9	
Effective Green, g (s)		13.2			13.2			76.9			76.9	
Actuated g/C Ratio		0.13			0.13			0.77			0.77	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		148			168			2192			2159	
v/s Ratio Prot								c0.28			0.10	
v/s Ratio Perm		c0.08			0.03							
v/c Ratio		0.59			0.26			0.36			0.14	
Uniform Delay, d1		40.9			39.0			3.7			3.0	
Progression Factor		1.00			1.00			0.73			0.23	
Incremental Delay, d2		6.2			0.8			0.4			0.1	
Delay (s)		47.1			39.8			3.1			0.8	
Level of Service		D			D			A			A	
Approach Delay (s)		47.1			39.8			3.1			0.8	
Approach LOS		D			D			A			A	

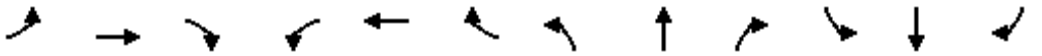
Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	229	358	271	5	105	11	160	633	8	15	263	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1538	2684		1538	1595		1540	3073		1540	2953	
Flt Permitted	0.44	1.00		0.40	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	713	2684		648	1595		1540	3073		1540	2953	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	241	377	285	5	111	12	168	666	8	16	277	63
RTOR Reduction (vph)	0	147	0	0	4	0	0	1	0	0	19	0
Lane Group Flow (vph)	241	515	0	5	119	0	168	673	0	16	321	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	33.4	33.4		12.9	12.9		17.2	47.2		3.1	33.1	
Effective Green, g (s)	33.4	33.4		12.9	12.9		17.2	47.2		3.1	33.1	
Actuated g/C Ratio	0.33	0.33		0.13	0.13		0.17	0.47		0.03	0.33	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	363	896		83	205		264	1450		47	977	
v/s Ratio Prot	c0.10	0.19			0.07		c0.11	c0.22		0.01	c0.11	
v/s Ratio Perm	c0.12			0.01								
v/c Ratio	0.66	0.58		0.06	0.58		0.64	0.46		0.34	0.33	
Uniform Delay, d1	26.6	27.5		38.2	41.0		38.5	17.9		47.4	25.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.06	1.23	
Incremental Delay, d2	4.5	0.9		0.3	3.9		5.0	1.1		4.3	0.9	
Delay (s)	31.1	28.4		38.5	44.9		43.4	18.9		54.4	31.8	
Level of Service	C	C		D	D		D	B		D	C	
Approach Delay (s)		29.1			44.7			23.8			32.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
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												
Volume (vph)	57	3	199	1	0	1	132	718	3	28	1022	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95			0.97		1.00	1.00		1.00	1.00	0.36
Flpb, ped/bikes	0.94	1.00			0.99		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85			0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1454	1309			1404		1540	3069		1296	2593	422
Flt Permitted	0.76	1.00			0.93		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1158	1309			1334		1540	3069		1296	2593	422
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	61	3	214	1	0	1	142	772	3	30	1099	160
RTOR Reduction (vph)	0	140	0	0	1	0	0	0	0	0	0	72
Lane Group Flow (vph)	61	77	0	0	1	0	142	775	0	30	1099	88
Confl. Peds. (#/hr)	64		48	48		64			688			395
Confl. Bikes (#/hr)						1			171			163
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Effective Green, g (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Actuated g/C Ratio	0.35	0.35			0.35		0.19	0.38		0.10	0.30	0.30
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	401	453			462		287	1157		130	773	125
v/s Ratio Prot		c0.06					0.09	c0.25		0.02	c0.42	
v/s Ratio Perm	0.05				0.00							0.21
v/c Ratio	0.15	0.17			0.00		0.49	0.67		0.23	1.42	0.70
Uniform Delay, d1	24.8	25.0			23.5		40.1	28.5		45.5	38.6	34.3
Progression Factor	1.00	1.00			1.00		0.59	0.52		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.8			0.0		5.5	2.8		4.1	197.3	28.0
Delay (s)	25.6	25.8			23.5		29.2	17.8		49.6	235.9	62.3
Level of Service	C	C			C		C	B		D	F	E
Approach Delay (s)		25.7			23.5			19.6			210.0	
Approach LOS		C			C			B			F	

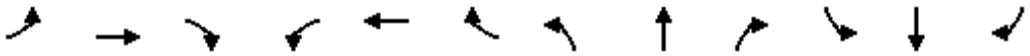
Intersection Summary			
HCM 2000 Control Delay	119.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	114	24	29	638	1	909	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.92	1.00	1.00	1.00	1.00	0.64
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	1272	1540	3079	1540	3079	885
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1540	1272	1540	3079	1540	3079	885
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	121	26	31	679	1	967	451
RTOR Reduction (vph)	0	14	0	0	0	0	168
Lane Group Flow (vph)	121	12	31	679	1	967	283
Confl. Peds. (#/hr)	76	76					432
Confl. Bikes (#/hr)							111
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	533	440	215	1226	140	1035	297
v/s Ratio Prot	c0.08		0.02	c0.22	0.00	0.31	
v/s Ratio Perm		0.01					c0.32
v/c Ratio	0.23	0.03	0.14	0.55	0.01	0.93	0.95
Uniform Delay, d1	25.5	23.7	41.5	25.6	45.5	35.3	35.7
Progression Factor	1.00	1.00	0.52	0.83	0.92	0.70	1.39
Incremental Delay, d2	1.0	0.1	1.2	1.5	0.0	2.1	8.0
Delay (s)	26.5	23.8	22.6	22.7	41.9	26.8	57.6
Level of Service	C	C	C	C	D	C	E
Approach Delay (s)	26.0			22.7		36.6	
Approach LOS	C			C		D	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

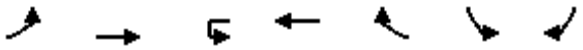
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	1	29	1	11	4	45	672	2	5	726	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.97			0.97		1.00	1.00		1.00	0.90	
Flpb, ped/bikes		0.94			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	1.00		1.00	0.97	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1377			1514		1540	3073		1296	2260	
Flt Permitted		0.78			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1114			1505		1540	3073		1296	2260	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	1	30	1	11	4	47	700	2	5	756	162
RTOR Reduction (vph)	0	12	0	0	3	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	103	0	0	13	0	47	702	0	5	902	0
Confl. Peds. (#/hr)	100		100	100		100			500			430
Confl. Bikes (#/hr)			10			10			90			111
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		384			519		210	1201		108	772	
v/s Ratio Prot							0.03	c0.23		0.00	c0.40	
v/s Ratio Perm		c0.09			0.01							
v/c Ratio		0.27			0.03		0.22	0.58		0.05	1.17	
Uniform Delay, d1		26.0			23.8		42.3	26.4		46.4	36.2	
Progression Factor		1.00			1.00		0.71	0.61		1.77	0.61	
Incremental Delay, d2		1.7			0.1		1.9	1.6		0.3	81.5	
Delay (s)		27.7			23.9		32.1	17.7		82.4	103.5	
Level of Service		C			C		C	B		F	F	
Approach Delay (s)		27.7			23.9			18.6			103.4	
Approach LOS		C			C			B			F	

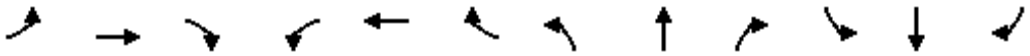
Intersection Summary			
HCM 2000 Control Delay	62.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



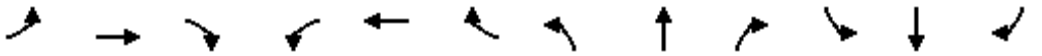
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	124	663	5	677	45	30	254
Ideal Flow (vphpl)	1500	1500	1450	1450	1450	1900	1900
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97		1.00	0.46
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1215	2431	1175	2250		1540	638
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1215	2431	1175	2250		1540	638
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	128	684	5	698	46	31	262
RTOR Reduction (vph)	0	0	0	5	0	0	171
Lane Group Flow (vph)	128	684	5	739	0	31	91
Confl. Peds. (#/hr)					1700	1700	1700
Confl. Bikes (#/hr)					10		30
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		NA	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	170	990	89	744		534	221
v/s Ratio Prot	0.11	c0.28	0.00	c0.33		0.02	
v/s Ratio Perm							c0.14
v/c Ratio	0.75	0.69	0.06	0.99		0.06	0.41
Uniform Delay, d1	45.5	26.9	47.1	36.7		23.9	27.3
Progression Factor	0.78	1.56	0.67	0.52		1.00	1.00
Incremental Delay, d2	18.5	2.7	0.1	8.6		0.2	5.6
Delay (s)	54.0	44.6	31.7	27.5		24.1	32.9
Level of Service	D	D	C	C		C	C
Approach Delay (s)		46.1		27.6		32.0	
Approach LOS		D		C		C	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	726	663	95	283	612	48	12	588	128	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.93		1.00	0.96			1.00	0.47			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00			
Frt	1.00	0.98		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	3656	2371		2515	2464			4643	546			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	3656	2371		2515	2464			4643	546			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	756	691	99	295	638	50	12	612	133	0	0	0
RTOR Reduction (vph)	0	9	0	0	1	0	0	0	105	0	0	0
Lane Group Flow (vph)	756	781	0	295	687	0	0	624	28	0	0	0
Confl. Peds. (#/hr)			1700			1700	1700		1700			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	21.5	46.5		20.2	46.7			22.9	22.9			
Effective Green, g (s)	21.5	46.5		20.2	46.7			22.9	22.9			
Actuated g/C Ratio	0.20	0.42		0.18	0.42			0.21	0.21			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	714	1002		461	1046			966	113			
v/s Ratio Prot	c0.21	c0.33		0.12	c0.28							
v/s Ratio Perm								0.13	0.05			
v/c Ratio	1.06	0.78		0.64	0.66			0.65	0.25			
Uniform Delay, d1	44.2	27.3		41.5	25.3			39.8	36.3			
Progression Factor	1.22	1.45		1.46	1.24			1.47	6.00			
Incremental Delay, d2	35.9	1.8		1.3	0.7			1.4	1.1			
Delay (s)	90.1	41.4		62.1	32.1			59.9	219.2			
Level of Service	F	D		E	C			E	F			
Approach Delay (s)		65.2			41.1			87.9			0.0	
Approach LOS		E			D			F			A	

Intersection Summary			
HCM 2000 Control Delay	63.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	1358	30	34	563	24	7	122	91	122	391	437
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	*0.80		1.00	*0.90			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.99		1.00	0.96			1.00	0.46	1.00	0.83	0.46
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.55	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.95	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3227		1296	2352			1346	528	719	1968	480
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.67	1.00	1.00
Satd. Flow (perm)	1296	3227		1296	2352			1300	528	510	1968	480
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	129	1372	30	34	569	24	7	123	92	123	395	441
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	60	0	44	167
Lane Group Flow (vph)	129	1400	0	34	590	0	0	130	32	123	532	93
Confl. Peds. (#/hr)			1700			1700	1700		1700	1700		1700
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1261		104	767			451	183	181	701	171
v/s Ratio Prot	0.10	c0.43		0.03	c0.25						c0.27	
v/s Ratio Perm								0.10	0.06	0.24		0.19
v/c Ratio	0.76	1.11		0.33	0.77			0.29	0.17	0.68	0.76	0.54
Uniform Delay, d1	46.2	33.5		47.7	33.3			26.0	24.9	30.1	31.2	28.2
Progression Factor	0.61	0.93		1.03	1.02			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	50.9		1.4	3.6			0.4	0.5	9.7	4.7	3.5
Delay (s)	30.2	82.0		50.8	37.6			26.4	25.4	39.8	36.0	31.7
Level of Service	C	F		D	D			C	C	D	D	C
Approach Delay (s)		77.7			38.3			26.0			35.3	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	54.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	134.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1494	151	0	1042	77	25
Ideal Flow (vphpl)	1800	1800	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2870			3079	1540	1378
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2870			3079	1540	1378
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1540	156	0	1074	79	26
RTOR Reduction (vph)	7	0	0	0	0	16
Lane Group Flow (vph)	1689	0	0	1074	79	10
Confl. Peds. (#/hr)		25				
Turn Type	NA			NA	NA	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1620			1738	512	458
v/s Ratio Prot	c0.59			0.35	c0.05	
v/s Ratio Perm						0.01
v/c Ratio	1.04			0.62	0.15	0.02
Uniform Delay, d1	23.9			16.0	25.8	24.7
Progression Factor	1.00			0.75	1.00	1.00
Incremental Delay, d2	34.4			1.1	0.6	0.1
Delay (s)	58.3			13.2	26.5	24.8
Level of Service	E			B	C	C
Approach Delay (s)	58.3			13.2	26.0	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

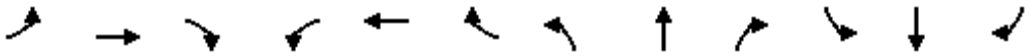
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Volume (vph)	42	104	7	4	17	68	93	41	13	2	8	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.97					0.98				0.93	
Flpb, ped/bikes		0.98					0.96				0.89	
Frt		0.99					0.97				0.93	
Flt Protected		0.99					0.98				0.98	
Satd. Flow (prot)		1427					1172				991	
Flt Permitted		0.88					0.82				0.89	
Satd. Flow (perm)		1274					976				892	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	44	108	7	4	18	71	97	43	14	2	8	25
RTOR Reduction (vph)	0	0	0	0	0	0	9	0	0	0	14	0
Lane Group Flow (vph)	0	163	0	0	0	0	220	0	0	0	35	0
Confl. Peds. (#/hr)	58		84	200	84			58	235	275		133
Confl. Bikes (#/hr)			10	10				1				18
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		27.0					27.0				38.0	
Effective Green, g (s)		27.0					27.0				38.0	
Actuated g/C Ratio		0.30					0.30				0.42	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		382					292				376	
v/s Ratio Prot												
v/s Ratio Perm		0.13					c0.23				0.04	
v/c Ratio		0.43					0.75				0.09	
Uniform Delay, d1		25.3					28.5				15.6	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		3.5					10.5				0.1	
Delay (s)		28.7					39.0				15.7	
Level of Service		C					D				B	
Approach Delay (s)		28.7					39.0				15.7	
Approach LOS		C					D				B	

Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

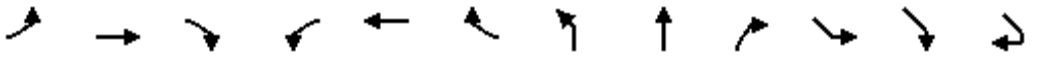
Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Volume (vph)	86	23	133	286	1	51	102	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1900	1800	1800
Total Lost time (s)		5.0		5.0		5.0		
Lane Util. Factor		0.95		0.95		1.00		
Frpb, ped/bikes		0.66		0.58		0.73		
Flpb, ped/bikes		0.97		1.00		0.92		
Frt		0.91		0.85		0.91		
Flt Protected		0.98		1.00		0.98		
Satd. Flow (prot)		827		713		969		
Flt Permitted		0.89		1.00		0.98		
Satd. Flow (perm)		746		713		969		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	90	24	139	298	1	53	106	12
RTOR Reduction (vph)	0	5	0	127	0	76	0	0
Lane Group Flow (vph)	0	278	0	141	0	96	0	0
Confl. Peds. (#/hr)	133		235	275		58		84
Confl. Bikes (#/hr)			26	26				2
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	NA		
Protected Phases		4				5		
Permitted Phases	4			4	5			
Actuated Green, G (s)		38.0		38.0		10.0		
Effective Green, g (s)		38.0		38.0		10.0		
Actuated g/C Ratio		0.42		0.42		0.11		
Clearance Time (s)		5.0		5.0		5.0		
Vehicle Extension (s)		3.0		3.0		3.0		
Lane Grp Cap (vph)		314		301		107		
v/s Ratio Prot								
v/s Ratio Perm		c0.37		0.20		0.10		
v/c Ratio		0.89		0.47		0.90		
Uniform Delay, d1		24.0		18.7		39.5		
Progression Factor		1.00		1.00		1.00		
Incremental Delay, d2		24.5		1.2		56.7		
Delay (s)		48.5		19.9		96.2		
Level of Service		D		B		F		
Approach Delay (s)		34.6				96.2		
Approach LOS		C				F		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	75	0	0	755	47	143	166	316	9	0	281
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1400	1400	1400	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.75	1.00	*0.80	*0.80			1.00	
Frpb, ped/bikes		1.00			1.00	0.96	1.00	0.98			1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.90			0.87	
Flt Protected		0.99			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1284			1919	698	908	1688			1332	
Flt Permitted		0.70			1.00	1.00	0.53	1.00			0.98	
Satd. Flow (perm)		912			1919	698	508	1688			1304	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	82	0	0	821	51	155	180	343	10	0	305
RTOR Reduction (vph)	0	0	0	0	0	0	0	206	0	0	0	0
Lane Group Flow (vph)	0	115	0	0	821	51	155	317	0	0	315	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)						10						
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Effective Green, g (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Actuated g/C Ratio		0.43			0.43	0.43	0.40	0.40			0.40	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		395			831	302	203	675			521	
v/s Ratio Prot					c0.43			0.19				
v/s Ratio Perm		0.13				0.07	c0.30				0.24	
v/c Ratio		0.29			0.99	0.17	0.76	0.47			0.60	
Uniform Delay, d1		11.0			16.8	10.4	15.5	13.3			14.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		1.9			28.4	1.2	23.5	2.3			5.1	
Delay (s)		12.9			45.3	11.6	39.0	15.6			19.4	
Level of Service		B			D	B	D	B			B	
Approach Delay (s)		12.9			43.3			21.0			19.4	
Approach LOS		B			D			C			B	

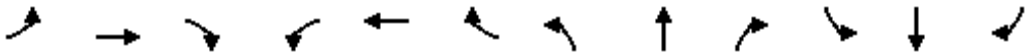
Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL	NBT	NBR	SEL	SER	SER2
Lane Configurations												
Volume (vph)	188	275	182	21	110	129	2	114	117	234	80	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0		6.0		
Lane Util. Factor	1.00	0.95			1.00			1.00		0.97		
Frpb, ped/bikes	1.00	0.94			0.91			0.98		0.99		
Flpb, ped/bikes	1.00	1.00			1.00			1.00		1.00		
Frt	1.00	0.94			0.93			0.93		0.96		
Flt Protected	0.95	1.00			1.00			1.00		0.96		
Satd. Flow (prot)	1459	2393			1299			1400		2723		
Flt Permitted	0.95	1.00			0.94			1.00		0.96		
Satd. Flow (perm)	1459	2393			1226			1400		2723		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	299	198	23	120	140	2	124	127	254	87	2
RTOR Reduction (vph)	0	127	0	0	135	0	0	40	0	115	0	0
Lane Group Flow (vph)	204	370	0	0	148	0	0	213	0	228	0	0
Confl. Peds. (#/hr)			152			154			25			15
Confl. Bikes (#/hr)			30									
Parking (#/hr)		10	10									
Turn Type	Prot	NA		Perm	NA		Perm	NA		NA		
Protected Phases	5	2			6			8		4		
Permitted Phases				6			8					
Actuated Green, G (s)	6.0	26.4			16.4			20.0		19.0		
Effective Green, g (s)	8.0	29.4			18.4			23.0		19.0		
Actuated g/C Ratio	0.10	0.36			0.22			0.28		0.23		
Clearance Time (s)	6.0	6.0			4.0			5.0		6.0		
Vehicle Extension (s)	3.0	3.0			3.0			3.0		3.0		
Lane Grp Cap (vph)	141	853			273			390		627		
v/s Ratio Prot	c0.14	0.15								c0.08		
v/s Ratio Perm					c0.12			0.15				
v/c Ratio	1.45	0.43			0.54			0.55		0.36		
Uniform Delay, d1	37.2	20.2			28.3			25.3		26.6		
Progression Factor	1.00	1.00			1.00			1.00		1.00		
Incremental Delay, d2	236.2	0.4			2.2			1.6		0.4		
Delay (s)	273.4	20.5			30.5			26.8		27.0		
Level of Service	F	C			C			C		C		
Approach Delay (s)		94.1			30.5			26.8		27.0		
Approach LOS		F			C			C		C		

Intersection Summary			
HCM 2000 Control Delay	57.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	82.4	Sum of lost time (s)	14.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

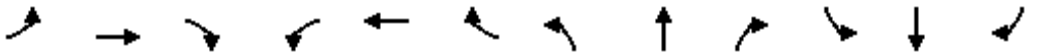
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	203	294	97	43	565	93	26	307	31	62	352	211
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.97			0.98			0.97			0.88	
Flpb, ped/bikes		0.99			1.00			0.99			0.98	
Frt		0.98			0.98			0.99			0.95	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		2469			2576			2735			2172	
Flt Permitted		0.60			0.90			0.90			0.88	
Satd. Flow (perm)		1498			2318			2470			1928	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	205	297	98	43	571	94	26	310	31	63	356	213
RTOR Reduction (vph)	0	1	0	0	5	0	0	12	0	0	36	0
Lane Group Flow (vph)	0	599	0	0	703	0	0	355	0	0	596	0
Confl. Peds. (#/hr)	182		134	134		182	777		592	592		777
Confl. Bikes (#/hr)			27			15			20			41
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		699			1081			1152			867	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.30			0.14			c0.31	
v/c Ratio		1.19dl			0.65			0.31			0.69	
Uniform Delay, d1		14.2			12.3			10.0			13.1	
Progression Factor		1.00			1.00			1.00			1.54	
Incremental Delay, d2		12.8			3.0			0.7			3.5	
Delay (s)		27.1			15.3			10.7			23.7	
Level of Service		C			B			B			C	
Approach Delay (s)		27.1			15.3			10.7			23.7	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		

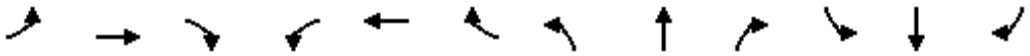
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	334	587	60	0	0	0	0	524	167	17	619	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1000	1000	1000	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0	2.0		2.0	
Lane Util. Factor	*0.50	*0.50						*0.50	0.91		0.95	
Frpb, ped/bikes	1.00	0.99						0.99	0.64		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	750	1186						840	424		2686	
Flt Permitted	0.95	1.00						1.00	1.00		0.92	
Satd. Flow (perm)	750	1186						840	424		2485	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	341	599	61	0	0	0	0	535	170	17	632	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	2	47	0	0	0
Lane Group Flow (vph)	341	651	0	0	0	0	0	550	106	0	649	0
Confl. Peds. (#/hr)			146						759	759		
Confl. Bikes (#/hr)			7						34			
Parking (#/hr)	10	10	10								10	
Turn Type	Split	NA						NA	Perm	Perm	NA	
Protected Phases	2	2						4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	27.0	27.0						26.0	26.0		26.0	
Effective Green, g (s)	28.5	28.5						27.5	27.5		27.5	
Actuated g/C Ratio	0.48	0.48						0.46	0.46		0.46	
Clearance Time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Grp Cap (vph)	356	563						385	194		1138	
v/s Ratio Prot	0.45	c0.55						c0.65				
v/s Ratio Perm									0.25		0.26	
v/c Ratio	0.96	1.16						1.43	0.55		0.57	
Uniform Delay, d1	15.2	15.8						16.2	11.8		11.9	
Progression Factor	0.86	0.86						0.79	0.56		1.00	
Incremental Delay, d2	18.3	76.8						205.7	9.6		2.1	
Delay (s)	31.4	90.3						218.6	16.2		14.0	
Level of Service	C	F						F	B		B	
Approach Delay (s)		70.2			0.0			174.7			14.0	
Approach LOS		E			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	86.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	559	0	0	0	0	0	1657	425	0	0	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1700	1700	1700	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	*0.50						*0.90	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.76			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1572	1237						3719	932			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1572	1237						3719	932			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	588	0	0	0	0	0	1744	447	0	0	0
RTOR Reduction (vph)	17	0	0	0	0	0	0	0	119	0	0	0
Lane Group Flow (vph)	299	588	0	0	0	0	0	1744	328	0	0	0
Confl. Peds. (#/hr)									306			
Confl. Bikes (#/hr)									30			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	26.3	26.3						24.3	24.3			
Effective Green, g (s)	27.8	27.8						25.8	25.8			
Actuated g/C Ratio	0.46	0.46						0.43	0.43			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	728	573						1599	400			
v/s Ratio Prot		c0.48						c0.47				
v/s Ratio Perm	0.19								0.35			
v/c Ratio	0.41	1.03						1.09	0.82			
Uniform Delay, d1	10.7	16.1						17.1	15.1			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	1.7	44.4						51.5	17.0			
Delay (s)	12.4	60.5						68.6	32.1			
Level of Service	B	E						E	C			
Approach Delay (s)		43.7			0.0			61.2			0.0	
Approach LOS		D			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	56.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	70.8%	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												
Volume (vph)	0	0	0	0	1124	81	327	1487	140	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.98		1.00	1.00	0.71			
Flpb, ped/bikes					1.00		0.92	1.00	1.00			
Frt					0.99		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4253		1423	4424	984			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4253		1423	4424	984			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	0	1159	84	337	1533	144	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	59	0	77	0	0	0
Lane Group Flow (vph)	0	0	0	0	1241	0	278	1533	67	0	0	0
Confl. Peds. (#/hr)						453	105		196			
Confl. Bikes (#/hr)						25			56			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1665		652	2027	442			
v/s Ratio Prot					c0.29			c0.35				
v/s Ratio Perm							0.20		0.07			
v/c Ratio					0.75		0.43	0.76	0.15			
Uniform Delay, d1					15.7		10.9	13.5	9.7			
Progression Factor					1.00		1.07	0.91	1.64			
Incremental Delay, d2					3.1		0.5	0.7	0.2			
Delay (s)					18.8		12.3	12.9	16.1			
Level of Service					B		B	B	B			
Approach Delay (s)		0.0			18.8			13.0			0.0	
Approach LOS		A			B			B			A	

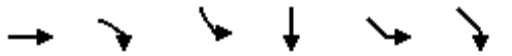
Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	1068	208	312	1558	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0	7.5	1.4	1.4				
Lane Util. Factor					0.81	0.81	0.81	0.81				
Frpb, ped/bikes					0.99	0.63	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	0.76	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					4377	590	650	3572				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					4377	590	650	3572				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	1112	217	325	1623	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	25	68	68	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1131	170	224	1588	0	0	0	0
Confl. Peds. (#/hr)						722	306					
Confl. Bikes (#/hr)						43						
Turn Type					NA	Perm	Perm	NA				
Protected Phases					6			8				
Permitted Phases						6	8					
Actuated Green, G (s)					23.5	23.5	21.6	21.6				
Effective Green, g (s)					26.0	25.5	25.6	25.6				
Actuated g/C Ratio					0.43	0.42	0.43	0.43				
Clearance Time (s)					9.5	9.5	5.4	5.4				
Lane Grp Cap (vph)					1896	250	277	1524				
v/s Ratio Prot					0.26							
v/s Ratio Perm						c0.29	0.35	0.44				
v/c Ratio					0.60	0.68	0.81	1.04				
Uniform Delay, d1					13.0	13.9	15.1	17.2				
Progression Factor					1.00	1.00	1.02	0.92				
Incremental Delay, d2					1.4	13.9	17.8	32.3				
Delay (s)					14.4	27.8	33.2	48.2				
Level of Service					B	C	C	D				
Approach Delay (s)		0.0			16.4			45.9			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



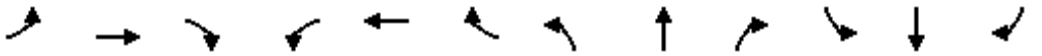
Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Volume (vph)	776	156	102	510	114	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	1.00	0.94	0.86
Frpb, ped/bikes	0.95		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5585		1459	1305	4113	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5585		1459	1305	4113	1122
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	784	158	103	515	115	32
RTOR Reduction (vph)	41	0	70	0	0	0
Lane Group Flow (vph)	901	0	33	515	118	29
Confl. Peds. (#/hr)		251	970			
Confl. Bikes (#/hr)		10				
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	NA	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	23.5		26.8	26.8	19.5	19.5
Effective Green, g (s)	25.5		28.8	28.8	23.5	23.5
Actuated g/C Ratio	0.28		0.32	0.32	0.26	0.26
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1582		466	417	1073	292
v/s Ratio Prot	c0.16		0.02	c0.39	c0.03	
v/s Ratio Perm						0.03
v/c Ratio	0.57		0.07	1.24	0.11	0.10
Uniform Delay, d1	27.6		21.3	30.6	25.3	25.2
Progression Factor	0.28		2.72	0.92	1.00	1.00
Incremental Delay, d2	0.1		0.2	122.2	0.2	0.7
Delay (s)	7.9		58.2	150.4	25.5	25.9
Level of Service	A		E	F	C	C
Approach Delay (s)	7.9			135.0	25.6	
Approach LOS	A			F	C	

Intersection Summary			
HCM 2000 Control Delay	55.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Volume (vph)	149	954	807	455	462	136
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.81		0.81	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	0.98	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.96	0.85	0.85
Flt Protected	0.95		0.97	1.00	1.00	1.00
Satd. Flow (prot)	1050		4818	2189	1038	1141
Flt Permitted	0.95		0.97	1.00	1.00	1.00
Satd. Flow (perm)	1050		4818	2189	1038	1141
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	154	984	832	469	476	140
RTOR Reduction (vph)	0	0	0	0	0	40
Lane Group Flow (vph)	139	0	1831	655	290	100
Confl. Bikes (#/hr)					10	10
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	450		2066	1053	533	586
v/s Ratio Prot				c0.30		
v/s Ratio Perm	0.13		0.38		0.28	0.09
v/c Ratio	0.31		1.72dl	0.62	0.54	0.17
Uniform Delay, d1	16.9		23.7	17.3	14.7	11.6
Progression Factor	1.00		1.00	1.62	1.83	2.49
Incremental Delay, d2	1.8		6.1	2.0	2.9	0.5
Delay (s)	18.7		29.7	30.1	29.9	29.4
Level of Service	B		C	C	C	C
Approach Delay (s)			29.0	30.0		
Approach LOS			C	C		

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



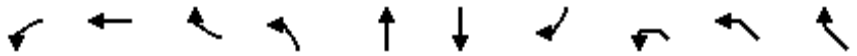
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	500	1173	0	0	0	0	0	517	475
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.89	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.95	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4942						4205	694
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4942						4205	694
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	526	1235	0	0	0	0	0	544	500
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	342	1419	0	0	0	0	0	794	250
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						26.0	26.0
Effective Green, g (s)				33.5	33.5						28.0	28.0
Actuated g/C Ratio				0.37	0.37						0.31	0.31
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				439	1839						1308	215
v/s Ratio Prot				c0.29	0.29						0.19	
v/s Ratio Perm												c0.36
v/c Ratio				0.78	0.77						0.61	1.16
Uniform Delay, d1				25.0	24.9						26.3	31.0
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				12.8	3.2						2.1	112.3
Delay (s)				37.8	28.1						28.4	143.3
Level of Service				D	C						C	F
Approach Delay (s)		0.0			30.0			0.0			55.9	
Approach LOS		A			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Volume (vph)	28	374	683	63	221	322	64	191	125	563
Ideal Flow (vphpl)	1000	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.99		0.89		0.91		1.00	1.00
Flpb, ped/bikes		0.96	1.00		1.00		1.00		0.99	1.00
Frt		1.00	0.99		0.91		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	1.00
Satd. Flow (prot)		1264	1904		2244		1078		1316	2544
Flt Permitted		0.95	1.00		1.00		1.00		0.23	0.85
Satd. Flow (perm)		1264	1904		2244		1078		324	2184
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	30	402	734	68	238	346	69	205	134	605
RTOR Reduction (vph)	0	0	9	0	1	0	46	0	0	0
Lane Group Flow (vph)	0	392	833	0	590	0	16	0	279	665
Confl. Peds. (#/hr)	14			88		53	43	53	43	
Confl. Bikes (#/hr)				6		17	17	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Perm	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases		2	2		8			7	7	4
Permitted Phases	2						8	4	4	
Actuated Green, G (s)		22.5	22.5		23.0		23.0		42.0	42.0
Effective Green, g (s)		22.5	25.0		24.5		23.0		43.5	43.5
Actuated g/C Ratio		0.25	0.28		0.27		0.26		0.48	0.48
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		316	528		610		275		338	1121
v/s Ratio Prot			c0.44		c0.26				c0.15	0.11
v/s Ratio Perm		0.31					0.01		0.25	0.18
v/c Ratio		1.24	1.58		1.20dr		0.06		0.83	0.59
Uniform Delay, d1		33.8	32.5		32.4		25.3		26.6	16.8
Progression Factor		1.00	1.00		1.00		1.00		1.08	1.21
Incremental Delay, d2		132.3	268.6		29.3		0.4		2.2	0.2
Delay (s)		166.0	301.1		61.7		25.7		31.0	20.6
Level of Service		F	F		E		C		C	C
Approach Delay (s)			258.2		58.2					23.7
Approach LOS			F		E					C

Intersection Summary			
HCM 2000 Control Delay	133.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Volume (vph)	88	794	99	52	227	661	205	255	755	261
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.98			1.00	0.94			0.99	0.81
Flpb, ped/bikes		1.00			0.99	1.00			0.99	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		1.00			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5787			2841	2429			4058	909
Flt Permitted		1.00			0.62	1.00			0.95	1.00
Satd. Flow (perm)		5787			1788	2429			4058	909
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	827	103	54	236	689	214	266	786	272
RTOR Reduction (vph)	0	22	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1000	0	0	290	898	0	0	1079	245
Confl. Peds. (#/hr)	3		157	212			212	3		157
Confl. Bikes (#/hr)			10				10			10
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10				10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	NA	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1864			556	755			1217	272
v/s Ratio Prot						c0.37				
v/s Ratio Perm		0.17			0.16				0.27	c0.27
v/c Ratio		0.54			0.52	1.19			0.89	0.90
Uniform Delay, d1		25.0			25.5	31.0			30.0	30.2
Progression Factor		1.75			0.20	1.00			1.00	1.00
Incremental Delay, d2		0.7			1.3	98.3			9.7	34.1
Delay (s)		44.4			6.4	129.3			39.8	64.3
Level of Service		D			A	F			D	E
Approach Delay (s)		44.4			6.4	129.3			44.3	
Approach LOS		D			A	F			D	

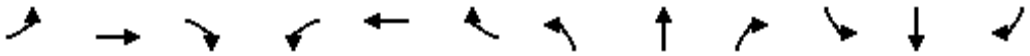
Intersection Summary			
HCM 2000 Control Delay	62.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	108.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	2	25	732	5	10	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.86	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3065		1323	3079
Flt Permitted	0.95	1.00	1.00		0.31	1.00
Satd. Flow (perm)	1540	1378	3065		435	3079
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2	28	822	6	11	331
RTOR Reduction (vph)	0	21	0	0	0	0
Lane Group Flow (vph)	2	7	828	0	11	331
Confl. Peds. (#/hr)	146			518	518	
Confl. Bikes (#/hr)				13		
Turn Type	NA	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2084		295	2093
v/s Ratio Prot	0.00		c0.27			0.11
v/s Ratio Perm		c0.01			0.03	
v/c Ratio	0.01	0.02	0.40		0.04	0.16
Uniform Delay, d1	32.4	32.6	7.7		5.8	6.3
Progression Factor	1.00	1.00	1.00		0.57	0.51
Incremental Delay, d2	0.0	0.1	0.6		0.2	0.1
Delay (s)	32.4	32.7	8.3		3.4	3.4
Level of Service	C	C	A		A	A
Approach Delay (s)	32.7		8.3			3.4
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

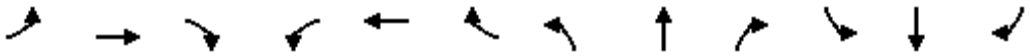
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	58	62	1	0	3	23	700	56	135	153	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.95		0.96		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		0.99	1.00		0.99		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.90		1.00	0.99		1.00	0.98	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1576	1311		1367		1540	2959		1540	2965	
Flt Permitted		0.93	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1495	1311		1347		1540	2959		1540	2965	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	25	60	64	1	0	3	24	722	58	139	158	30
RTOR Reduction (vph)	0	0	43	0	3	0	0	6	0	0	16	0
Lane Group Flow (vph)	0	85	21	0	1	0	24	774	0	139	172	0
Confl. Peds. (#/hr)	48		40	40		48			255			77
Confl. Bikes (#/hr)									8			23
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		479	420		432		227	1050		254	1111	
v/s Ratio Prot							0.02	c0.26		c0.09	0.06	
v/s Ratio Perm		c0.06	0.02		0.00							
v/c Ratio		0.18	0.05		0.00		0.11	0.74		0.55	0.16	
Uniform Delay, d1		24.4	23.4		23.1		36.9	28.2		38.3	20.7	
Progression Factor		1.00	1.00		1.00		1.55	0.83		1.00	1.00	
Incremental Delay, d2		0.8	0.2		0.0		0.7	3.5		8.2	0.3	
Delay (s)		25.3	23.6		23.1		57.8	26.9		46.6	21.0	
Level of Service		C	C		C		E	C		D	C	
Approach Delay (s)		24.6			23.1			27.9			31.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		

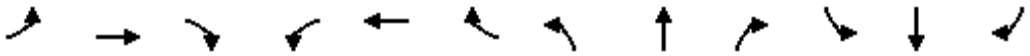
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	11	15	20	37	100	73	706	31	35	143	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.93			0.91		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1488			1446		1540	3044		1540	3002	
Flt Permitted		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1448			1408		1540	3044		1540	3002	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	12	16	22	40	108	78	759	33	38	154	16
RTOR Reduction (vph)	0	11	0	0	63	0	0	3	0	0	8	0
Lane Group Flow (vph)	0	22	0	0	107	0	78	789	0	38	162	0
Confl. Peds. (#/hr)	16		6	6		16			73			67
Confl. Bikes (#/hr)			1						12			11
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		473			460		231	1123		229	1107	
v/s Ratio Prot							0.05	c0.26		0.02	c0.05	
v/s Ratio Perm		0.02			c0.08							
v/c Ratio		0.05			0.23		0.34	0.70		0.17	0.15	
Uniform Delay, d1		23.0			24.5		38.1	26.9		37.1	21.0	
Progression Factor		1.00			1.00		1.50	0.69		0.65	0.69	
Incremental Delay, d2		0.2			1.2		3.2	3.0		1.5	0.3	
Delay (s)		23.2			25.7		60.4	21.6		25.7	14.8	
Level of Service		C			C		E	C		C	B	
Approach Delay (s)		23.2			25.7			25.1			16.8	
Approach LOS		C			C			C			B	

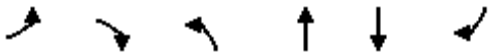
Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	9	23	1	6	44	44	228	12	112	124	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.98	1.00	1.00		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00	0.82	1.00		1.00	1.00	
Frt		0.95			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1455			1609	1351	1270	1605		1459	1449	
Flt Permitted		0.83			0.94	1.00	0.65	1.00		0.95	1.00	
Satd. Flow (perm)		1245			1526	1351	873	1605		1459	1449	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	38	10	26	1	7	50	50	259	14	127	141	24
RTOR Reduction (vph)	0	23	0	0	0	32	0	3	0	0	6	0
Lane Group Flow (vph)	0	51	0	0	8	18	50	270	0	127	159	0
Confl. Peds. (#/hr)	62		6	6		62	205		28			205
Confl. Bikes (#/hr)						1			23			16
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		4.5			4.5	15.8	14.3	14.3		11.3	30.6	
Effective Green, g (s)		4.5			4.5	15.8	14.3	14.3		11.3	30.6	
Actuated g/C Ratio		0.10			0.10	0.35	0.32	0.32		0.25	0.68	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		124			152	623	276	508		365	983	
v/s Ratio Prot						0.01		c0.17		c0.09	0.11	
v/s Ratio Perm		c0.04			0.01	0.01	0.06					
v/c Ratio		0.41			0.05	0.03	0.18	0.53		0.35	0.16	
Uniform Delay, d1		19.1			18.4	9.6	11.2	12.7		13.9	2.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.2			0.1	0.0	0.3	1.1		0.6	0.1	
Delay (s)		21.2			18.5	9.6	11.5	13.7		14.5	2.7	
Level of Service		C			B	A	B	B		B	A	
Approach Delay (s)		21.2			10.9			13.4			7.8	
Approach LOS		C			B			B			A	

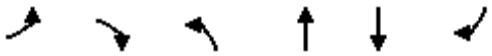
Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	45.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	18	24	137	99	98	139
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	22	30	171	124	122	174

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	23	30	213	83	82	215
Volume Left (vph)	23	0	171	0	0	0
Volume Right (vph)	0	30	0	0	0	174
Hadj (s)	0.53	-0.67	0.44	0.03	0.03	-0.53
Departure Headway (s)	6.3	5.1	5.3	4.9	4.9	4.4
Degree Utilization, x	0.04	0.04	0.31	0.11	0.11	0.26
Capacity (veh/h)	523	637	664	713	705	803
Control Delay (s)	8.4	7.2	9.5	7.3	7.4	7.7
Approach Delay (s)	7.7		8.9		7.6	
Approach LOS	A		A		A	

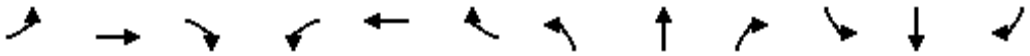
Intersection Summary			
Delay	8.2		
Level of Service	A		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	248	204	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	279	229	0
Pedestrians	33			4		
Lane Width (ft)	11.0			11.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	3			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	402	152	262			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	402	152	262			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	562	843	1266			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	93	186	153	76
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1266	1700	1700	1700
Volume to Capacity	0.00	0.00	0.11	0.09	0.04
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A				

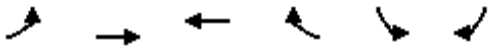
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	22.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	64	262	4	116	71	301	651	17	19	304	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95		1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.97	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.94		1.00	1.00		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1500	2629		1527	1498		2987	3063		1540	2841	
Flt Permitted	0.58	1.00		0.51	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	914	2629		814	1498		2987	3063		1540	2841	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	70	285	4	126	77	327	708	18	21	330	247
RTOR Reduction (vph)	0	187	0	0	22	0	0	2	0	0	135	0
Lane Group Flow (vph)	130	168	0	4	181	0	327	724	0	21	442	0
Confl. Peds. (#/hr)	41		16	16		41			58			14
Confl. Bikes (#/hr)			17			9			10			15
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	34.5	34.5		34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5		34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	315	907		280	516		418	1157		184	1017	
v/s Ratio Prot		0.06			0.12		c0.11	c0.24		0.01	c0.16	
v/s Ratio Perm	c0.14			0.00								
v/c Ratio	0.41	0.19		0.01	0.35		0.78	0.63		0.11	0.43	
Uniform Delay, d1	25.0	22.9		21.6	24.4		41.5	25.3		39.3	24.4	
Progression Factor	1.00	1.00		1.00	1.00		0.84	0.84		0.88	0.71	
Incremental Delay, d2	4.0	0.5		0.1	1.9		11.2	2.1		1.3	1.4	
Delay (s)	29.0	23.4		21.7	26.3		46.0	23.3		35.6	18.7	
Level of Service	C	C		C	C		D	C		D	B	
Approach Delay (s)		24.9			26.2			30.4			19.3	
Approach LOS		C			C			C			B	

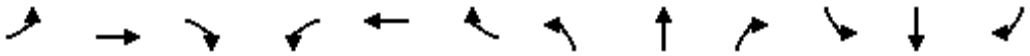
Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	116.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	125	330	635	98	109	176
Ideal Flow (vphpl)	1700	1700	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1377	2755	2521		2515	1145
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1377	2755	2521		2515	1145
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	351	676	104	116	187
RTOR Reduction (vph)	0	0	10	0	0	141
Lane Group Flow (vph)	133	351	770	0	116	46
Confl. Peds. (#/hr)				36		2
Confl. Bikes (#/hr)				19		
Turn Type	Prot	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	4.1	31.8	22.7		8.7	8.7
Effective Green, g (s)	4.1	31.8	22.7		8.7	8.7
Actuated g/C Ratio	0.08	0.63	0.45		0.17	0.17
Clearance Time (s)	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	111	1734	1133		433	197
v/s Ratio Prot	c0.10	0.13	c0.31		c0.05	
v/s Ratio Perm						0.04
v/c Ratio	1.20	0.20	0.68		0.27	0.23
Uniform Delay, d1	23.2	4.0	11.0		18.1	18.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	148.2	0.1	1.6		0.3	0.6
Delay (s)	171.4	4.0	12.7		18.5	18.6
Level of Service	F	A	B		B	B
Approach Delay (s)		50.0	12.7		18.6	
Approach LOS		D	B		B	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



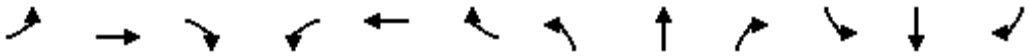
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	339	89	61	399	367	53	437	44	83	130	30
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		*0.80			*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	
Frpb, ped/bikes		0.99			1.00	0.91	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1986			2234	875	1070	957	934	1070	1088	
Flt Permitted		0.86			0.76	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1716			1711	875	1070	957	934	1070	1088	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	42	353	93	64	416	382	55	455	46	86	135	31
RTOR Reduction (vph)	0	14	0	0	0	58	0	0	30	0	7	0
Lane Group Flow (vph)	0	474	0	0	480	324	55	455	16	86	159	0
Confl. Peds. (#/hr)	50		13	13		50			5			10
Confl. Bikes (#/hr)			17			37			12			17
Parking (#/hr)		10	10					10				
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2			6		6			8			
Actuated Green, G (s)		32.3			32.3	46.0	14.2	32.5	32.5	13.7	32.0	
Effective Green, g (s)		32.3			32.3	46.0	14.2	32.5	32.5	13.7	32.0	
Actuated g/C Ratio		0.35			0.35	0.49	0.15	0.35	0.35	0.15	0.34	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		592			591	477	162	332	324	156	372	
v/s Ratio Prot						c0.10	0.05	c0.48		0.08	0.15	
v/s Ratio Perm		0.28			c0.28	0.27			0.02			
v/c Ratio		0.80			0.81	0.68	0.34	1.37	0.05	0.55	0.43	
Uniform Delay, d1		27.7			27.8	18.1	35.5	30.5	20.2	37.0	23.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		7.7			8.3	3.8	1.3	184.8	0.1	4.2	0.8	
Delay (s)		35.4			36.2	21.9	36.7	215.3	20.3	41.2	24.5	
Level of Service		D			D	C	D	F	C	D	C	
Approach Delay (s)		35.4			29.9			181.5			30.2	
Approach LOS		D			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	70.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	93.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	39	108	936	37	71	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2370	3079	1357	1540	1621
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2370	3079	1357	1540	1621
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	39	109	945	37	72	210
RTOR Reduction (vph)	0	100	0	7	0	0
Lane Group Flow (vph)	39	9	945	30	72	210
Confl. Peds. (#/hr)	49	3				
Confl. Bikes (#/hr)				20		
Turn Type	NA	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	5.8	5.8	39.2	34.2	7.0	51.2
Effective Green, g (s)	5.8	5.8	39.2	34.2	7.0	51.2
Actuated g/C Ratio	0.09	0.09	0.59	0.51	0.10	0.76
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	133	205	1801	793	160	1238
v/s Ratio Prot	c0.03		c0.31	0.01	c0.05	0.13
v/s Ratio Perm		0.00		0.01		
v/c Ratio	0.29	0.05	0.52	0.04	0.45	0.17
Uniform Delay, d1	28.7	28.1	8.3	8.2	28.2	2.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	0.3	0.0	2.0	0.1
Delay (s)	29.9	28.2	8.6	8.2	30.2	2.2
Level of Service	C	C	A	A	C	A
Approach Delay (s)	28.6		8.6			9.4
Approach LOS	C		A			A

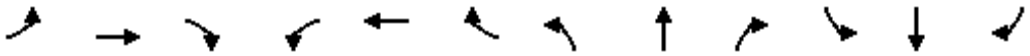
Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	67.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	35	251	86	75	181	18	55	132	70	19	118	38
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
Hourly flow rate (vph)	38	270	92	81	195	19	59	142	75	20	127	41

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	400	81	214	201	75	188
Volume Left (vph)	38	81	0	59	0	20
Volume Right (vph)	92	0	19	0	75	41
Hadj (s)	-0.09	0.53	-0.03	0.18	-0.67	-0.07
Departure Headway (s)	6.6	7.5	6.9	7.4	6.6	7.4
Degree Utilization, x	0.74	0.17	0.41	0.41	0.14	0.39
Capacity (veh/h)	525	447	475	445	500	432
Control Delay (s)	26.1	10.8	13.5	14.4	9.4	14.9
Approach Delay (s)	26.1	12.8		13.0		14.9
Approach LOS	D	B		B		B

Intersection Summary				
Delay	17.8			
Level of Service	C			
Intersection Capacity Utilization	67.5%	ICU Level of Service	C	
Analysis Period (min)	15			



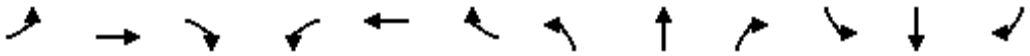
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	236	306	31	10	229	21	37	665	34	22	322	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99			0.99		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1686	1768			3361		1711	3382		1711	3159	
Flt Permitted	0.56	1.00			0.94		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	996	1768			3152		1711	3382		1711	3159	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	254	329	33	11	246	23	40	715	37	24	346	245
RTOR Reduction (vph)	0	4	0	0	6	0	0	4	0	0	128	0
Lane Group Flow (vph)	254	358	0	0	274	0	40	748	0	24	463	0
Confl. Peds. (#/hr)	21		34	34		21			43			21
Confl. Bikes (#/hr)			5			1			14			15
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	295	525			936		289	1349		254	1197	
v/s Ratio Prot		0.20					0.02	c0.22		0.01	c0.15	
v/s Ratio Perm	c0.26				0.09							
v/c Ratio	0.86	0.68			0.29		0.14	0.55		0.09	0.39	
Uniform Delay, d1	33.2	31.0			27.1		35.4	23.2		36.7	22.6	
Progression Factor	1.00	1.00			1.00		1.09	1.21		1.39	0.99	
Incremental Delay, d2	26.5	7.0			0.8		0.6	1.1		0.7	0.9	
Delay (s)	59.7	38.0			27.9		39.3	29.0		51.6	23.3	
Level of Service	E	D			C		D	C		D	C	
Approach Delay (s)		47.0			27.9			29.5			24.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	93	0	0	694	567	648
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5			3.5	3.5	3.5
Lane Util. Factor	0.95			0.95	1.00	0.95
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	0.98	0.85
Flt Protected	1.00			1.00	0.96	1.00
Satd. Flow (prot)	3421			3421	1695	1454
Flt Permitted	1.00			1.00	0.96	1.00
Satd. Flow (perm)	3421			3421	1695	1454
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	97	0	0	723	591	675
RTOR Reduction (vph)	0	0	0	0	5	394
Lane Group Flow (vph)	97	0	0	723	660	207
Confl. Peds. (#/hr)					1	
Turn Type	NA			NA	NA	Perm
Protected Phases	2			6	4	
Permitted Phases						4
Actuated Green, G (s)	52.0			52.0	31.0	31.0
Effective Green, g (s)	52.0			52.0	31.0	31.0
Actuated g/C Ratio	0.58			0.58	0.34	0.34
Clearance Time (s)	3.5			3.5	3.5	3.5
Lane Grp Cap (vph)	1976			1976	583	500
v/s Ratio Prot	0.03			c0.21	c0.39	
v/s Ratio Perm						0.14
v/c Ratio	0.05			0.37	1.13	0.41
Uniform Delay, d1	8.3			10.2	29.5	22.6
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.0			0.5	79.1	2.5
Delay (s)	8.3			10.7	108.6	25.1
Level of Service	A			B	F	C
Approach Delay (s)	8.3			10.7	69.0	
Approach LOS	A			B	E	

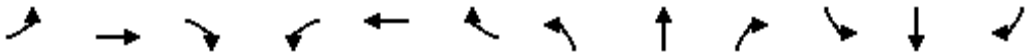
Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱								↑	↱
Volume (veh/h)	0	93	646	0	0	0	0	0	0	0	480	781
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	95	659	0	0	0	0	0	0	0	490	797
Pedestrians		2						5				
Lane Width (ft)		11.0						0.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	492	492	497	1201	1289	0	1289			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	492	492	497	1201	1289	0	1289			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	80	0	0	100	100	100			100		
cM capacity (veh/h)	486	477	572	0	163	1085	537			1623		

Direction, Lane #	EB 1	EB 2	SB 1	SB 2
Volume Total	95	659	490	797
Volume Left	0	0	0	0
Volume Right	0	659	0	797
cSH	477	572	1700	1700
Volume to Capacity	0.20	1.15	0.29	0.47
Queue Length 95th (ft)	18	552	0	0
Control Delay (s)	14.4	112.0	0.0	0.0
Lane LOS	B	F		
Approach Delay (s)	99.7		0.0	
Approach LOS	F			

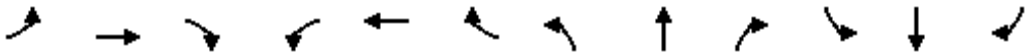
Intersection Summary				
Average Delay	36.8			
Intersection Capacity Utilization	72.4%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	24	43	21	46	29	0	737	41	0	457	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1200	1200	1200	1200	1200	1200
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			*0.70			*0.70	
Frpb, ped/bikes		0.95			0.96			0.99			0.98	
Flpb, ped/bikes		0.96			0.98			1.00			1.00	
Frt		0.95			0.96			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1207			1269			1313			1299	
Flt Permitted		0.81			0.92			1.00			1.00	
Satd. Flow (perm)		998			1181			1313			1299	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	47	24	44	21	47	30	0	752	42	0	466	39
RTOR Reduction (vph)	0	28	0	0	20	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	87	0	0	78	0	0	792	0	0	502	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		13.8			13.8			76.3			76.3	
Effective Green, g (s)		13.8			13.8			76.3			76.3	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		137			162			1001			991	
v/s Ratio Prot								c0.60			0.39	
v/s Ratio Perm		c0.09			0.07							
v/c Ratio		0.64			0.48			0.79			0.51	
Uniform Delay, d1		40.7			39.8			7.1			4.6	
Progression Factor		1.00			1.00			1.40			0.53	
Incremental Delay, d2		9.4			2.3			4.8			1.8	
Delay (s)		50.1			42.1			14.7			4.2	
Level of Service		D			D			B			A	
Approach Delay (s)		50.1			42.1			14.7			4.2	
Approach LOS		D			D			B			A	

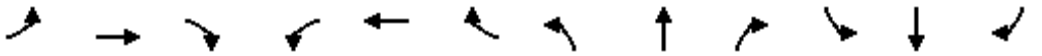
Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	199	159	178	8	222	16	199	613	5	25	370	116
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.96	
Flpb, ped/bikes	0.98	1.00		0.94	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.99		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1192	1976		1141	1255		1215	2426		1215	2247	
Flt Permitted	0.34	1.00		0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	428	1976		648	1255		1215	2426		1215	2247	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	209	167	187	8	234	17	209	645	5	26	389	122
RTOR Reduction (vph)	0	111	0	0	3	0	0	1	0	0	33	0
Lane Group Flow (vph)	209	243	0	8	248	0	209	649	0	26	478	0
Confl. Peds. (#/hr)	100		100	100		100			100			100
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	40.5	40.5		23.3	23.3		15.9	39.5		3.7	27.3	
Effective Green, g (s)	40.5	40.5		23.3	23.3		15.9	39.5		3.7	27.3	
Actuated g/C Ratio	0.40	0.40		0.23	0.23		0.16	0.40		0.04	0.27	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	264	800		150	292		193	958		44	613	
v/s Ratio Prot	c0.09	0.12			0.20		c0.17	0.27		0.02	c0.21	
v/s Ratio Perm	c0.23			0.01								
v/c Ratio	0.79	0.30		0.05	0.85		1.08	0.68		0.59	0.78	
Uniform Delay, d1	23.2	20.2		29.8	36.7		42.0	25.0		47.4	33.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.14	1.11	
Incremental Delay, d2	14.9	0.2		0.1	19.9		88.6	3.9		17.5	8.5	
Delay (s)	38.0	20.4		29.9	56.6		130.7	28.8		71.7	45.8	
Level of Service	D	C		C	E		F	C		E	D	
Approach Delay (s)		26.9			55.8			53.6			47.1	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	4	223	7	9	4	185	708	0	17	1034	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			0.99		1.00	1.00		1.00	1.00	0.77
Flpb, ped/bikes	0.96	1.00			0.99		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85			0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1481	1336			1531		1540	3079		1296	2593	890
Flt Permitted	0.74	1.00			0.89		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1159	1336			1393		1540	3079		1296	2593	890
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	4	242	8	10	4	201	770	0	18	1124	83
RTOR Reduction (vph)	0	158	0	0	3	0	0	0	0	0	0	58
Lane Group Flow (vph)	37	88	0	0	19	0	201	770	0	18	1124	25
Confl. Peds. (#/hr)	45		24	24		45			173			77
Confl. Bikes (#/hr)			2						52			80
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Effective Green, g (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Actuated g/C Ratio	0.35	0.35			0.35		0.19	0.38		0.10	0.30	0.30
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	401	462			482		287	1161		130	773	265
v/s Ratio Prot		c0.07					0.13	c0.25		0.01	c0.43	
v/s Ratio Perm	0.03				0.01							0.03
v/c Ratio	0.09	0.19			0.04		0.70	0.66		0.14	1.45	0.09
Uniform Delay, d1	24.3	25.2			23.8		41.9	28.4		45.1	38.6	27.9
Progression Factor	1.00	1.00			1.00		0.77	0.78		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.9			0.2		10.4	2.3		2.2	211.5	0.7
Delay (s)	24.7	26.1			24.0		42.7	24.6		47.3	250.1	28.6
Level of Service	C	C			C		D	C		D	F	C
Approach Delay (s)		25.9			24.0			28.3			232.1	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	127.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	98	24	32	800	5	860	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	1314	1540	3079	1540	3079	1134
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1540	1314	1540	3079	1540	3079	1134
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	105	26	34	860	5	925	408
RTOR Reduction (vph)	0	16	0	0	0	0	159
Lane Group Flow (vph)	105	10	34	860	5	925	249
Confl. Peds. (#/hr)	36	40					133
Confl. Bikes (#/hr)							92
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	533	455	215	1226	140	1035	381
v/s Ratio Prot	c0.07		0.02	c0.28	0.00	c0.30	
v/s Ratio Perm		0.01					0.22
v/c Ratio	0.20	0.02	0.16	0.70	0.04	0.89	0.65
Uniform Delay, d1	25.2	23.7	41.6	27.6	45.6	34.6	31.0
Progression Factor	1.00	1.00	0.51	0.81	0.80	0.68	1.15
Incremental Delay, d2	0.8	0.1	1.2	2.5	0.0	1.3	0.8
Delay (s)	26.0	23.8	22.4	24.8	36.3	24.9	36.5
Level of Service	C	C	C	C	D	C	D
Approach Delay (s)	25.6			24.7		28.5	
Approach LOS	C			C		C	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

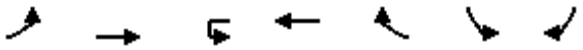
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	105	6	16	3	5	6	10	43	769	3	2	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600
Total Lost time (s)		7.0			7.0			7.0	7.0		5.8	5.4
Lane Util. Factor		1.00			1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes		0.96			0.86			1.00	1.00		1.00	0.91
Flpb, ped/bikes		0.75			0.95			1.00	1.00		1.00	1.00
Frt		0.98			0.94			1.00	1.00		1.00	0.97
Flt Protected		0.96			0.99			0.95	1.00		0.95	1.00
Satd. Flow (prot)		1098			1231			1540	3072		1296	2290
Flt Permitted		0.75			0.96			0.95	1.00		0.95	1.00
Satd. Flow (perm)		860			1194			1540	3072		1296	2290
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	6	17	3	5	6	11	46	827	3	2	813
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	0	0	0	16
Lane Group Flow (vph)	0	131	0	0	10	0	0	57	830	0	2	966
Confl. Peds. (#/hr)	400		400	400		400				400		
Confl. Bikes (#/hr)			30			30				30		
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0			15.0	43.0		9.2	37.6
Effective Green, g (s)		38.0			38.0			15.0	43.0		9.2	37.6
Actuated g/C Ratio		0.35			0.35			0.14	0.39		0.08	0.34
Clearance Time (s)		7.0			7.0			7.0	7.0		5.8	5.4
Lane Grp Cap (vph)		297			412			210	1200		108	782
v/s Ratio Prot								0.04	c0.27		0.00	c0.42
v/s Ratio Perm		c0.15			0.01							
v/c Ratio		0.44			0.02			0.27	0.69		0.02	1.24
Uniform Delay, d1		27.8			23.8			42.6	28.0		46.3	36.2
Progression Factor		1.00			1.00			0.57	0.44		1.94	0.61
Incremental Delay, d2		4.7			0.1			2.7	2.8		0.2	111.9
Delay (s)		32.5			23.9			27.0	15.2		90.1	133.9
Level of Service		C			C			C	B		F	F
Approach Delay (s)		32.5			23.9				15.9			133.9
Approach LOS		C			C				B			F

Intersection Summary			
HCM 2000 Control Delay	74.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

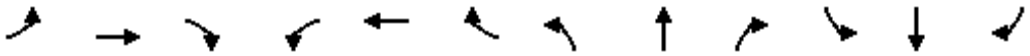
Movement	SBR
Lane Configurations	
Volume (vph)	157
Ideal Flow (vphpl)	1600
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	169
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



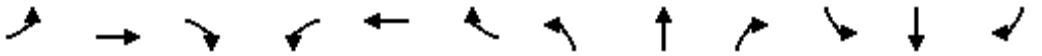
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	190	763	3	795	22	19	285
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1900	1900
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	0.68
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1540	3079	1540	2560		1540	931
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1540	3079	1540	2560		1540	931
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	787	3	820	23	20	294
RTOR Reduction (vph)	0	0	0	2	0	0	192
Lane Group Flow (vph)	196	787	3	841	0	20	102
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					10		30
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		NA	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	215	1253	117	847		534	323
v/s Ratio Prot	c0.13	0.26	0.00	c0.33		0.01	
v/s Ratio Perm							c0.11
v/c Ratio	0.91	0.63	0.03	0.99		0.04	0.32
Uniform Delay, d1	46.6	26.0	47.0	36.7		23.7	26.3
Progression Factor	0.80	1.51	0.65	0.50		1.00	1.00
Incremental Delay, d2	35.9	1.9	0.0	7.8		0.1	2.6
Delay (s)	73.3	41.2	30.5	26.1		23.9	28.9
Level of Service	E	D	C	C		C	C
Approach Delay (s)		47.6		26.1		28.6	
Approach LOS		D		C		C	

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	872	732	12	130	886	36	53	948	255	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	*0.97	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.68			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98	1.00			
Frt	1.00	1.00		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4480	3057		2987	3022			5469	941			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4480	3057		2987	3022			5469	941			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	899	755	12	134	913	37	55	977	263	0	0	0
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	183	0	0	0
Lane Group Flow (vph)	899	766	0	134	949	0	0	1032	80	0	0	0
Confl. Peds. (#/hr)			400			400	400		400			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	42.9		13.2	39.4			33.5	33.5			
Effective Green, g (s)	18.2	42.9		13.2	39.4			33.5	33.5			
Actuated g/C Ratio	0.17	0.39		0.12	0.36			0.30	0.30			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	741	1192		358	1082			1665	286			
v/s Ratio Prot	c0.20	0.25		0.04	c0.31							
v/s Ratio Perm								0.19	0.09			
v/c Ratio	1.21	0.64		0.37	0.88			0.62	0.28			
Uniform Delay, d1	45.9	27.3		44.6	33.0			32.8	29.1			
Progression Factor	1.38	1.65		1.51	1.01			1.44	3.99			
Incremental Delay, d2	104.2	1.7		0.3	3.9			0.6	0.5			
Delay (s)	167.5	46.8		67.8	37.4			47.9	116.6			
Level of Service	F	D		E	D			D	F			
Approach Delay (s)		111.9			41.2			61.8			0.0	
Approach LOS		F			D			E			A	

Intersection Summary			
HCM 2000 Control Delay	76.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	151	1521	25	24	907	19	5	60	61	34	250	301
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1600	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.64	1.00	0.82	0.47
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98	1.00	0.67	1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.95	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	4385		1296	2553			1579	858	1038	2295	581
Flt Permitted	0.95	1.00		0.95	1.00			0.97	1.00	0.71	1.00	1.00
Satd. Flow (perm)	1540	4385		1296	2553			1533	858	780	2295	581
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	154	1552	26	24	926	19	5	61	62	35	255	307
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	40	0	53	113
Lane Group Flow (vph)	154	1577	0	24	944	0	0	66	22	35	334	62
Confl. Peds. (#/hr)			761			695	1648		678	678		1648
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	45.9		6.0	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	45.9		6.0	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.42		0.05	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	201	1829		70	833			532	297	277	817	207
v/s Ratio Prot	0.10	c0.36		0.02	c0.37						c0.15	
v/s Ratio Perm								0.04	0.03	0.04		0.11
v/c Ratio	0.77	0.86		0.34	1.13			0.12	0.07	0.13	0.41	0.30
Uniform Delay, d1	46.2	29.2		50.1	37.0			24.5	24.0	23.9	26.7	25.5
Progression Factor	0.59	1.19		0.90	0.94			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6	1.6		1.4	67.7			0.1	0.1	0.2	0.3	0.8
Delay (s)	32.0	36.2		46.6	102.5			24.6	24.1	24.1	27.0	26.3
Level of Service	C	D		D	F			C	C	C	C	C
Approach Delay (s)		35.8			101.1			24.4			26.6	
Approach LOS		D			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1573	138	0	1226	86	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.99
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3034			3079	1540	1357
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3034			3079	1540	1357
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1639	144	0	1277	90	8
RTOR Reduction (vph)	6	0	0	0	0	5
Lane Group Flow (vph)	1777	0	0	1277	90	3
Confl. Peds. (#/hr)		37	37		1	3
Confl. Bikes (#/hr)		1				
Turn Type	NA			NA	NA	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1712			1738	512	451
v/s Ratio Prot	c0.59			0.41	c0.06	
v/s Ratio Perm						0.00
v/c Ratio	1.04			0.73	0.18	0.01
Uniform Delay, d1	23.9			17.8	26.0	24.5
Progression Factor	1.00			0.53	1.00	1.00
Incremental Delay, d2	32.3			1.0	0.7	0.0
Delay (s)	56.2			10.3	26.8	24.6
Level of Service	E			B	C	C
Approach Delay (s)	56.2			10.3	26.6	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

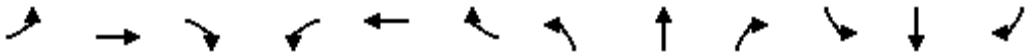
Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	43	111	7	18	29	71	18	11	8	13	73	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0				5.0			5.0			5.0
Lane Util. Factor		1.00				1.00			1.00			0.95
Frpb, ped/bikes		0.99				0.99			0.97			0.68
Flpb, ped/bikes		0.98				0.88			0.93			1.00
Frt		0.99				0.98			0.95			0.91
Flt Protected		0.99				0.98			0.98			0.98
Satd. Flow (prot)		1469				1096			1100			884
Flt Permitted		0.89				0.86			0.90			0.90
Satd. Flow (perm)		1322				957			1006			806
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	121	8	20	32	77	20	12	9	14	79	20
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	8	0	0	9
Lane Group Flow (vph)	0	176	0	0	0	143	0	0	27	0	0	240
Confl. Peds. (#/hr)	51		86	86	200		51	200		66		
Confl. Bikes (#/hr)			3							11		
Parking (#/hr)				10	10	10	10	10	10	10		
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		27.1				27.1			38.0			38.0
Effective Green, g (s)		27.1				27.1			38.0			38.0
Actuated g/C Ratio		0.30				0.30			0.42			0.42
Clearance Time (s)		5.0				5.0			5.0			5.0
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		398				288			424			340
v/s Ratio Prot												
v/s Ratio Perm		0.13				c0.15			0.03			c0.30
v/c Ratio		0.44				0.50			0.06			0.71
Uniform Delay, d1		25.4				25.8			15.4			21.4
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		3.5				1.3			0.1			6.6
Delay (s)		28.9				27.2			15.5			28.0
Level of Service		C				C			B			C
Approach Delay (s)		28.9				27.2			15.5			22.8
Approach LOS		C				C			B			C

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

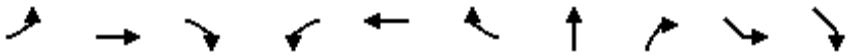
Movement	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations						
Volume (vph)	97	260	5	42	69	34
Ideal Flow (vphpl)	1800	1800	1800	1900	1800	1800
Total Lost time (s)		5.0		5.0		
Lane Util. Factor		0.95		1.00		
Frpb, ped/bikes		0.69		0.73		
Flpb, ped/bikes		1.00		0.93		
Frt		0.85		0.91		
Flt Protected		1.00		0.98		
Satd. Flow (prot)		853		975		
Flt Permitted		1.00		0.98		
Satd. Flow (perm)		853		975		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	283	5	46	75	37
RTOR Reduction (vph)	0	138	0	76	0	0
Lane Group Flow (vph)	0	100	0	87	0	0
Confl. Peds. (#/hr)	200	200		51		86
Confl. Bikes (#/hr)	12	12				
Parking (#/hr)						
Turn Type		Perm	Perm	NA		
Protected Phases				5		
Permitted Phases		4	5			
Actuated Green, G (s)		38.0		9.9		
Effective Green, g (s)		38.0		9.9		
Actuated g/C Ratio		0.42		0.11		
Clearance Time (s)		5.0		5.0		
Vehicle Extension (s)		3.0		3.0		
Lane Grp Cap (vph)		360		107		
v/s Ratio Prot						
v/s Ratio Perm		0.12		0.09		
v/c Ratio		0.28		0.82		
Uniform Delay, d1		17.0		39.2		
Progression Factor		1.00		1.00		
Incremental Delay, d2		0.4		36.2		
Delay (s)		17.5		75.4		
Level of Service		B		E		
Approach Delay (s)				75.4		
Approach LOS				E		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	63	0	0	887	45	63	136	121	4	0	205
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.96	1.00	0.99			1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1281			2047	698	1459	2672			1330	
Flt Permitted		0.66			1.00	1.00	0.63	1.00			0.99	
Satd. Flow (perm)		854			2047	698	973	2672			1324	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	66	0	0	934	47	66	143	127	4	0	216
RTOR Reduction (vph)	0	0	0	0	0	0	0	76	0	0	0	0
Lane Group Flow (vph)	0	100	0	0	934	47	66	194	0	0	220	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)						10						
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Effective Green, g (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Actuated g/C Ratio		0.43			0.43	0.43	0.40	0.40			0.40	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		370			887	302	389	1068			529	
v/s Ratio Prot					c0.46			0.07				
v/s Ratio Perm		0.12				0.07	0.07				c0.17	
v/c Ratio		0.27			1.05	0.16	0.17	0.18			0.42	
Uniform Delay, d1		10.9			17.0	10.3	11.6	11.6			13.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		1.8			45.1	1.1	0.9	0.4			2.4	
Delay (s)		12.7			62.1	11.4	12.5	12.0			15.4	
Level of Service		B			E	B	B	B			B	
Approach Delay (s)		12.7			59.7			12.1			15.4	
Approach LOS		B			E			B			B	

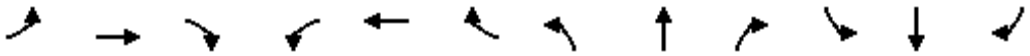
Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBT	NBR	SEL	SER
Lane Configurations										
Volume (vph)	177	238	154	12	105	108	171	78	190	52
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0		2.0		6.0	
Lane Util. Factor	1.00	0.95			1.00		1.00		0.97	
Frpb, ped/bikes	1.00	0.94			0.91		0.99		1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00		1.00	
Frt	1.00	0.94			0.94		0.96		0.97	
Flt Protected	0.95	1.00			1.00		1.00		0.96	
Satd. Flow (prot)	1459	2399			1309		1451		2774	
Flt Permitted	0.95	1.00			0.97		1.00		0.96	
Satd. Flow (perm)	1459	2399			1275		1451		2774	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	184	248	160	12	109	112	178	81	198	54
RTOR Reduction (vph)	0	105	0	0	137	0	18	0	0	0
Lane Group Flow (vph)	184	303	0	0	96	0	241	0	252	0
Confl. Peds. (#/hr)			152			154		25		
Confl. Bikes (#/hr)			30							
Parking (#/hr)		10	10							
Turn Type	Prot	NA		Perm	NA		NA		NA	
Protected Phases	5	2			6		8		4	
Permitted Phases				6						
Actuated Green, G (s)	6.0	25.0			15.0		20.0		19.0	
Effective Green, g (s)	8.0	28.0			17.0		23.0		19.0	
Actuated g/C Ratio	0.10	0.35			0.21		0.28		0.23	
Clearance Time (s)	6.0	6.0			4.0		5.0		6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0	
Lane Grp Cap (vph)	144	829			267		412		650	
v/s Ratio Prot	c0.13	c0.13					c0.17		c0.09	
v/s Ratio Perm					0.07					
v/c Ratio	1.28	0.37			0.36		0.59		0.39	
Uniform Delay, d1	36.5	19.9			27.3		24.9		26.1	
Progression Factor	1.00	1.00			1.00		1.00		1.00	
Incremental Delay, d2	167.8	0.3			0.8		2.1		0.4	
Delay (s)	204.3	20.1			28.2		27.0		26.5	
Level of Service	F	C			C		C		C	
Approach Delay (s)		77.4			28.2		27.0		26.5	
Approach LOS		E			C		C		C	

Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

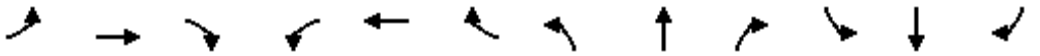
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	204	81	50	525	93	44	338	73	38	308	215
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.91			0.96			0.95			0.89	
Flpb, ped/bikes		0.96			0.98			0.99			0.99	
Frt		0.97			0.98			0.98			0.94	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		2267			2480			2642			2200	
Flt Permitted		0.61			0.89			0.87			0.90	
Satd. Flow (perm)		1400			2223			2313			1992	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	177	215	85	53	553	98	46	356	77	40	324	226
RTOR Reduction (vph)	0	17	0	0	15	0	0	23	0	0	9	0
Lane Group Flow (vph)	0	460	0	0	689	0	0	456	0	0	581	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			20			6			3			23
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		653			1037			1079			896	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.31			0.20			c0.29	
v/c Ratio		1.01dl			0.66			0.42			0.65	
Uniform Delay, d1		12.7			12.4			10.6			12.8	
Progression Factor		1.00			1.00			1.00			1.44	
Incremental Delay, d2		6.3			3.4			1.2			3.1	
Delay (s)		19.0			15.7			11.8			21.5	
Level of Service		B			B			B			C	
Approach Delay (s)		19.0			15.7			11.8			21.5	
Approach LOS		B			B			B			C	

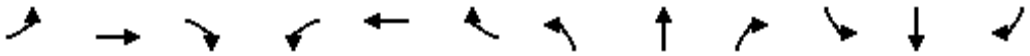
Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	354	561	48	0	0	0	0	510	177	12	521	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1000	1000	1000	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0	2.0		2.0	
Lane Util. Factor	*0.50	*0.50						*0.50	0.91		0.95	
Frpb, ped/bikes	1.00	0.98						0.99	0.71		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						0.99	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	750	1175						840	470		2689	
Flt Permitted	0.95	1.00						1.00	1.00		0.93	
Satd. Flow (perm)	750	1175						840	470		2504	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	381	603	52	0	0	0	0	548	190	13	560	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	2	9	0	0	0
Lane Group Flow (vph)	381	647	0	0	0	0	0	565	162	0	573	0
Confl. Peds. (#/hr)			400						400	400		
Confl. Bikes (#/hr)			1						17			
Parking (#/hr)	10	10	10								10	
Turn Type	Split	NA						NA	Perm	Perm	NA	
Protected Phases	2	2						4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	27.0	27.0						26.0	26.0		26.0	
Effective Green, g (s)	28.5	28.5						27.5	27.5		27.5	
Actuated g/C Ratio	0.48	0.48						0.46	0.46		0.46	
Clearance Time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Grp Cap (vph)	356	558						385	215		1147	
v/s Ratio Prot	0.51	c0.55						c0.67				
v/s Ratio Perm									0.34		0.23	
v/c Ratio	1.07	1.16						1.47	0.75		0.50	
Uniform Delay, d1	15.8	15.8						16.2	13.4		11.4	
Progression Factor	0.72	0.72						0.77	0.71		1.00	
Incremental Delay, d2	37.5	73.9						222.6	19.5		1.6	
Delay (s)	48.8	85.3						235.1	28.9		13.0	
Level of Service	D	F						F	C		B	
Approach Delay (s)		71.9			0.0			187.3			13.0	
Approach LOS		E			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	93.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	448	695	0	0	0	0	0	1662	315	0	0	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	*0.50						0.91	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.77			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1572	1237						3982	1004			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1572	1237						3982	1004			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	462	716	0	0	0	0	0	1713	325	0	0	0
RTOR Reduction (vph)	17	0	0	0	0	0	0	0	81	0	0	0
Lane Group Flow (vph)	445	716	0	0	0	0	0	1713	244	0	0	0
Confl. Peds. (#/hr)									297			
Confl. Bikes (#/hr)									10			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	26.3	26.3						24.3	24.3			
Effective Green, g (s)	27.8	27.8						25.8	25.8			
Actuated g/C Ratio	0.46	0.46						0.43	0.43			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	728	573						1712	431			
v/s Ratio Prot		c0.58						c0.43				
v/s Ratio Perm	0.28								0.24			
v/c Ratio	0.61	1.25						1.00	0.57			
Uniform Delay, d1	12.1	16.1						17.1	12.9			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	3.8	126.3						21.9	5.3			
Delay (s)	15.9	142.4						39.0	18.2			
Level of Service	B	F						D	B			
Approach Delay (s)		92.8			0.0			35.7			0.0	
Approach LOS		F			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	56.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	72.7%	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												
Volume (vph)	0	0	0	0	1622	118	326	1634	213	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.99		1.00	1.00	0.60			
Flpb, ped/bikes					1.00		0.81	1.00	1.00			
Frt					0.99		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4313		1240	4424	831			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4313		1240	4424	831			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	0	1655	120	333	1667	217	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	59	0	107	0	0	0
Lane Group Flow (vph)	0	0	0	0	1774	0	274	1667	110	0	0	0
Confl. Peds. (#/hr)						131	270		307			
Confl. Bikes (#/hr)						10			30			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1689		568	2027	373			
v/s Ratio Prot					c0.41			c0.38				
v/s Ratio Perm							0.22		0.13			
v/c Ratio					1.05		0.48	0.82	0.30			
Uniform Delay, d1					18.2		11.3	14.1	10.5			
Progression Factor					1.00		0.99	0.86	1.34			
Incremental Delay, d2					36.5		1.2	1.7	0.8			
Delay (s)					54.8		12.4	13.8	14.8			
Level of Service					D		B	B	B			
Approach Delay (s)		0.0			54.8			13.7			0.0	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	1731	323	365	1582	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0	7.5	1.4	1.4				
Lane Util. Factor					0.81	0.81	0.81	0.81				
Frpb, ped/bikes					0.99	0.68	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	0.71	0.99				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					4384	642	607	3565				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					4384	642	607	3565				
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	0	0	0	1748	326	369	1598	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	25	68	68	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1778	268	264	1567	0	0	0	0
Confl. Peds. (#/hr)						382	370					
Confl. Bikes (#/hr)						30						
Turn Type					NA	Perm	Perm	NA				
Protected Phases					6			8				
Permitted Phases						6	8					
Actuated Green, G (s)					23.5	23.5	21.6	21.6				
Effective Green, g (s)					26.0	25.5	25.6	25.6				
Actuated g/C Ratio					0.43	0.42	0.43	0.43				
Clearance Time (s)					9.5	9.5	5.4	5.4				
Lane Grp Cap (vph)					1899	272	258	1521				
v/s Ratio Prot					0.41							
v/s Ratio Perm						c0.42	0.44	0.44				
v/c Ratio					0.94	0.98	1.02	1.03				
Uniform Delay, d1					16.2	17.1	17.2	17.2				
Progression Factor					1.00	1.00	1.11	0.89				
Incremental Delay, d2					10.2	50.7	50.8	26.6				
Delay (s)					26.4	67.7	69.9	42.0				
Level of Service					C	E	E	D				
Approach Delay (s)		0.0			32.3			46.7			0.0	
Approach LOS		A			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	39.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

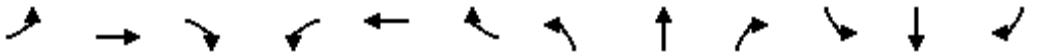
Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Volume (vph)	742	114	99	384	136	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	1.00	0.94	0.86
Frpb, ped/bikes	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5771		1459	1305	4118	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5771		1459	1305	4118	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	789	121	105	409	145	15
RTOR Reduction (vph)	31	0	71	0	0	0
Lane Group Flow (vph)	879	0	34	409	147	13
Confl. Peds. (#/hr)		143	776			
Confl. Bikes (#/hr)		10				
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	NA	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	23.5		26.8	26.8	19.5	19.5
Effective Green, g (s)	25.5		28.8	28.8	23.5	23.5
Actuated g/C Ratio	0.28		0.32	0.32	0.26	0.26
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1635		466	417	1075	292
v/s Ratio Prot	c0.15		0.02	c0.31	c0.04	
v/s Ratio Perm						0.01
v/c Ratio	0.54		0.07	0.98	0.14	0.04
Uniform Delay, d1	27.3		21.3	30.3	25.5	24.9
Progression Factor	0.39		1.22	0.76	1.00	1.00
Incremental Delay, d2	0.1		0.1	25.6	0.3	0.3
Delay (s)	10.7		26.1	48.7	25.7	25.1
Level of Service	B		C	D	C	C
Approach Delay (s)	10.7			44.1	25.7	
Approach LOS	B			D	C	

Intersection Summary			
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Volume (vph)	172	738	1141	544	951	288
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.81		0.81	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.99	0.98	0.97
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.93	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1050		4853	2120	1038	1126
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1050		4853	2120	1038	1126
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	176	753	1164	555	970	294
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	158	0	1935	1040	485	280
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					10	10
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	450		2081	1019	533	579
v/s Ratio Prot				c0.49		
v/s Ratio Perm	0.15		0.40		0.47	0.25
v/c Ratio	0.35		1.32dl	1.09dr	0.91	0.48
Uniform Delay, d1	17.3		24.4	23.4	19.9	14.1
Progression Factor	1.00		1.00	1.64	1.85	2.03
Incremental Delay, d2	2.1		8.9	22.1	9.6	1.0
Delay (s)	19.4		33.3	60.5	46.5	29.6
Level of Service	B		C	E	D	C
Approach Delay (s)			32.3	51.8		
Approach LOS			C	D		

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	112.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



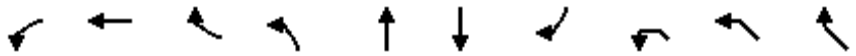
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	697	1429	0	0	0	0	0	1133	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.95	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.98	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4933						4628	694
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4933						4628	694
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	711	1458	0	0	0	0	0	1156	469
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	419	1750	0	0	0	0	0	1334	291
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						26.0	26.0
Effective Green, g (s)				33.5	33.5						28.0	28.0
Actuated g/C Ratio				0.37	0.37						0.31	0.31
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				439	1836						1439	215
v/s Ratio Prot				c0.35	0.35						0.29	
v/s Ratio Perm												c0.42
v/c Ratio				0.95	0.95						0.93	1.35
Uniform Delay, d1				27.5	27.5						30.0	31.0
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				32.9	12.5						11.7	186.4
Delay (s)				60.5	40.0						41.7	217.4
Level of Service				E	D						D	F
Approach Delay (s)		0.0			44.0			0.0			73.2	
Approach LOS		A			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	56.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Volume (vph)	16	459	568	45	338	362	24	255	129	617
Ideal Flow (vphpl)	1000	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.99		0.84		0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00		1.00	1.00
Frt		1.00	0.99		0.92		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	0.99
Satd. Flow (prot)		1313	1914		2136		1163		1327	2541
Flt Permitted		0.95	1.00		1.00		1.00		0.15	0.63
Satd. Flow (perm)		1313	1914		2136		1163		207	1615
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	494	611	48	363	389	26	274	139	663
RTOR Reduction (vph)	0	0	8	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	457	705	0	755	0	6	0	306	770
Confl. Peds. (#/hr)	25			60		200				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Split	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases	2	2	2		8			7	7	4
Permitted Phases							8	4	4	
Actuated Green, G (s)		22.5	22.5		23.0		23.0		42.0	42.0
Effective Green, g (s)		22.5	25.0		24.5		23.0		43.5	43.5
Actuated g/C Ratio		0.25	0.28		0.27		0.26		0.48	0.48
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		328	531		581		297		305	950
v/s Ratio Prot		0.35	c0.37		c0.35				c0.18	0.15
v/s Ratio Perm							0.01		0.30	0.24
v/c Ratio		1.39	1.33		1.42dr		0.02		1.00	0.81
Uniform Delay, d1		33.8	32.5		32.8		25.1		31.1	19.7
Progression Factor		1.00	1.00		1.00		1.00		1.11	1.17
Incremental Delay, d2		194.7	160.2		147.1		0.1		16.2	0.7
Delay (s)		228.4	192.7		179.8		25.2		50.9	23.8
Level of Service		F	F		F		C		D	C
Approach Delay (s)			206.6		175.3					31.5
Approach LOS			F		F					C

Intersection Summary			
HCM 2000 Control Delay	136.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Volume (vph)	272	1171	161	52	302	537	219	192	722	265
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.96			0.99	0.87
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5749			2857	2464			3416	978
Flt Permitted		0.99			0.66	1.00			0.95	1.00
Satd. Flow (perm)		5749			1899	2464			3416	978
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	296	1259	173	56	325	577	235	209	776	285
RTOR Reduction (vph)	0	22	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1706	0	0	381	808	0	0	1014	256
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			10				10			10
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10				10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	NA	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1852			590	766			1024	293
v/s Ratio Prot						c0.33				
v/s Ratio Perm		0.30			0.20				0.30	0.26
v/c Ratio		0.92			0.65	1.05			0.99	0.87
Uniform Delay, d1		29.4			26.7	31.0			31.4	29.9
Progression Factor		1.48			0.05	1.00			1.00	1.00
Incremental Delay, d2		6.6			0.5	47.9			25.9	28.4
Delay (s)		50.1			2.0	78.9			57.2	58.2
Level of Service		D			A	E			E	E
Approach Delay (s)		50.1			2.0	78.9			57.4	
Approach LOS		D			A	E			E	

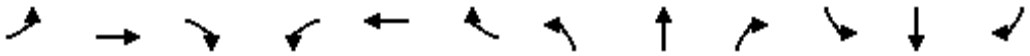
Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	108.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	8	146	972	4	32	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.96	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3075		1480	3079
Flt Permitted	0.95	1.00	1.00		0.23	1.00
Satd. Flow (perm)	1540	1378	3075		355	3079
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	160	1068	4	35	138
RTOR Reduction (vph)	0	45	0	0	0	0
Lane Group Flow (vph)	9	115	1072	0	35	138
Confl. Peds. (#/hr)	87			209	209	
Confl. Bikes (#/hr)				21		
Turn Type	NA	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2091		241	2093
v/s Ratio Prot	0.01		c0.35			0.04
v/s Ratio Perm		c0.08			0.10	
v/c Ratio	0.03	0.36	0.51		0.15	0.07
Uniform Delay, d1	32.6	35.3	8.6		6.2	5.9
Progression Factor	1.00	1.00	1.00		1.33	0.32
Incremental Delay, d2	0.1	3.1	0.9		1.2	0.1
Delay (s)	32.7	38.4	9.5		9.5	2.0
Level of Service	C	D	A		A	A
Approach Delay (s)	38.1		9.5			3.5
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	80.2%	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												
Volume (vph)	7	12	50	19	10	67	20	768	18	12	154	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.91		1.00	1.00		1.00	0.99	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1586	1353		1426		1540	3060		1540	3035	
Flt Permitted		0.93	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1508	1353		1376		1540	3060		1540	3035	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	13	53	20	11	71	21	808	19	13	162	14
RTOR Reduction (vph)	0	0	36	0	48	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	20	17	0	54	0	21	825	0	13	170	0
Confl. Peds. (#/hr)	15		5	5		15			64			14
Confl. Bikes (#/hr)			2			1			16			14
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		484	434		441		227	1086		254	1138	
v/s Ratio Prot							0.01	c0.27		0.01	c0.06	
v/s Ratio Perm		0.01	0.01		c0.04							
v/c Ratio		0.04	0.04		0.12		0.09	0.76		0.05	0.15	
Uniform Delay, d1		23.4	23.3		24.0		36.8	28.5		35.2	20.7	
Progression Factor		1.00	1.00		1.00		1.65	0.85		1.00	1.00	
Incremental Delay, d2		0.2	0.2		0.6		0.5	3.2		0.4	0.3	
Delay (s)		23.5	23.5		24.6		61.3	27.5		35.5	21.0	
Level of Service		C	C		C		E	C		D	C	
Approach Delay (s)		23.5			24.6			28.3			22.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	4	7	9	6	23	9	804	8	11	196	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.92		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1475			1446		1540	3071		1540	3073	
Flt Permitted		0.96			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1432			1402		1540	3071		1540	3073	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	4	8	10	7	25	10	884	9	12	215	2
RTOR Reduction (vph)	0	5	0	0	17	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	12	0	0	25	0	10	892	0	12	216	0
Confl. Peds. (#/hr)	16		9	9		16			50			20
Confl. Bikes (#/hr)						1			22			13
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		468			458		231	1133		229	1133	
v/s Ratio Prot							0.01	c0.29		0.01	c0.07	
v/s Ratio Perm		0.01			c0.02							
v/c Ratio		0.02			0.05		0.04	0.79		0.05	0.19	
Uniform Delay, d1		22.8			23.1		36.4	28.1		36.5	21.4	
Progression Factor		1.00			1.00		1.55	0.58		0.66	0.70	
Incremental Delay, d2		0.1			0.2		0.3	5.2		0.4	0.4	
Delay (s)		22.9			23.3		56.5	21.4		24.7	15.5	
Level of Service		C			C		E	C		C	B	
Approach Delay (s)		22.9			23.3			21.8			15.9	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

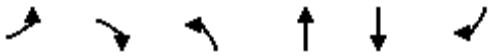
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	6	10	3	1	30	7	57	4	70	110	10
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	1.00	1.00	1.00		1.00	0.98	
Flpb, ped/bikes		0.99			1.00	1.00	0.84	1.00		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1329			1395	1230	1161	1431		1377	1406	
Flt Permitted		1.00			1.00	1.00	1.00	1.00		0.95	1.00	
Satd. Flow (perm)		1365			1447	1230	1223	1431		1377	1406	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	6	11	3	1	32	8	61	4	75	118	11
RTOR Reduction (vph)	0	11	0	0	0	16	0	4	0	0	3	0
Lane Group Flow (vph)	0	26	0	0	4	16	8	61	0	75	126	0
Confl. Peds. (#/hr)	28		3	3		28	213		19			213
Confl. Bikes (#/hr)			1						18			10
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		1.2			1.2	19.0	3.0	3.0		17.8	25.8	
Effective Green, g (s)		1.2			1.2	19.0	3.0	3.0		17.8	25.8	
Actuated g/C Ratio		0.03			0.03	0.51	0.08	0.08		0.48	0.70	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		44			46	797	99	116		662	980	
v/s Ratio Prot						0.01		c0.04		0.05	c0.09	
v/s Ratio Perm		c0.02			0.00	0.00	0.01					
v/c Ratio		0.60			0.09	0.02	0.08	0.53		0.11	0.13	
Uniform Delay, d1		17.7			17.4	4.4	15.7	16.3		5.3	1.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		20.0			0.8	0.0	0.4	4.3		0.1	0.1	
Delay (s)		37.7			18.2	4.4	16.1	20.6		5.3	1.9	
Level of Service		D			B	A	B	C		A	A	
Approach Delay (s)		37.7			6.0			20.1			3.2	
Approach LOS		D			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	37.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Sign Control	Stop				Stop	Stop	
Volume (vph)	2	20	1	19	131	116	11
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	2	24	0	23	156	138	13

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	2	24	75	104	92	59
Volume Left (vph)	2	0	23	0	0	0
Volume Right (vph)	0	24	0	0	0	13
Hadj (s)	0.53	-0.67	0.19	0.03	0.03	-0.12
Departure Headway (s)	5.8	4.6	4.9	4.7	4.7	4.6
Degree Utilization, x	0.00	0.03	0.10	0.14	0.12	0.08
Capacity (veh/h)	584	733	726	750	742	770
Control Delay (s)	7.6	6.5	7.2	7.2	7.2	6.7
Approach Delay (s)	6.6		7.2		7.0	
Approach LOS	A		A		A	

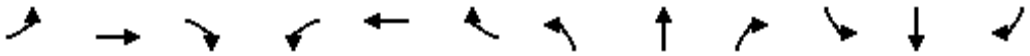
Intersection Summary			
Delay	7.1		
Level of Service	A		
Intersection Capacity Utilization	24.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	150	197	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	176	232	0
Pedestrians	25			1	1	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	346	142	257			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	346	142	257			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	612	863	1280			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	59	118	155	77
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1280	1700	1700	1700
Volume to Capacity	0.00	0.00	0.07	0.09	0.05
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A				

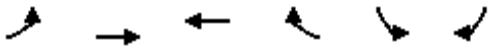
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	43	257	3	71	47	254	556	5	18	348	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	0.95		1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.97	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.94		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1494	2615		1528	1491		2987	3074		1540	2919	
Flt Permitted	0.67	1.00		0.53	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1059	2615		852	1491		2987	3074		1540	2919	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	86	47	282	3	78	52	279	611	5	20	382	160
RTOR Reduction (vph)	0	185	0	0	24	0	0	1	0	0	46	0
Lane Group Flow (vph)	86	144	0	3	106	0	279	615	0	20	496	0
Confl. Peds. (#/hr)	41		14	14		41			39			8
Confl. Bikes (#/hr)			9			10			4			14
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	34.5	34.5		34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5		34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	365	902		293	514		418	1161		184	1045	
v/s Ratio Prot		0.06			0.07		c0.09	c0.20		0.01	c0.17	
v/s Ratio Perm	c0.08			0.00								
v/c Ratio	0.24	0.16		0.01	0.21		0.67	0.53		0.11	0.47	
Uniform Delay, d1	23.3	22.7		21.5	23.1		40.8	24.2		39.2	24.8	
Progression Factor	1.00	1.00		1.00	1.00		0.63	0.73		0.76	0.61	
Incremental Delay, d2	1.5	0.4		0.1	0.9		6.8	1.4		1.2	1.5	
Delay (s)	24.9	23.1		21.6	24.0		32.6	19.1		31.0	16.7	
Level of Service	C	C		C	C		C	B		C	B	
Approach Delay (s)		23.5			23.9			23.3			17.2	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

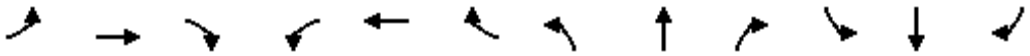
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	117	289	486	72	102	163
Ideal Flow (vphpl)	1700	1700	1600	1600	1600	1600
Lane Width	8	11	11	11	11	11
Total Lost time (s)	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1235	2755	2521		2515	1145
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1235	2755	2521		2515	1145
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	122	301	506	75	106	170
RTOR Reduction (vph)	0	0	11	0	0	138
Lane Group Flow (vph)	122	301	570	0	106	32
Confl. Peds. (#/hr)				17		3
Confl. Bikes (#/hr)				36		
Turn Type	Prot	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	4.1	24.6	15.5		8.0	8.0
Effective Green, g (s)	4.1	24.6	15.5		8.0	8.0
Actuated g/C Ratio	0.10	0.58	0.36		0.19	0.19
Clearance Time (s)	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	118	1590	917		472	215
v/s Ratio Prot	c0.10	0.11	c0.23		c0.04	
v/s Ratio Perm						0.03
v/c Ratio	1.03	0.19	0.62		0.22	0.15
Uniform Delay, d1	19.2	4.3	11.1		14.7	14.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	92.2	0.1	1.3		0.2	0.3
Delay (s)	111.5	4.3	12.5		14.9	14.8
Level of Service	F	A	B		B	B
Approach Delay (s)		35.2	12.5		14.8	
Approach LOS		D	B		B	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	42.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



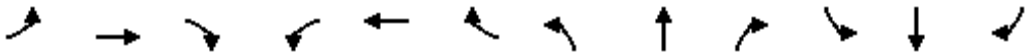
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	47	289	75	58	320	290	71	329	38	68	138	35
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		*0.80			*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	
Frpb, ped/bikes		0.99			1.00	0.93	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected		0.99			0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1995			2233	891	1070	957	939	1070	1085	
Flt Permitted		0.85			0.77	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1698			1742	891	1070	957	939	1070	1085	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	50	307	80	62	340	309	76	350	40	72	147	37
RTOR Reduction (vph)	0	14	0	0	0	108	0	0	25	0	8	0
Lane Group Flow (vph)	0	423	0	0	402	201	76	350	15	72	176	0
Confl. Peds. (#/hr)	28		6	6		28			4			11
Confl. Bikes (#/hr)			9			50			7			15
Parking (#/hr)		10	10					10				
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2			6		6			8			
Actuated Green, G (s)		26.8			26.8	38.0	16.6	31.7	31.7	11.2	26.3	
Effective Green, g (s)		26.8			26.8	38.0	16.6	31.7	31.7	11.2	26.3	
Actuated g/C Ratio		0.32			0.32	0.45	0.20	0.37	0.37	0.13	0.31	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		537			551	452	209	358	351	141	336	
v/s Ratio Prot						0.06	0.07	c0.37		0.07	c0.16	
v/s Ratio Perm		c0.25			0.23	0.17			0.02			
v/c Ratio		0.79			0.73	0.44	0.36	0.98	0.04	0.51	0.53	
Uniform Delay, d1		26.4			25.7	16.1	29.5	26.2	16.9	34.2	24.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		7.5			4.8	0.7	1.1	41.1	0.1	3.1	1.5	
Delay (s)		33.9			30.5	16.8	30.6	67.3	16.9	37.3	25.5	
Level of Service		C			C	B	C	E	B	D	C	
Approach Delay (s)		33.9			24.6			57.0			28.8	
Approach LOS		C			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	26	67	781	29	57	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2364	3079	1349	1540	1621
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2364	3079	1349	1540	1621
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	73	849	32	62	233
RTOR Reduction (vph)	0	67	0	7	0	0
Lane Group Flow (vph)	28	6	849	25	62	233
Confl. Peds. (#/hr)	60	1		5		
Confl. Bikes (#/hr)		1		30		
Turn Type	NA	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	5.4	5.4	35.0	30.0	6.5	46.5
Effective Green, g (s)	5.4	5.4	35.0	30.0	6.5	46.5
Actuated g/C Ratio	0.09	0.09	0.57	0.48	0.11	0.75
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	134	206	1740	762	161	1217
v/s Ratio Prot	c0.02		c0.28	0.01	c0.04	0.14
v/s Ratio Perm		0.00		0.01		
v/c Ratio	0.21	0.03	0.49	0.03	0.39	0.19
Uniform Delay, d1	26.3	25.9	8.1	8.4	25.8	2.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.1	0.2	0.0	1.5	0.1
Delay (s)	27.0	25.9	8.3	8.4	27.4	2.3
Level of Service	C	C	A	A	C	A
Approach Delay (s)	26.2		8.3			7.6
Approach LOS	C		A			A

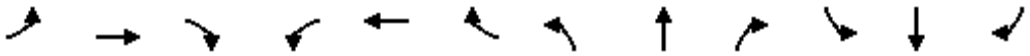
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	61.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	19	74	39	45	162	2	31	116	78	11	51	51
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
Hourly flow rate (vph)	21	82	43	50	180	2	34	129	87	12	57	57

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	147	50	182	163	87	126
Volume Left (vph)	21	50	0	34	0	12
Volume Right (vph)	43	0	2	0	87	57
Hadj (s)	-0.11	0.53	0.03	0.14	-0.67	-0.22
Departure Headway (s)	5.8	6.3	5.8	5.9	5.1	5.8
Degree Utilization, x	0.24	0.09	0.29	0.27	0.12	0.20
Capacity (veh/h)	579	539	589	578	661	580
Control Delay (s)	10.6	8.7	9.9	9.9	7.6	10.2
Approach Delay (s)	10.6	9.7		9.1		10.2
Approach LOS	B	A		A		B

Intersection Summary				
Delay	9.7			
Level of Service	A			
Intersection Capacity Utilization	44.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	69	40	19	202	11	38	743	35	16	342	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94			0.99		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1669	1677			3369		1711	3391		1711	3168	
Flt Permitted	0.60	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1045	1677			3141		1711	3391		1711	3168	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	139	73	43	20	215	12	40	790	37	17	364	249
RTOR Reduction (vph)	0	21	0	0	4	0	0	4	0	0	121	0
Lane Group Flow (vph)	139	95	0	0	243	0	40	823	0	17	492	0
Confl. Peds. (#/hr)	34		24	24		34			16			15
Confl. Bikes (#/hr)			2			6			6			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	310	498			932		289	1353		254	1200	
v/s Ratio Prot		0.06					0.02	c0.24		0.01	c0.16	
v/s Ratio Perm	c0.13				0.08							
v/c Ratio	0.45	0.19			0.26		0.14	0.61		0.07	0.41	
Uniform Delay, d1	28.5	26.2			26.8		35.4	23.9		36.6	22.8	
Progression Factor	1.00	1.00			1.00		1.01	0.94		1.53	0.95	
Incremental Delay, d2	4.6	0.8			0.7		0.7	1.4		0.5	1.0	
Delay (s)	33.1	27.0			27.5		36.3	23.9		56.5	22.7	
Level of Service	C	C			C		D	C		E	C	
Approach Delay (s)		30.4			27.5			24.5			23.6	
Approach LOS		C			C			C			C	

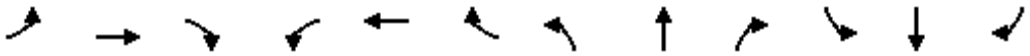
Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	84	0	0	639	482	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5			3.5	3.5	3.5
Lane Util. Factor	0.95			0.95	1.00	0.95
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3421			3421	1709	1454
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3421			3421	1709	1454
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	86	0	0	652	492	184
RTOR Reduction (vph)	0	0	0	0	1	109
Lane Group Flow (vph)	86	0	0	652	509	57
Turn Type	NA			NA	NA	Perm
Protected Phases	2			6	4	
Permitted Phases						4
Actuated Green, G (s)	52.0			52.0	31.0	31.0
Effective Green, g (s)	52.0			52.0	31.0	31.0
Actuated g/C Ratio	0.58			0.58	0.34	0.34
Clearance Time (s)	3.5			3.5	3.5	3.5
Lane Grp Cap (vph)	1976			1976	588	500
v/s Ratio Prot	0.03			c0.19	c0.30	
v/s Ratio Perm						0.04
v/c Ratio	0.04			0.33	0.87	0.11
Uniform Delay, d1	8.2			9.9	27.5	20.1
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.0			0.4	15.6	0.5
Delay (s)	8.3			10.4	43.2	20.6
Level of Service	A			B	D	C
Approach Delay (s)	8.3			10.4	37.6	
Approach LOS	A			B	D	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	152.3%	ICU Level of Service	H
Analysis Period (min)	15		

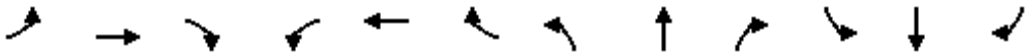
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱								↑	↱
Volume (veh/h)	0	86	596	0	0	0	0	0	0	0	485	628
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Hourly flow rate (vph)	0	89	614	0	0	0	0	0	0	0	527	683
Pedestrians								5				
Lane Width (ft)								0.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	527	527	532	1191	1210	0	1210			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	527	527	532	1191	1210	0	1210			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	81	0	0	100	100	100			100		
cM capacity (veh/h)	462	456	547	0	183	1085	577			1623		

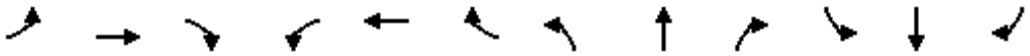
Direction, Lane #	EB 1	EB 2	SB 1	SB 2
Volume Total	89	614	527	683
Volume Left	0	0	0	0
Volume Right	0	614	0	683
cSH	456	547	1700	1700
Volume to Capacity	0.19	1.12	0.31	0.40
Queue Length 95th (ft)	18	499	0	0
Control Delay (s)	14.8	103.1	0.0	0.0
Lane LOS	B	F		
Approach Delay (s)	91.9		0.0	
Approach LOS	F			

Intersection Summary				
Average Delay	33.8			
Intersection Capacity Utilization	152.3%	ICU Level of Service	H	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	11	52	18	42	24	0	705	44	0	564	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1200	1200	1200	1200	1200	1200
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			*0.70			*0.70	
Frpb, ped/bikes		0.93			0.96			0.98			0.98	
Flpb, ped/bikes		0.97			0.98			1.00			1.00	
Frt		0.93			0.96			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1168			1275			1310			1310	
Flt Permitted		0.84			0.92			1.00			1.00	
Satd. Flow (perm)		997			1179			1310			1310	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	39	12	56	19	45	26	0	758	47	0	606	37
RTOR Reduction (vph)	0	49	0	0	19	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	58	0	0	71	0	0	803	0	0	641	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		11.9			11.9			78.2			78.2	
Effective Green, g (s)		11.9			11.9			78.2			78.2	
Actuated g/C Ratio		0.12			0.12			0.78			0.78	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		118			140			1024			1024	
v/s Ratio Prot								c0.61			0.49	
v/s Ratio Perm		0.06			c0.06							
v/c Ratio		0.49			0.51			0.78			0.63	
Uniform Delay, d1		41.2			41.3			6.1			4.7	
Progression Factor		1.00			1.00			1.20			0.64	
Incremental Delay, d2		3.2			3.1			5.0			2.8	
Delay (s)		44.4			44.4			12.4			5.8	
Level of Service		D			D			B			A	
Approach Delay (s)		44.4			44.4			12.4			5.8	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



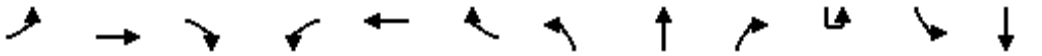
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	184	135	181	7	204	13	176	539	16	17	482	125
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.96	
Flpb, ped/bikes	0.98	1.00		0.94	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.99		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1188	1952		1139	1257		1215	2412		1215	2272	
Flt Permitted	0.36	1.00		0.55	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	454	1952		662	1257		1215	2412		1215	2272	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	192	141	189	7	212	14	183	561	17	18	502	130
RTOR Reduction (vph)	0	122	0	0	2	0	0	2	0	0	24	0
Lane Group Flow (vph)	192	208	0	7	224	0	183	576	0	18	608	0
Confl. Peds. (#/hr)	100		100	100		100			100			100
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	35.5	35.5		21.9	21.9		17.3	43.8		4.4	30.9	
Effective Green, g (s)	35.5	35.5		21.9	21.9		17.3	43.8		4.4	30.9	
Actuated g/C Ratio	0.36	0.36		0.22	0.22		0.17	0.44		0.04	0.31	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	222	692		144	275		210	1056		53	702	
v/s Ratio Prot	c0.07	0.11			0.18		c0.15	0.24		0.01	c0.27	
v/s Ratio Perm	c0.24			0.01								
v/c Ratio	0.86	0.30		0.05	0.81		0.87	0.55		0.34	0.87	
Uniform Delay, d1	29.2	23.3		30.8	37.1		40.3	20.8		46.4	32.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.08	1.10	
Incremental Delay, d2	27.7	0.2		0.1	16.6		30.2	2.0		3.1	11.3	
Delay (s)	56.8	23.5		31.0	53.7		70.5	22.8		53.0	47.3	
Level of Service	E	C		C	D		E	C		D	D	
Approach Delay (s)		35.8			53.0			34.3			47.4	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection LOS Calculations

Baseline

FEHR PEERS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	113	4	158	0	5	3	119	1096	2	10	16	1010
Future Volume (vph)	113	4	158	0	5	3	119	1096	2	10	16	1010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5			5.9	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.97			0.99		1.00	1.00			1.00	1.00
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.85			0.95		1.00	1.00			1.00	1.00
Flt Protected	0.95	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1501	1342			1517		1540	2846			1540	3079
Flt Permitted	0.75	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1189	1342			1517		1540	2846			1540	3079
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	4	166	0	5	3	125	1154	2	11	17	1063
RTOR Reduction (vph)	0	109	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	119	61	0	0	6	0	125	1156	0	0	28	1063
Confl. Peds. (#/hr)	29		22	22		29			125			
Confl. Bikes (#/hr)									145			
Parking (#/hr)								10	10			
Turn Type	Perm	NA			NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5			15.1	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5			15.1	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34			0.14	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5			5.9	5.2
Lane Grp Cap (vph)	411	464			525		231	970			211	1030
v/s Ratio Prot		0.05			0.00		0.08	c0.41			0.02	c0.35
v/s Ratio Perm	c0.10											
v/c Ratio	0.29	0.13			0.01		0.54	1.19			0.13	1.03
Uniform Delay, d1	26.1	24.6			23.6		43.2	36.2			41.7	36.6
Progression Factor	1.00	1.00			1.00		0.88	0.79			1.00	1.00
Incremental Delay, d2	1.8	0.6			0.0		4.4	91.6			1.3	36.6
Delay (s)	27.9	25.2			23.6		42.6	120.1			43.0	73.2
Level of Service	C	C			C		D	F			D	E
Approach Delay (s)		26.3			23.6			112.6				70.0
Approach LOS		C			C			F				E

Intersection Summary			
HCM 2000 Control Delay	85.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	55
Future Volume (vph)	55
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.2
Lane Util. Factor	1.00
Frpb, ped/bikes	0.71
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	976
Flt Permitted	1.00
Satd. Flow (perm)	976
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	58
RTOR Reduction (vph)	39
Lane Group Flow (vph)	19
Confl. Peds. (#/hr)	88
Confl. Bikes (#/hr)	148
Parking (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	36.8
Effective Green, g (s)	36.8
Actuated g/C Ratio	0.33
Clearance Time (s)	5.2
Lane Grp Cap (vph)	326
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.06
Uniform Delay, d1	24.9
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	25.2
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	142	18	1	16	1054	3	1078	151
Future Volume (vph)	142	18	1	16	1054	3	1078	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9		6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.93		1.00	1.00	1.00	1.00	0.74
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1309	1090		1540	3079	1540	3079	1018
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1309	1090		1540	3079	1540	3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	153	19	1	17	1133	3	1159	162
RTOR Reduction (vph)	0	8	0	0	0	0	0	50
Lane Group Flow (vph)	153	11	0	18	1133	3	1159	112
Confl. Peds. (#/hr)	49	67						214
Confl. Bikes (#/hr)								137
Parking (#/hr)	10	10						
Turn Type	Prot	Perm	Prot	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	5	2	1	6	
Permitted Phases		4						6
Actuated Green, G (s)	38.1	38.1		15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1		15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35		0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9		6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	453	377		215	1226	140	1035	342
v/s Ratio Prot	c0.12			0.01	c0.37	0.00	c0.38	
v/s Ratio Perm		0.01						0.11
v/c Ratio	0.34	0.03		0.08	0.92	0.02	1.12	0.33
Uniform Delay, d1	26.6	23.7		41.2	31.5	45.5	36.5	27.2
Progression Factor	1.00	1.00		0.60	0.57	0.70	0.58	0.33
Incremental Delay, d2	2.0	0.1		0.4	7.9	0.1	60.7	1.2
Delay (s)	28.6	23.9		25.0	25.8	31.8	82.0	10.2
Level of Service	C	C		C	C	C	F	B
Approach Delay (s)	28.1				25.8		73.1	
Approach LOS	C				C		E	

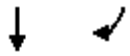
Intersection Summary			
HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	59	3	12	3	4	2	7	12	1015	4	4	14
Future Volume (vph)	59	3	12	3	4	2	7	12	1015	4	4	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600
Total Lost time (s)		7.0			7.0			7.0	7.0			5.8
Lane Util. Factor		1.00			1.00			1.00	0.95			1.00
Frpb, ped/bikes		0.99			0.99			1.00	1.00			1.00
Flpb, ped/bikes		0.97			0.99			1.00	1.00			1.00
Frt		0.98			0.97			1.00	1.00			1.00
Flt Protected		0.96			0.98			0.95	1.00			0.95
Satd. Flow (prot)		1472			1516			1540	3075			1296
Flt Permitted		0.79			0.95			0.27	1.00			0.43
Satd. Flow (perm)		1205			1464			432	3075			593
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	61	3	12	3	4	2	7	12	1057	4	4	15
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	70	0	0	8	0	0	20	1061	0	0	19
Confl. Peds. (#/hr)	39		36	36		39				84		
Confl. Bikes (#/hr)										96		
Turn Type	Perm	NA		Perm	NA		Perm	Prot	NA		Perm	Prot
Protected Phases		4			8			5	2			1
Permitted Phases	4			8			2				6	
Actuated Green, G (s)		38.0			38.0			15.0	43.0			9.2
Effective Green, g (s)		38.0			38.0			15.0	43.0			9.2
Actuated g/C Ratio		0.35			0.35			0.14	0.39			0.08
Clearance Time (s)		7.0			7.0			7.0	7.0			5.8
Lane Grp Cap (vph)		416			505			58	1202			49
v/s Ratio Prot									c0.35			
v/s Ratio Perm		c0.06			0.01			0.05				0.03
v/c Ratio		0.17			0.02			0.34	0.88			0.39
Uniform Delay, d1		25.0			23.7			43.0	31.2			47.7
Progression Factor		1.00			1.00			0.58	0.31			1.28
Incremental Delay, d2		0.9			0.1			8.5	5.5			2.1
Delay (s)		25.9			23.7			33.4	15.3			63.2
Level of Service		C			C			C	B			E
Approach Delay (s)		25.9			23.7				15.6			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	85.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



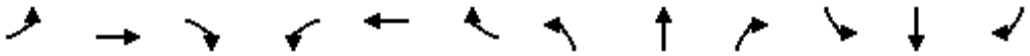
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1001	99
Future Volume (vph)	1001	99
Ideal Flow (vphpl)	1600	1600
Total Lost time (s)	5.4	
Lane Util. Factor	0.95	
Frpb, ped/bikes	0.98	
Flpb, ped/bikes	1.00	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	2498	
Flt Permitted	1.00	
Satd. Flow (perm)	2498	
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1043	103
RTOR Reduction (vph)	7	0
Lane Group Flow (vph)	1139	0
Confl. Peds. (#/hr)		103
Confl. Bikes (#/hr)		102
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	37.6	
Effective Green, g (s)	37.6	
Actuated g/C Ratio	0.34	
Clearance Time (s)	5.4	
Lane Grp Cap (vph)	853	
v/s Ratio Prot	c0.46	
v/s Ratio Perm		
v/c Ratio	1.34	
Uniform Delay, d1	36.2	
Progression Factor	0.12	
Incremental Delay, d2	151.9	
Delay (s)	156.0	
Level of Service	F	
Approach Delay (s)	154.5	
Approach LOS	F	

Intersection Summary

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	4	120	997	4	978	24	4	281
Future Volume (vph)	4	120	997	4	978	24	4	281
Ideal Flow (vphpl)	1900	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)		6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor		1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00
Frt		1.00	1.00	1.00	1.00		1.00	0.85
Flt Protected		0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1459	2917	1540	2679		1459	1144
Flt Permitted		0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1459	2917	1540	2679		1459	1144
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	4	124	1028	4	1008	25	4	290
RTOR Reduction (vph)	0	0	0	0	1	0	0	189
Lane Group Flow (vph)	0	128	1028	4	1032	0	4	101
Confl. Peds. (#/hr)						99	56	132
Confl. Bikes (#/hr)						89		
Parking (#/hr)					10	10		
Turn Type	Prot	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	5	2	1	6		4	
Permitted Phases								4
Actuated Green, G (s)		15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)		15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio		0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)		6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)		204	1188	117	886		506	397
v/s Ratio Prot		0.09	c0.35	0.00	c0.39		0.00	
v/s Ratio Perm								c0.09
v/c Ratio		0.63	0.87	0.03	1.16		0.01	0.25
Uniform Delay, d1		44.6	29.8	47.0	36.8		23.5	25.7
Progression Factor		0.59	0.79	0.42	0.23		1.00	1.00
Incremental Delay, d2		8.0	5.1	0.0	75.3		0.0	1.5
Delay (s)		34.2	28.7	19.8	83.8		23.5	27.2
Level of Service		C	C	B	F		C	C
Approach Delay (s)			29.3		83.5		27.2	
Approach LOS			C		F		C	

Intersection Summary			
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		

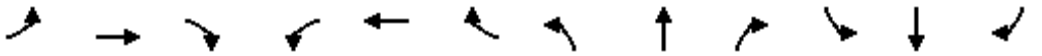
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	688	818	50	435	724	31	53	971	384	0	0	0
Future Volume (vph)	688	818	50	435	724	31	53	971	384	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3033		2987	3028			5542	1265			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3033		2987	3028			5542	1265			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	732	870	53	463	770	33	56	1033	409	0	0	0
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	225	0	0	0
Lane Group Flow (vph)	732	919	0	463	800	0	0	1089	184	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	20.5	37.2		16.6	34.8			35.8	35.8			
Effective Green, g (s)	20.5	37.2		16.6	34.8			35.8	35.8			
Actuated g/C Ratio	0.19	0.34		0.15	0.32			0.33	0.33			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	809	1025		450	957			1803	411			
v/s Ratio Prot	0.17	c0.30		0.16	c0.26							
v/s Ratio Perm								0.20	0.15			
v/c Ratio	0.90	0.90		1.03	0.84			0.60	0.45			
Uniform Delay, d1	43.8	34.6		46.7	35.0			31.1	29.3			
Progression Factor	0.93	0.92		1.10	0.33			1.25	2.70			
Incremental Delay, d2	4.3	3.8		21.0	0.6			0.5	0.6			
Delay (s)	44.9	35.6		72.4	12.0			39.4	79.7			
Level of Service	D	D		E	B			D	E			
Approach Delay (s)		39.7			34.1			50.4			0.0	
Approach LOS		D			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
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)	86	1333	14	51	760	27	7	54	35	87	820	203
Future Volume (vph)	86	1333	14	51	760	27	7	54	35	87	820	203
Ideal Flow (vphpl)	1500	1500	1500	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	1.00		1.00	0.98			1.00	0.71	1.00	0.99	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.74	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1215	3481		1459	2846			1510	911	1084	2755	669
Flt Permitted	0.95	1.00		0.95	1.00			0.86	1.00	0.71	1.00	1.00
Satd. Flow (perm)	1215	3481		1459	2846			1305	911	815	2755	669
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	92	1433	15	55	817	29	8	58	38	94	882	218
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	25	0	1	113
Lane Group Flow (vph)	92	1447	0	55	844	0	0	66	13	94	903	83
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	11.5	39.9		12.0	38.8			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	11.5	39.9		12.0	38.8			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.10	0.36		0.11	0.35			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	127	1262		159	1003			453	316	290	981	238
v/s Ratio Prot	0.08	c0.42		0.04	c0.30						c0.33	
v/s Ratio Perm								0.05	0.01	0.12		0.12
v/c Ratio	0.72	1.15		0.35	0.84			0.15	0.04	0.32	0.92	0.35
Uniform Delay, d1	47.7	35.0		45.4	32.8			24.7	23.8	25.8	33.9	26.0
Progression Factor	1.24	0.75		0.67	0.58			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	67.1		0.8	4.3			0.1	0.1	0.7	13.4	0.9
Delay (s)	61.3	93.4		31.1	23.4			24.8	23.8	26.4	47.3	26.9
Level of Service	E	F		C	C			C	C	C	D	C
Approach Delay (s)		91.5			23.9			24.5			42.3	
Approach LOS		F			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	57.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1681	93	0	843	111	10
Future Volume (vph)	1681	93	0	843	111	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3049			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3049			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1769	98	0	887	117	11
RTOR Reduction (vph)	3	0	0	0	0	7
Lane Group Flow (vph)	1864	0	0	887	117	4
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1721			1738	512	451
v/s Ratio Prot	c0.61			0.29	c0.08	
v/s Ratio Perm						0.00
v/c Ratio	1.08			0.51	0.23	0.01
Uniform Delay, d1	23.9			14.7	26.5	24.6
Progression Factor	1.00			2.22	1.00	1.00
Incremental Delay, d2	47.9			0.7	1.0	0.0
Delay (s)	71.9			33.1	27.5	24.6
Level of Service	E			C	C	C
Approach Delay (s)	71.9			33.1	27.3	
Approach LOS	E			C	C	

Intersection Summary			
HCM 2000 Control Delay	58.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	123	287	5	3	3	13	50	5	2	4	8	36
Future Volume (vph)	123	287	5	3	3	13	50	5	2	4	8	36
Ideal Flow (vphpl)	1900	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		1.00					1.00				0.96	
Flpb, ped/bikes		0.99					0.99				0.97	
Frt		1.00					0.99				0.90	
Flt Protected		0.99					0.99				0.99	
Satd. Flow (prot)		1490					1265				1088	
Flt Permitted		0.87					0.88				0.97	
Satd. Flow (perm)		1318					1125				1056	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	143	334	6	3	3	15	58	6	2	5	9	42
RTOR Reduction (vph)	0	0	0	0	0	0	3	0	0	0	29	0
Lane Group Flow (vph)	0	486	0	0	0	0	79	0	0	0	29	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		25.1					25.1				20.2	
Effective Green, g (s)		25.1					25.1				20.2	
Actuated g/C Ratio		0.38					0.38				0.30	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		494					422				318	
v/s Ratio Prot												
v/s Ratio Perm		c0.37					0.07				0.03	
v/c Ratio		0.98					0.19				0.09	
Uniform Delay, d1		20.7					14.0				16.8	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		36.0					0.2				0.1	
Delay (s)		56.7					14.3				16.9	
Level of Service		E					B				B	
Approach Delay (s)		56.7					14.3				16.9	
Approach LOS		E					B				B	

Intersection Summary			
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	112	3	35	61	5	51	82	3
Future Volume (vph)	112	3	35	61	5	51	82	3
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	0.95	
Frpb, ped/bikes		0.89		0.62		1.00	0.83	
Flpb, ped/bikes		1.00		1.00		0.93	1.00	
Frt		0.96		0.85		0.96	0.85	
Flt Protected		0.97		1.00		0.96	1.00	
Satd. Flow (prot)		1207		768		1328	1028	
Flt Permitted		0.76		1.00		0.96	1.00	
Satd. Flow (perm)		949		768		1328	1028	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	130	3	41	71	6	59	95	3
RTOR Reduction (vph)	0	2	0	44	0	0	70	0
Lane Group Flow (vph)	0	179	0	20	0	85	8	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		21.2		21.2		6.6	6.6	
Effective Green, g (s)		21.2		21.2		6.6	6.6	
Actuated g/C Ratio		0.32		0.32		0.10	0.10	
Clearance Time (s)		4.0		4.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		300		243		131	101	
v/s Ratio Prot								
v/s Ratio Perm		c0.19		0.03		0.06	0.01	
v/c Ratio		0.60		0.08		0.65	0.08	
Uniform Delay, d1		19.2		16.0		29.0	27.4	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		3.2		0.1		10.6	0.3	
Delay (s)		22.4		16.2		39.6	27.7	
Level of Service		C		B		D	C	
Approach Delay (s)		20.8				33.9		
Approach LOS		C				C		

Intersection Summary

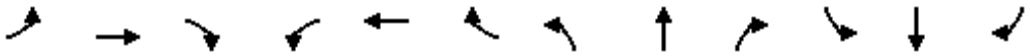
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	118	122	0	1	0	407	39	240	350	308	4
Future Volume (vph)	4	118	122	0	1	0	407	39	240	350	308	4
Ideal Flow (vphpl)	1900	1800	1800	1800	1900	1000	1000	1000	1800	1800	1800	1800
Total Lost time (s)			5.0				5.0	5.0	5.0	5.0		
Lane Util. Factor			1.00				*0.80	1.00	1.00	0.95		
Frpb, ped/bikes			1.00				1.00	0.91	1.00	0.96		
Flpb, ped/bikes			0.98				1.00	1.00	0.98	1.00		
Frt			1.00				1.00	0.85	1.00	0.93		
Flt Protected			0.98				1.00	1.00	0.95	1.00		
Satd. Flow (prot)			1246				2047	657	1435	2603		
Flt Permitted			0.56				0.94	1.00	0.70	1.00		
Satd. Flow (perm)			712				1923	657	1054	2603		
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	5	139	144	0	1	0	479	46	282	412	362	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	169	0	0
Lane Group Flow (vph)	0	0	288	0	0	0	480	46	282	605	0	0
Confl. Peds. (#/hr)		84		4		4		84	32		72	72
Confl. Bikes (#/hr)												
Parking (#/hr)		10	10									10
Turn Type	Perm	Perm	NA		Perm		NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2			6			6	8			4
Actuated Green, G (s)			18.0				18.0	18.0	32.0	32.0		
Effective Green, g (s)			18.0				18.0	18.0	32.0	32.0		
Actuated g/C Ratio			0.30				0.30	0.30	0.53	0.53		
Clearance Time (s)			5.0				5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)			213				576	197	562	1388		
v/s Ratio Prot										0.23		
v/s Ratio Perm			c0.40				0.25	0.07	c0.27			
v/c Ratio			1.35				0.83	0.23	0.50	0.44		
Uniform Delay, d1			21.0				19.6	15.8	8.9	8.5		
Progression Factor			1.00				1.00	1.00	1.00	1.00		
Incremental Delay, d2			186.1				13.3	2.8	3.2	1.0		
Delay (s)			207.1				32.9	18.6	12.1	9.5		
Level of Service			F				C	B	B	A		
Approach Delay (s)			207.1				31.6			10.2		
Approach LOS			F				C			B		

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

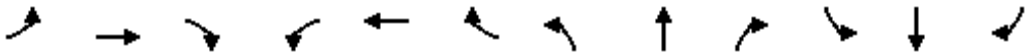
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	74
Future Volume (vph)	0	74
Ideal Flow (vphpl)	1800	1800
Total Lost time (s)	5.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.97	
Flpb, ped/bikes	1.00	
Frt	0.87	
Flt Protected	1.00	
Satd. Flow (prot)	1102	
Flt Permitted	0.97	
Satd. Flow (perm)	1068	
Peak-hour factor, PHF	0.85	0.85
Adj. Flow (vph)	0	87
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	92	0
Confl. Peds. (#/hr)		32
Confl. Bikes (#/hr)		1
Parking (#/hr)	10	10
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	32.0	
Effective Green, g (s)	32.0	
Actuated g/C Ratio	0.53	
Clearance Time (s)	5.0	
Lane Grp Cap (vph)	569	
v/s Ratio Prot		
v/s Ratio Perm	0.09	
v/c Ratio	0.16	
Uniform Delay, d1	7.1	
Progression Factor	1.00	
Incremental Delay, d2	0.6	
Delay (s)	7.8	
Level of Service	A	
Approach Delay (s)	7.8	
Approach LOS	A	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	611	15	0	65	35	1	372	120	299	53	0
Future Volume (vph)	246	611	15	0	65	35	1	372	120	299	53	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			0.90			0.97			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			0.95			0.97			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2678			1322			1441			1473	
Flt Permitted	0.95	1.00			1.00			1.00			0.39	
Satd. Flow (perm)	1459	2678			1322			1441			606	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	262	650	16	0	69	37	1	396	128	318	56	0
RTOR Reduction (vph)	0	2	0	0	25	0	0	12	0	0	0	0
Lane Group Flow (vph)	262	664	0	0	81	0	0	513	0	0	374	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10						10			
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	12.9	28.1			11.2			41.2			40.2	
Effective Green, g (s)	14.9	31.1			13.2			44.2			44.2	
Actuated g/C Ratio	0.19	0.39			0.16			0.55			0.55	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	270	1037			217			793			333	
v/s Ratio Prot	c0.18	c0.25			0.06							
v/s Ratio Perm								0.36			c0.62	
v/c Ratio	0.97	0.64			0.37			0.65			1.12	
Uniform Delay, d1	32.5	20.0			29.9			12.6			18.0	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	46.4	1.3			1.1			1.8			86.9	
Delay (s)	78.9	21.3			30.9			14.4			104.9	
Level of Service	E	C			C			B			F	
Approach Delay (s)		37.6			30.9			14.4			104.9	
Approach LOS		D			C			B			F	

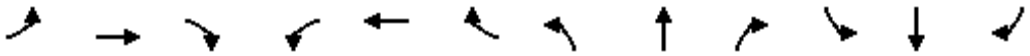
Intersection Summary			
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	254	319	59	22	260	68	15	281	24	68	395	154
Future Volume (vph)	254	319	59	22	260	68	15	281	24	68	395	154
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.98			0.98			0.99			0.95	
Flpb, ped/bikes		0.99			1.00			1.00			0.99	
Frt		0.99			0.97			0.99			0.96	
Flt Protected		0.98			1.00			1.00			0.99	
Satd. Flow (prot)		2525			2559			2807			2435	
Flt Permitted		0.66			0.90			0.92			0.87	
Satd. Flow (perm)		1697			2302			2586			2129	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	295	371	69	26	302	79	17	327	28	79	459	179
RTOR Reduction (vph)	0	13	0	0	35	0	0	10	0	0	54	0
Lane Group Flow (vph)	0	722	0	0	372	0	0	362	0	0	663	0
Confl. Peds. (#/hr)	93		138	138		93	250		186	186		250
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	5	0	0	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		791			1074			1206			958	
v/s Ratio Prot												
v/s Ratio Perm		c0.43			0.16			0.14			c0.31	
v/c Ratio		1.02dl			0.35			0.30			0.69	
Uniform Delay, d1		14.9			10.2			9.9			13.2	
Progression Factor		1.00			1.00			1.00			0.49	
Incremental Delay, d2		16.7			0.9			0.6			3.6	
Delay (s)		31.6			11.1			10.6			10.1	
Level of Service		C			B			B			B	
Approach Delay (s)		31.6			11.1			10.6			10.1	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

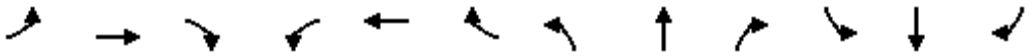
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	540	42	0	0	0	0	426	119	42	545	0
Future Volume (vph)	347	540	42	0	0	0	0	426	119	42	545	0
Ideal Flow (vphpl)	1400	1400	1400	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0			2.0	
Lane Util. Factor	0.97	0.91						0.95			0.95	
Frpb, ped/bikes	1.00	1.00						0.93			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			0.99	
Frt	1.00	0.99						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	2036	3048						2624			2665	
Flt Permitted	0.95	1.00						1.00			0.89	
Satd. Flow (perm)	2036	3048						2624			2387	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	369	574	45	0	0	0	0	453	127	45	580	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	43	0	0	0	0
Lane Group Flow (vph)	369	604	0	0	0	0	0	537	0	0	625	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Parking (#/hr)	10	10	10								10	
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2									4		
Actuated Green, G (s)	27.0	27.0						26.0			26.0	
Effective Green, g (s)	28.5	28.5						27.5			27.5	
Actuated g/C Ratio	0.48	0.48						0.46			0.46	
Clearance Time (s)	3.5	3.5						3.5			3.5	
Lane Grp Cap (vph)	967	1447						1202			1094	
v/s Ratio Prot		c0.20						0.20				
v/s Ratio Perm	0.18										c0.26	
v/c Ratio	0.38	0.42						0.45			0.57	
Uniform Delay, d1	10.1	10.3						11.1			11.9	
Progression Factor	0.42	0.39						1.02			1.00	
Incremental Delay, d2	1.1	0.8						1.0			2.2	
Delay (s)	5.3	4.8						12.3			14.1	
Level of Service	A	A						B			B	
Approach Delay (s)		5.0			0.0			12.3			14.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



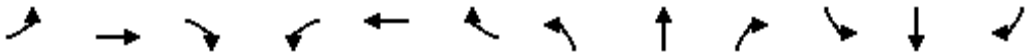
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1061	786	0	0	0	0	0	1579	214	0	0	0
Future Volume (vph)	1061	786	0	0	0	0	0	1579	214	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	0.91						0.91	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.78			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	2830	4052						3982	1015			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	2830	4052						3982	1015			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1105	819	0	0	0	0	0	1645	223	0	0	0
RTOR Reduction (vph)	16	0	0	0	0	0	0	0	75	0	0	0
Lane Group Flow (vph)	1089	819	0	0	0	0	0	1645	148	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	28.3	28.3						22.3	22.3			
Effective Green, g (s)	29.8	29.8						23.8	23.8			
Actuated g/C Ratio	0.50	0.50						0.40	0.40			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	1405	2012						1579	402			
v/s Ratio Prot		0.20						c0.41				
v/s Ratio Perm	c0.39								0.15			
v/c Ratio	0.78	0.41						1.04	0.37			
Uniform Delay, d1	12.4	9.5						18.1	12.8			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	4.2	0.6						34.4	2.6			
Delay (s)	16.6	10.1						52.5	15.4			
Level of Service	B	B						D	B			
Approach Delay (s)		13.9			0.0			48.0			0.0	
Approach LOS		B			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	77.9%	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)	0	0	0	0	1091	161	176	1900	144	0	0	0
Future Volume (vph)	0	0	0	0	1091	161	176	1900	144	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.98		1.00	1.00	0.48			
Flpb, ped/bikes					1.00		0.80	1.00	1.00			
Frt					0.98		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4011		1168	4191	621			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4011		1168	4191	621			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1161	171	187	2021	153	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	59	0	62	0	0	0
Lane Group Flow (vph)	0	0	0	0	1332	0	128	2021	91	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1570		535	1920	279			
v/s Ratio Prot					c0.33			c0.48				
v/s Ratio Perm							0.11		0.15			
v/c Ratio					0.85		0.24	1.05	0.33			
Uniform Delay, d1					16.6		9.9	16.2	10.6			
Progression Factor					1.00		1.21	1.08	1.33			
Incremental Delay, d2					5.9		0.4	29.0	1.1			
Delay (s)					22.5		12.3	46.5	15.2			
Level of Service					C		B	D	B			
Approach Delay (s)		0.0			22.5			41.8			0.0	
Approach LOS		A			C			D			A	

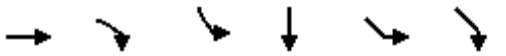
Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1032	259	207	1947	0	0	0	0
Future Volume (vph)	0	0	0	0	1032	259	207	1947	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0		-1.1	-1.1				
Lane Util. Factor					0.86		0.81	0.81				
Frpb, ped/bikes					0.94		1.00	1.00				
Flpb, ped/bikes					1.00		0.68	1.00				
Frt					0.97		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4267		583	3579				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4267		583	3579				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1098	276	220	2071	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1372	0	198	2093	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Perm	NA				
Protected Phases					6			8				
Permitted Phases							8					
Actuated Green, G (s)					22.0		23.1	23.1				
Effective Green, g (s)					24.5		29.6	29.6				
Actuated g/C Ratio					0.41		0.49	0.49				
Clearance Time (s)					9.5		5.4	5.4				
Lane Grp Cap (vph)					1742		287	1765				
v/s Ratio Prot					c0.32							
v/s Ratio Perm							0.34	0.58				
v/c Ratio					0.79		0.69	1.19				
Uniform Delay, d1					15.5		11.7	15.2				
Progression Factor					1.00		0.55	0.49				
Incremental Delay, d2					3.7		3.3	85.2				
Delay (s)					19.2		9.7	92.7				
Level of Service					B		A	F				
Approach Delay (s)		0.0			19.2			85.5			0.0	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

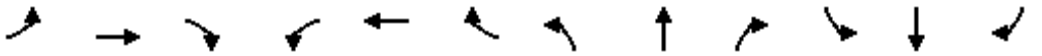


Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	508	156	85	1088	1253	72
Future Volume (vph)	508	156	85	1088	1253	72
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	0.91	0.94	0.86
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5761		1459	3982	4121	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5761		1459	3982	4121	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	558	171	93	1196	1377	79
RTOR Reduction (vph)	62	0	68	0	0	0
Lane Group Flow (vph)	668	0	25	1196	1385	71
Confl. Peds. (#/hr)		24	528			
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	20.5		21.8	21.8	27.5	27.5
Effective Green, g (s)	22.5		23.8	23.8	31.5	31.5
Actuated g/C Ratio	0.25		0.26	0.26	0.35	0.35
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1440		385	1053	1442	392
v/s Ratio Prot	c0.12		0.02	c0.30	c0.34	
v/s Ratio Perm						0.06
v/c Ratio	0.46		0.06	1.14	0.96	0.18
Uniform Delay, d1	28.6		24.8	33.1	28.6	20.3
Progression Factor	1.00		1.76	0.86	1.00	1.00
Incremental Delay, d2	1.1		0.2	70.6	16.0	1.0
Delay (s)	29.7		43.8	99.1	44.6	21.3
Level of Service	C		D	F	D	C
Approach Delay (s)	29.7			95.1	43.5	
Approach LOS	C			F	D	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	119	625	509	825	436	150
Future Volume (vph)	119	625	509	825	436	150
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)		5.4	2.4	5.7	2.7	2.7
Lane Util. Factor		0.81	0.81	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	0.96	0.96
Flpb, ped/bikes		0.97	0.99	1.00	1.00	1.00
Frt		1.00	1.00	0.99	0.85	0.85
Flt Protected		0.95	0.98	1.00	1.00	1.00
Satd. Flow (prot)		1021	4819	2269	1015	1115
Flt Permitted		0.95	0.98	1.00	1.00	1.00
Satd. Flow (perm)		1021	4819	2269	1015	1115
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	125	658	536	868	459	158
RTOR Reduction (vph)	0	0	0	0	0	71
Lane Group Flow (vph)	0	395	924	928	399	87
Confl. Peds. (#/hr)	17	17				
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)		32.6	32.6	46.3	46.3	46.3
Effective Green, g (s)		32.6	35.6	46.3	49.3	49.3
Actuated g/C Ratio		0.36	0.40	0.51	0.55	0.55
Clearance Time (s)		5.4	5.4	5.7	5.7	5.7
Lane Grp Cap (vph)		369	1906	1167	555	610
v/s Ratio Prot				c0.41		
v/s Ratio Perm		c0.39	0.19		0.39	0.08
v/c Ratio		1.07	0.48	0.80	0.72	0.14
Uniform Delay, d1		28.7	20.3	18.0	15.2	10.0
Progression Factor		1.00	1.00	1.77	2.00	6.32
Incremental Delay, d2		66.9	0.9	4.8	6.6	0.4
Delay (s)		95.6	21.2	36.6	36.9	63.5
Level of Service		F	C	D	D	E
Approach Delay (s)			43.5	39.6		
Approach LOS			D	D		

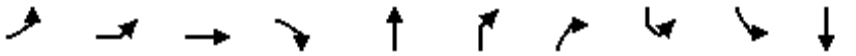
Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	385	899	0	0	0	0	0	909	175
Future Volume (vph)	0	0	0	385	899	0	0	0	0	0	909	175
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.99	0.70
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4941						4908	736
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4941						4908	736
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	405	946	0	0	0	0	0	957	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	259	1092	0	0	0	0	0	975	166
Confl. Peds. (#/hr)												321
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				30.0	30.0						28.0	28.0
Effective Green, g (s)				31.5	31.5						30.0	30.0
Actuated g/C Ratio				0.35	0.35						0.33	0.33
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				413	1729						1636	245
v/s Ratio Prot				0.22	c0.22						0.20	
v/s Ratio Perm												c0.23
v/c Ratio				0.63	0.63						0.60	0.68
Uniform Delay, d1				24.4	24.4						25.0	25.8
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				7.0	1.8						1.6	14.1
Delay (s)				31.4	26.2						26.6	39.9
Level of Service				C	C						C	D
Approach Delay (s)		0.0			27.2			0.0			28.5	
Approach LOS		A			C			A			C	

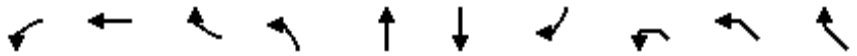
Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	92	276	542	112	288	201	69	116	101	451
Future Volume (vph)	92	276	542	112	288	201	69	116	101	451
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.98		0.95		0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00		1.00	1.00
Frt		1.00	0.98		0.94		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	1.00
Satd. Flow (prot)		2363	3342		2453		1163		1327	2552
Flt Permitted		0.95	1.00		1.00		1.00		0.30	0.93
Satd. Flow (perm)		2363	3342		2453		1163		416	2380
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	99	297	583	120	310	216	74	125	109	485
RTOR Reduction (vph)	0	0	31	0	1	0	49	0	0	0
Lane Group Flow (vph)	0	366	702	0	532	0	18	0	206	513
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Split	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases	2	2	2		8			7	7	4
Permitted Phases							8	4	4	
Actuated Green, G (s)		16.5	16.5		20.0		20.0		33.0	33.0
Effective Green, g (s)		16.5	19.0		21.5		20.0		34.5	34.5
Actuated g/C Ratio		0.22	0.25		0.29		0.27		0.46	0.46
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		519	846		703		310		318	1118
v/s Ratio Prot		0.15	c0.21		c0.22				c0.09	0.06
v/s Ratio Perm							0.02		0.21	0.15
v/c Ratio		0.71	0.83		0.76		0.06		0.65	0.46
Uniform Delay, d1		27.0	26.5		24.4		20.5		21.2	13.9
Progression Factor		1.00	1.00		1.00		1.00		0.84	0.90
Incremental Delay, d2		7.8	9.2		7.4		0.4		3.2	0.4
Delay (s)		34.8	35.7		31.8		20.8		21.1	13.0
Level of Service		C	D		C		C		C	B
Approach Delay (s)			35.4		30.6					15.3
Approach LOS			D		C					B

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



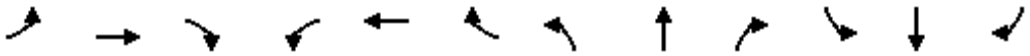
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	43	493	115	45	327	562	200	234	444	289
Future Volume (vph)	43	493	115	45	327	562	200	234	444	289
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.97			1.00	0.95			0.97	0.80
Flpb, ped/bikes		1.00			0.99	1.00			0.80	1.00
Frt		0.97			1.00	0.96			0.99	0.85
Flt Protected		1.00			0.99	1.00			0.96	1.00
Satd. Flow (prot)		5648			2855	2445			3175	902
Flt Permitted		1.00			0.71	1.00			0.96	1.00
Satd. Flow (perm)		5648			2034	2445			3175	902
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	519	121	47	344	592	211	246	467	304
RTOR Reduction (vph)	0	52	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	633	0	0	391	785	0	0	783	234
Confl. Peds. (#/hr)			159	185			97		185	159
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10	10			10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		22.0			20.0	20.0			19.0	19.0
Effective Green, g (s)		24.0			23.0	23.0			22.0	22.0
Actuated g/C Ratio		0.32			0.31	0.31			0.29	0.29
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1807			623	749			931	264
v/s Ratio Prot						c0.32				
v/s Ratio Perm		0.11			0.19				0.25	c0.26
v/c Ratio		0.35			0.63	1.05			0.84	0.89
Uniform Delay, d1		19.5			22.3	26.0			24.9	25.3
Progression Factor		1.00			0.88	1.00			1.00	1.00
Incremental Delay, d2		0.5			3.1	46.2			9.1	32.5
Delay (s)		20.1			22.8	72.2			33.9	57.8
Level of Service		C			C	E			C	E
Approach Delay (s)		20.1			22.8	72.2			39.4	
Approach LOS		C			C	E			D	

Intersection Summary			
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	257	1037	1	102	444
Future Volume (vph)	5	257	1037	1	102	444
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.98	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3078		1512	3079
Flt Permitted	0.95	1.00	1.00		0.20	1.00
Satd. Flow (perm)	1540	1378	3078		325	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	286	1152	1	113	493
RTOR Reduction (vph)	0	52	0	0	0	0
Lane Group Flow (vph)	6	234	1153	0	113	493
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2093		221	2093
v/s Ratio Prot	0.00		c0.37			0.16
v/s Ratio Perm		c0.17			0.35	
v/c Ratio	0.02	0.73	0.55		0.51	0.24
Uniform Delay, d1	32.5	39.0	9.0		8.6	6.7
Progression Factor	1.00	1.00	1.00		2.16	0.47
Incremental Delay, d2	0.1	13.7	1.0		4.0	0.1
Delay (s)	32.6	52.7	10.1		22.7	3.3
Level of Service	C	D	B		C	A
Approach Delay (s)	52.3		10.1			6.9
Approach LOS	D		B			A

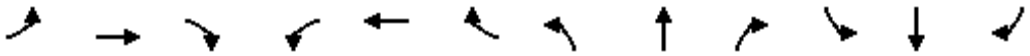
Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	19	179	0	1	2	16	1008	26	53	355	38
Future Volume (vph)	17	19	179	0	1	2	16	1008	26	53	355	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		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	
Frt		1.00	0.85		0.91		1.00	1.00		1.00	0.99	
Flt Protected		0.98	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1578	1342		1457		1459	2900		1540	3013	
Flt Permitted		0.91	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1470	1342		1457		1459	2900		1540	3013	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	21	201	0	1	2	18	1133	29	60	399	43
RTOR Reduction (vph)	0	0	136	0	1	0	0	2	0	0	8	0
Lane Group Flow (vph)	0	40	65	0	2	0	18	1160	0	60	434	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm		NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		471	430		467		215	1029		254	1129	
v/s Ratio Prot					0.00		0.01	c0.40		0.04	c0.14	
v/s Ratio Perm		0.03	c0.05									
v/c Ratio		0.08	0.15		0.00		0.08	1.13		0.24	0.38	
Uniform Delay, d1		23.7	24.2		23.1		36.8	32.2		36.3	22.8	
Progression Factor		1.00	1.00		1.00		1.67	0.72		1.00	1.00	
Incremental Delay, d2		0.4	0.7		0.0		0.1	58.7		2.2	1.0	
Delay (s)		24.1	25.0		23.1		61.5	81.9		38.5	23.8	
Level of Service		C	C		C		E	F		D	C	
Approach Delay (s)		24.8			23.1			81.6			25.6	
Approach LOS		C			C			F			C	

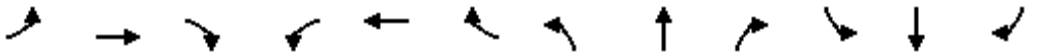
Intersection Summary			
HCM 2000 Control Delay	59.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	13	29	3	5	34	8	1016	18	14	511	15
Future Volume (vph)	20	13	29	3	5	34	8	1016	18	14	511	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.96		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.89		1.00	1.00		1.00	1.00	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1241			1376		1418	2822		1540	3058	
Flt Permitted		0.92			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1162			1367		1418	2822		1540	3058	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	14	32	3	5	37	9	1116	20	15	562	16
RTOR Reduction (vph)	0	22	0	0	25	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	46	0	0	20	0	9	1135	0	15	576	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		379			447		212	1041		229	1128	
v/s Ratio Prot							0.01	c0.40		0.01	c0.19	
v/s Ratio Perm		c0.04			0.01							
v/c Ratio		0.12			0.04		0.04	1.09		0.07	0.51	
Uniform Delay, d1		23.6			23.0		36.4	31.6		36.6	24.5	
Progression Factor		1.00			1.00		1.27	0.74		0.68	0.66	
Incremental Delay, d2		0.7			0.2		0.2	49.4		0.5	1.6	
Delay (s)		24.3			23.2		46.5	72.7		25.4	17.6	
Level of Service		C			C		D	E		C	B	
Approach Delay (s)		24.3			23.2			72.5			17.8	
Approach LOS		C			C			E			B	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



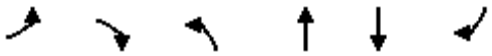
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	10	17	0	3	52	15	54	4	213	451	38
Future Volume (vph)	9	10	17	0	3	52	15	54	4	213	451	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.98			1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	0.93	1.00		1.00	1.00	
Frt		0.94			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1244			1621	1373	1200	1345		1296	1330	
Flt Permitted		0.97			1.00	1.00	0.89	1.00		0.95	1.00	
Satd. Flow (perm)		1218			1621	1373	1123	1345		1296	1330	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	11	18	0	3	57	16	59	4	232	490	41
RTOR Reduction (vph)	0	17	0	0	0	25	0	4	0	0	3	0
Lane Group Flow (vph)	0	22	0	0	3	32	16	59	0	232	528	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA			NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		2.6			2.6	25.4	4.5	4.5		22.8	32.3	
Effective Green, g (s)		2.6			2.6	25.4	4.5	4.5		22.8	32.3	
Actuated g/C Ratio		0.06			0.06	0.57	0.10	0.10		0.51	0.72	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		70			93	929	112	134		658	956	
v/s Ratio Prot					0.00	0.02		0.04		0.18	c0.40	
v/s Ratio Perm		c0.02				0.01	0.01					
v/c Ratio		0.31			0.03	0.03	0.14	0.44		0.35	0.55	
Uniform Delay, d1		20.3			20.0	4.3	18.4	19.0		6.6	2.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.6			0.1	0.0	0.6	2.3		0.3	0.7	
Delay (s)		22.9			20.1	4.3	19.0	21.4		7.0	3.6	
Level of Service		C			C	A	B	C		A	A	
Approach Delay (s)		22.9			5.1			20.9			4.6	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	44.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations							
Sign Control		Stop			Stop	Stop	
Traffic Volume (vph)	1	11	28	30	308	93	5
Future Volume (vph)	1	11	28	30	308	93	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	13	32	34	350	106	6

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	13	32	151	233	71	41
Volume Left (vph)	13	0	34	0	0	0
Volume Right (vph)	0	32	0	0	0	6
Hadj (s)	0.53	-0.67	0.15	0.03	0.03	-0.07
Departure Headway (s)	6.1	4.9	4.9	4.7	5.0	4.9
Degree Utilization, x	0.02	0.04	0.20	0.31	0.10	0.06
Capacity (veh/h)	545	672	727	745	702	718
Control Delay (s)	8.1	6.9	7.9	8.6	7.3	7.0
Approach Delay (s)	7.3		8.3		7.2	
Approach LOS	A		A		A	

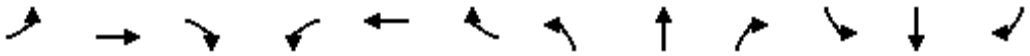
Intersection Summary			
Delay	8.0		
Level of Service	A		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	126	126	11	586	79	11
Future Volume (Veh/h)	126	126	11	586	79	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	152	152	13	706	95	13
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	496	68	120			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	496	68	120			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	69	84	99			
cM capacity (veh/h)	493	971	1452			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	304	248	471	63	45
Volume Left	152	13	0	0	0
Volume Right	152	0	0	0	13
cSH	654	1452	1700	1700	1700
Volume to Capacity	0.46	0.01	0.28	0.04	0.03
Queue Length 95th (ft)	62	1	0	0	0
Control Delay (s)	15.2	0.5	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	15.2	0.2		0.0	
Approach LOS	C				

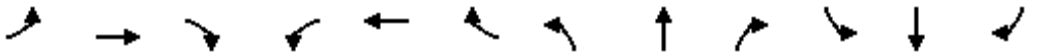
Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	44.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	330	230	209	1	121	68	403	799	43	88	239	240
Future Volume (vph)	330	230	209	1	121	68	403	799	43	88	239	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	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	0.95		1.00	0.99		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1525	1378	1136	1533	1518		2987	3047		1540	2788	
Flt Permitted	0.58	1.00	1.00	0.52	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	934	1378	1136	843	1518		2987	3047		1540	2788	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	351	245	222	1	129	72	429	850	46	94	254	255
RTOR Reduction (vph)	0	0	145	0	20	0	0	4	0	0	164	0
Lane Group Flow (vph)	351	245	77	1	181	0	429	892	0	94	345	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	322	475	391	290	523		418	1151		184	998	
v/s Ratio Prot		0.18			0.12		c0.14	c0.29		c0.06	0.12	
v/s Ratio Perm	c0.38		0.07	0.00								
v/c Ratio	1.09	0.52	0.20	0.00	0.35		1.03	0.78		0.51	0.35	
Uniform Delay, d1	32.8	26.1	23.0	21.5	24.4		43.0	27.4		41.2	23.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.67	0.74		0.40	0.04	
Incremental Delay, d2	76.4	4.0	1.1	0.0	1.8		41.9	3.3		8.7	0.8	
Delay (s)	109.2	30.1	24.1	21.5	26.2		70.7	23.5		25.3	1.9	
Level of Service	F	C	C	C	C		E	C		C	A	
Approach Delay (s)		62.4			26.1			38.8			5.5	
Approach LOS		E			C			D			A	

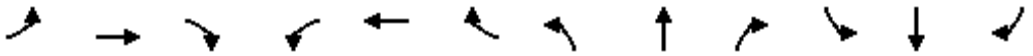
Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	693	180	139	341	155	86	348	356	61	223	70
Future Volume (vph)	334	693	180	139	341	155	86	348	356	61	223	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1540	1378	1378	1540	1621	1342	1540	2845			3046	1344
Flt Permitted	0.95	1.00	1.00	0.33	1.00	1.00	0.53	1.00			0.59	1.00
Satd. Flow (perm)	1540	1378	1378	531	1621	1342	865	2845			1820	1344
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	371	770	196	151	379	172	93	378	387	68	242	78
RTOR Reduction (vph)	0	0	34	0	0	67	0	99	0	0	0	55
Lane Group Flow (vph)	371	770	162	151	379	105	93	666	0	0	310	24
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	14.1	55.4	55.4	36.3	36.3	36.3	29.2	29.2			28.2	28.2
Effective Green, g (s)	14.1	55.4	55.4	36.3	36.3	36.3	29.2	29.2			28.2	28.2
Actuated g/C Ratio	0.15	0.59	0.59	0.39	0.39	0.39	0.31	0.31			0.30	0.30
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	231	815	815	205	628	520	269	887			548	404
v/s Ratio Prot	c0.24	c0.56			0.23			c0.23				
v/s Ratio Perm			0.12	0.28		0.08	0.11				0.17	0.02
v/c Ratio	1.61	0.94	0.20	0.74	0.60	0.20	0.35	0.75			0.57	0.06
Uniform Delay, d1	39.8	17.7	8.8	24.6	22.9	19.0	24.8	28.9			27.5	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	292.0	19.2	0.1	12.9	1.6	0.2	0.8	3.6			1.3	0.1
Delay (s)	331.8	36.9	9.0	37.4	24.5	19.2	25.6	32.5			28.9	23.3
Level of Service	F	D	A	D	C	B	C	C			C	C
Approach Delay (s)		114.6			26.0			31.8			27.8	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	63.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	93.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



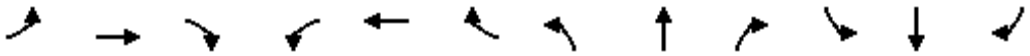
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	826	85	20	293	184	14	395	107	284	103	47
Future Volume (vph)	96	826	85	20	293	184	14	395	107	284	103	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.89		1.00	0.92	1.00	1.00	0.94	1.00	0.98	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1362	1044		1615	1271	1540	1621	1102	1540	1520	
Flt Permitted		0.66	1.00		0.39	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		901	1044		624	1271	1540	1621	1102	1540	1520	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	101	869	89	21	308	194	15	416	113	299	108	49
RTOR Reduction (vph)	0	0	47	0	0	65	0	0	48	0	13	0
Lane Group Flow (vph)	0	970	42	0	329	129	15	416	65	299	144	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.2	34.2		34.2	58.3	16.2	31.9	31.9	24.1	39.8	
Effective Green, g (s)		34.2	34.2		34.2	58.3	16.2	31.9	31.9	24.1	39.8	
Actuated g/C Ratio		0.33	0.33		0.33	0.55	0.15	0.30	0.30	0.23	0.38	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		292	339		202	764	237	491	334	352	575	
v/s Ratio Prot						0.04	0.01	c0.26		c0.19	0.09	
v/s Ratio Perm		c1.08	0.04		0.53	0.06			0.06			
v/c Ratio		3.32	0.13		1.63	0.17	0.06	0.85	0.19	0.85	0.25	
Uniform Delay, d1		35.5	25.0		35.5	11.5	38.0	34.4	27.1	38.8	22.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1053.6	0.2		304.4	0.1	0.1	12.8	0.3	17.1	0.2	
Delay (s)		1089.1	25.1		339.9	11.6	38.1	47.1	27.4	55.9	22.7	
Level of Service		F	C		F	B	D	D	C	E	C	
Approach Delay (s)		999.7			218.1			42.8			44.5	
Approach LOS		F			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	471.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.78		
Actuated Cycle Length (s)	105.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	135.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBU	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	1	133	80	704	24	56	360
Future Volume (vph)	1	133	80	704	24	56	360
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1600	1600
Total Lost time (s)		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor		1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes		1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes		0.95	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)		1461	2424	1911	1133	1296	1092
Flt Permitted		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)		1461	2424	1911	1133	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1	137	82	726	25	58	371
RTOR Reduction (vph)	0	0	69	0	4	0	0
Lane Group Flow (vph)	0	138	13	726	21	58	371
Confl. Peds. (#/hr)		50					
Confl. Bikes (#/hr)					31		
Turn Type	Perm	Prot	Perm	NA	custom	Prot	NA
Protected Phases		4		2 5	5	1	6
Permitted Phases	4		4		2		
Actuated Green, G (s)		13.5	13.5	47.7	42.7	7.7	60.4
Effective Green, g (s)		13.5	13.5	47.7	42.7	7.7	60.4
Actuated g/C Ratio		0.16	0.16	0.57	0.51	0.09	0.72
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		235	390	1086	644	118	786
v/s Ratio Prot				c0.38	0.01	0.04	c0.34
v/s Ratio Perm		0.09	0.01		0.01		
v/c Ratio		0.59	0.03	0.67	0.03	0.49	0.47
Uniform Delay, d1		32.6	29.7	12.6	10.3	36.2	5.0
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		3.7	0.0	1.6	0.0	3.2	0.4
Delay (s)		36.3	29.7	14.2	10.3	39.4	5.4
Level of Service		D	C	B	B	D	A
Approach Delay (s)		33.9		14.0			10.0
Approach LOS		C		B			B

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

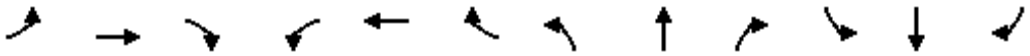
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	81	420	131	36	39	4	44	21	184	3	89	5
Future Volume (vph)	81	420	131	36	39	4	44	21	184	3	89	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	93	483	151	41	45	5	51	24	211	3	102	6

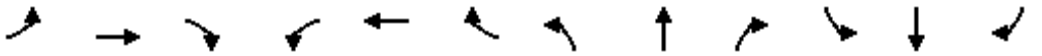
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	727	41	50	75	211	111
Volume Left (vph)	93	41	0	51	0	3
Volume Right (vph)	151	0	5	0	211	6
Hadj (s)	-0.07	0.53	-0.04	0.37	-0.67	0.01
Departure Headway (s)	5.9	7.2	6.7	7.2	6.2	7.2
Degree Utilization, x	1.18	0.08	0.09	0.15	0.36	0.22
Capacity (veh/h)	612	473	512	487	569	483
Control Delay (s)	119.8	9.7	9.1	10.3	11.5	12.2
Approach Delay (s)	119.8	9.4		11.2		12.2
Approach LOS	F	A		B		B

Intersection Summary				
Delay	76.1			
Level of Service	F			
Intersection Capacity Utilization	64.3%	ICU Level of Service		C
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	474	38	2	77	13	147	971	90	72	333	78
Future Volume (vph)	224	474	38	2	77	13	147	971	90	72	333	78
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.95	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99			0.98		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1720	1869			3312		1711	3351		1711	3302	
Flt Permitted	0.69	1.00			0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1251	1869			2957		1711	3351		1711	3302	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	236	499	40	2	81	14	155	1022	95	76	351	82
RTOR Reduction (vph)	0	3	0	0	10	0	0	7	0	0	20	0
Lane Group Flow (vph)	236	536	0	0	87	0	155	1110	0	76	413	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	371	555			878		289	1337		254	1251	
v/s Ratio Prot		c0.29					0.09	c0.33		0.04	c0.12	
v/s Ratio Perm	0.19				0.03							
v/c Ratio	0.64	0.97			0.10		0.54	0.83		0.30	0.33	
Uniform Delay, d1	30.5	34.7			25.5		38.0	27.0		37.9	22.0	
Progression Factor	1.00	1.00			1.00		0.77	0.70		1.36	1.30	
Incremental Delay, d2	8.1	30.7			0.2		6.1	5.4		2.8	0.7	
Delay (s)	38.5	65.3			25.7		35.2	24.4		54.2	29.3	
Level of Service	D	E			C		D	C		D	C	
Approach Delay (s)		57.2			25.7			25.7			33.0	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

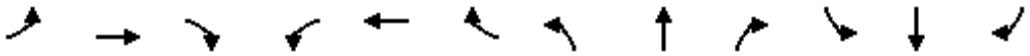


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	140	0	0	322	40	817	825	903	0	0	105
Future Volume (vph)	102	140	0	0	322	40	817	825	903	0	0	105
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.98		1.00	0.92				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2820			4068		1350	3160				2694
Flt Permitted		0.68			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1966			4068		1350	3160				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	111	144	0	0	332	43	842	897	931	0	0	114
RTOR Reduction (vph)	0	0	0	0	19	0	0	208	0	0	0	44
Lane Group Flow (vph)	0	255	0	0	356	0	842	1620	0	0	0	70
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		28.0			28.0		55.0	54.5				55.0
Effective Green, g (s)		28.0			28.0		55.0	54.5				55.0
Actuated g/C Ratio		0.31			0.31		0.61	0.61				0.61
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		611			1265		825	1913				1646
v/s Ratio Prot					0.09		c0.62	0.51				
v/s Ratio Perm		c0.13										0.03
v/c Ratio		0.42			0.28		1.02	0.85				0.04
Uniform Delay, d1		24.5			23.4		17.5	14.4				7.0
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		2.1			0.6		36.6	4.9				0.0
Delay (s)		26.6			24.0		54.1	19.2				7.0
Level of Service		C			C		D	B				A
Approach Delay (s)		26.6			24.0			30.2			7.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	136.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	117	1	261	981	0	0
Future Volume (vph)	117	1	261	981	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1540	1266	2987	1621		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1540	1266	2987	1621		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	1	269	1011	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	121	1	269	1011	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	45.0	45.0	5.0	60.0		
Effective Green, g (s)	45.0	45.0	5.0	60.0		
Actuated g/C Ratio	0.75	0.75	0.08	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	1155	949	248	1621		
v/s Ratio Prot	0.08		0.09	c0.62		
v/s Ratio Perm		0.00				
v/c Ratio	0.10	0.00	1.08	0.62		
Uniform Delay, d1	2.0	1.9	27.5	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.2	0.0	81.5	1.8		
Delay (s)	2.2	1.9	109.0	1.8		
Level of Service	A	A	F	A		
Approach Delay (s)	2.2			24.4	0.0	
Approach LOS	A			C	A	

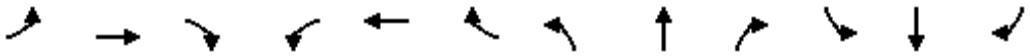
Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	30	46	17	34	14	0	1114	57	0	391	30
Future Volume (vph)	43	30	46	17	34	14	0	1114	57	0	391	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.98			0.99			0.99	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.95			0.97			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1267			1328			2850			2832	
Flt Permitted		0.88			0.91			1.00			1.00	
Satd. Flow (perm)		1135			1225			2850			2832	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	44	31	47	17	35	14	0	1137	58	0	399	31
RTOR Reduction (vph)	0	28	0	0	12	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	94	0	0	54	0	0	1193	0	0	427	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		13.7			13.7			76.4			76.4	
Effective Green, g (s)		13.7			13.7			76.4			76.4	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		155			167			2177			2163	
v/s Ratio Prot								c0.42			0.15	
v/s Ratio Perm		c0.08			0.04							
v/c Ratio		0.61			0.32			0.55			0.20	
Uniform Delay, d1		40.6			39.0			4.8			3.3	
Progression Factor		1.00			1.00			1.23			0.24	
Incremental Delay, d2		6.6			1.1			0.6			0.2	
Delay (s)		47.2			40.1			6.5			1.0	
Level of Service		D			D			A			A	
Approach Delay (s)		47.2			40.1			6.5			1.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

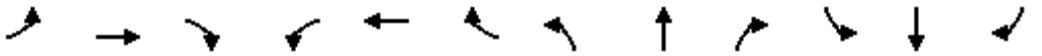
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	466	358	271	5	105	11	160	756	8	15	287	117
Future Volume (vph)	466	358	271	5	105	11	160	756	8	15	287	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1538	2684		1538	1595		1540	3074		1540	2883	
Flt Permitted	0.45	1.00		0.40	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	727	2684		648	1595		1540	3074		1540	2883	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	491	377	285	5	111	12	168	796	8	16	302	123
RTOR Reduction (vph)	0	136	0	0	4	0	0	1	0	0	47	0
Lane Group Flow (vph)	491	526	0	5	119	0	168	803	0	16	378	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	38.0	38.0		13.5	13.5		16.5	42.6		3.1	29.2	
Effective Green, g (s)	38.0	38.0		13.5	13.5		16.5	42.6		3.1	29.2	
Actuated g/C Ratio	0.38	0.38		0.14	0.14		0.16	0.43		0.03	0.29	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	431	1019		87	215		254	1309		47	841	
v/s Ratio Prot	c0.22	0.20			0.07		0.11	c0.26		0.01	c0.13	
v/s Ratio Perm	c0.21			0.01								
v/c Ratio	1.14	0.52		0.06	0.55		0.66	0.61		0.34	0.45	
Uniform Delay, d1	28.6	23.9		37.7	40.4		39.1	22.3		47.4	28.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.94	1.27	
Incremental Delay, d2	87.2	0.4		0.3	3.0		6.3	2.2		4.2	1.7	
Delay (s)	115.8	24.3		38.0	43.5		45.5	24.5		48.9	38.3	
Level of Service	F	C		D	D		D	C		D	D	
Approach Delay (s)		63.3			43.3			28.1			38.7	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	4	225	7	9	4	185	747	0	17	1051	76
Future Volume (vph)	36	4	225	7	9	4	185	747	0	17	1051	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			0.99		1.00	1.00		1.00	1.00	0.77
Flpb, ped/bikes	0.96	1.00			0.99		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85			0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1481	1336			1531		1540	3079		1296	2593	890
Flt Permitted	0.74	1.00			0.89		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1159	1336			1392		1540	3079		1296	2593	890
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	4	245	8	10	4	201	812	0	18	1142	83
RTOR Reduction (vph)	0	160	0	0	3	0	0	0	0	0	0	58
Lane Group Flow (vph)	39	89	0	0	19	0	201	812	0	18	1142	25
Confl. Peds. (#/hr)	45		24	24		45			173			77
Confl. Bikes (#/hr)			2						52			80
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Effective Green, g (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Actuated g/C Ratio	0.35	0.35			0.35		0.19	0.38		0.10	0.30	0.30
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	401	462			482		287	1161		130	773	265
v/s Ratio Prot		c0.07					0.13	c0.26		0.01	c0.44	
v/s Ratio Perm	0.03				0.01							0.03
v/c Ratio	0.10	0.19			0.04		0.70	0.70		0.14	1.48	0.09
Uniform Delay, d1	24.3	25.2			23.8		41.9	29.0		45.1	38.6	27.9
Progression Factor	1.00	1.00			1.00		0.82	0.84		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.9			0.2		9.9	2.6		2.2	221.8	0.7
Delay (s)	24.8	26.1			24.0		44.4	26.8		47.3	260.4	28.6
Level of Service	C	C			C		D	C		D	F	C
Approach Delay (s)		25.9			24.0			30.3			241.8	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	132.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	98	24	32	839	5	879	379
Future Volume (vph)	98	24	32	839	5	879	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	1314	1540	3079	1540	3079	1134
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1540	1314	1540	3079	1540	3079	1134
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	105	26	34	902	5	945	408
RTOR Reduction (vph)	0	16	0	0	0	0	156
Lane Group Flow (vph)	105	10	34	902	5	945	252
Confl. Peds. (#/hr)	36	40					133
Confl. Bikes (#/hr)							92
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	533	455	215	1226	140	1035	381
v/s Ratio Prot	c0.07		0.02	c0.29	0.00	c0.31	
v/s Ratio Perm		0.01					0.22
v/c Ratio	0.20	0.02	0.16	0.74	0.04	0.91	0.66
Uniform Delay, d1	25.2	23.7	41.6	28.2	45.6	35.0	31.2
Progression Factor	1.00	1.00	0.51	0.83	0.80	0.68	1.12
Incremental Delay, d2	0.8	0.1	1.1	2.8	0.0	1.6	0.8
Delay (s)	26.0	23.8	22.5	26.4	36.3	25.5	35.8
Level of Service	C	C	C	C	D	C	D
Approach Delay (s)	25.6			26.2		28.6	
Approach LOS	C			C		C	

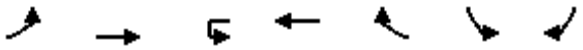
Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	105	6	16	3	5	6	10	43	808	3	2	775
Future Volume (vph)	105	6	16	3	5	6	10	43	808	3	2	775
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600
Total Lost time (s)		7.0			7.0			7.0	7.0		5.8	5.4
Lane Util. Factor		1.00			1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes		0.96			0.86			1.00	1.00		1.00	0.91
Flpb, ped/bikes		0.75			0.95			1.00	1.00		1.00	1.00
Frt		0.98			0.94			1.00	1.00		1.00	0.97
Flt Protected		0.96			0.99			0.95	1.00		0.95	1.00
Satd. Flow (prot)		1098			1231			1540	3072		1296	2296
Flt Permitted		0.75			0.96			0.95	1.00		0.95	1.00
Satd. Flow (perm)		860			1194			1540	3072		1296	2296
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	6	17	3	5	6	11	46	869	3	2	833
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	0	0	0	15
Lane Group Flow (vph)	0	131	0	0	10	0	0	57	872	0	2	987
Confl. Peds. (#/hr)	400		400	400		400				400		
Confl. Bikes (#/hr)			30			30				30		
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0			15.0	43.0		9.2	37.6
Effective Green, g (s)		38.0			38.0			15.0	43.0		9.2	37.6
Actuated g/C Ratio		0.35			0.35			0.14	0.39		0.08	0.34
Clearance Time (s)		7.0			7.0			7.0	7.0		5.8	5.4
Lane Grp Cap (vph)		297			412			210	1200		108	784
v/s Ratio Prot								0.04	c0.28		0.00	c0.43
v/s Ratio Perm		c0.15			0.01							
v/c Ratio		0.44			0.02			0.27	0.73		0.02	1.26
Uniform Delay, d1		27.8			23.8			42.6	28.5		46.3	36.2
Progression Factor		1.00			1.00			0.63	0.50		1.96	0.61
Incremental Delay, d2		4.7			0.1			2.6	3.2		0.2	121.6
Delay (s)		32.5			23.9			29.6	17.5		90.7	143.8
Level of Service		C			C			C	B		F	F
Approach Delay (s)		32.5			23.9				18.3			143.7
Approach LOS		C			C				B			F

Intersection Summary			
HCM 2000 Control Delay	79.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	157
Future Volume (vph)	157
Ideal Flow (vphpl)	1600
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	169
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

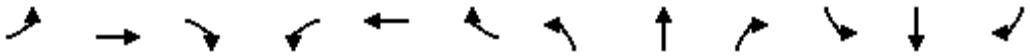
Intersection Summary



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	190	802	3	814	22	19	285
Future Volume (vph)	190	802	3	814	22	19	285
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1900	1900
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	0.68
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1540	3079	1540	2560		1540	931
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1540	3079	1540	2560		1540	931
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	827	3	839	23	20	294
RTOR Reduction (vph)	0	0	0	2	0	0	192
Lane Group Flow (vph)	196	827	3	860	0	20	102
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					10		30
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	215	1253	117	847		534	323
v/s Ratio Prot	c0.13	0.27	0.00	c0.34		0.01	
v/s Ratio Perm							c0.11
v/c Ratio	0.91	0.66	0.03	1.02		0.04	0.32
Uniform Delay, d1	46.6	26.4	47.0	36.8		23.7	26.3
Progression Factor	0.75	1.37	0.65	0.50		1.00	1.00
Incremental Delay, d2	33.0	1.9	0.0	13.4		0.1	2.6
Delay (s)	68.1	38.2	30.6	31.9		23.9	28.9
Level of Service	E	D	C	C		C	C
Approach Delay (s)		44.0		31.9		28.6	
Approach LOS		D		C		C	

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

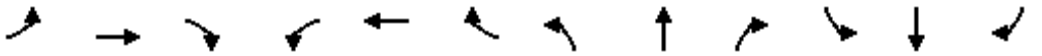
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	908	739	16	145	888	36	53	1370	287	0	0	0
Future Volume (vph)	908	739	16	145	888	36	53	1370	287	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	*0.97	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.68			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00			
Frt	1.00	1.00		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4480	3049		2987	3022			5500	942			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4480	3049		2987	3022			5500	942			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	936	762	16	149	915	37	55	1412	296	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	169	0	0	0
Lane Group Flow (vph)	936	777	0	149	952	0	0	1467	127	0	0	0
Confl. Peds. (#/hr)			400			400	400		400			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.6		13.2	34.1			38.8	38.8			
Effective Green, g (s)	18.2	37.6		13.2	34.1			38.8	38.8			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.35	0.35			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	741	1042		358	936			1940	332			
v/s Ratio Prot	c0.21	0.25		0.05	c0.31							
v/s Ratio Perm								0.27	0.13			
v/c Ratio	1.26	0.75		0.42	1.02			0.76	0.38			
Uniform Delay, d1	45.9	32.0		44.8	37.9			31.4	26.6			
Progression Factor	1.36	1.55		1.57	0.98			1.41	2.96			
Incremental Delay, d2	124.8	2.8		0.3	23.3			1.2	0.5			
Delay (s)	187.3	52.4		70.6	60.6			45.5	79.3			
Level of Service	F	D		E	E			D	E			
Approach Delay (s)		126.1			61.9			51.2			0.0	
Approach LOS		F			E			D			A	

Intersection Summary			
HCM 2000 Control Delay	81.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
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)	151	1521	25	26	907	19	5	98	104	38	362	301
Future Volume (vph)	151	1521	25	26	907	19	5	98	104	38	362	301
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1600	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.64	1.00	0.89	0.47
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.69	1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.97	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	4385		1296	2553			1597	858	1064	2531	581
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00	0.69	1.00	1.00
Satd. Flow (perm)	1540	4385		1296	2553			1562	858	772	2531	581
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	154	1552	26	27	926	19	5	100	106	39	369	307
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	69	0	21	133
Lane Group Flow (vph)	154	1577	0	27	944	0	0	105	37	39	449	73
Confl. Peds. (#/hr)			761			695	1648		678	678		1648
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	201	1714		104	833			542	297	275	901	207
v/s Ratio Prot	0.10	c0.36		0.02	c0.37						c0.18	
v/s Ratio Perm								0.07	0.04	0.05		0.13
v/c Ratio	0.77	0.92		0.26	1.13			0.19	0.12	0.14	0.50	0.35
Uniform Delay, d1	46.2	31.9		47.5	37.0			25.1	24.5	24.0	27.7	26.1
Progression Factor	0.59	1.03		0.87	0.86			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6	2.9		0.3	63.7			0.2	0.2	0.2	0.4	1.0
Delay (s)	32.0	35.8		41.5	95.5			25.3	24.7	24.2	28.1	27.1
Level of Service	C	D		D	F			C	C	C	C	C
Approach Delay (s)		35.4			94.0			25.0			27.6	
Approach LOS		D			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	49.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1573	138	0	1226	86	8
Future Volume (vph)	1573	138	0	1226	86	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.99
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3034			3079	1540	1357
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3034			3079	1540	1357
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1639	144	0	1277	90	8
RTOR Reduction (vph)	6	0	0	0	0	5
Lane Group Flow (vph)	1777	0	0	1277	90	3
Confl. Peds. (#/hr)		37	37		1	3
Confl. Bikes (#/hr)		1				
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1712			1738	512	451
v/s Ratio Prot	c0.59			0.41	c0.06	
v/s Ratio Perm						0.00
v/c Ratio	1.04			0.73	0.18	0.01
Uniform Delay, d1	23.9			17.8	26.0	24.5
Progression Factor	1.00			0.54	1.00	1.00
Incremental Delay, d2	32.3			0.9	0.7	0.0
Delay (s)	56.2			10.5	26.8	24.6
Level of Service	E			B	C	C
Approach Delay (s)	56.2			10.5	26.6	
Approach LOS	E			B	C	

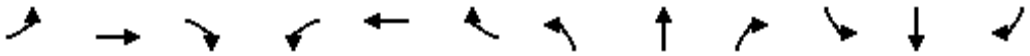
Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	43	115	7	18	29	71	18	11	8	13	73	18
Future Volume (vph)	43	115	7	18	29	71	18	11	8	13	73	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0				5.0			5.0			5.0
Lane Util. Factor		1.00				1.00			1.00			0.95
Frpb, ped/bikes		0.99				0.99			0.97			0.68
Flpb, ped/bikes		0.98				0.88			0.93			1.00
Frt		0.99				0.98			0.95			0.91
Flt Protected		0.99				0.98			0.98			0.98
Satd. Flow (prot)		1471				1098			1100			884
Flt Permitted		0.89				0.86			0.90			0.90
Satd. Flow (perm)		1326				959			1006			806
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	125	8	20	32	77	20	12	9	14	79	20
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	8	0	0	9
Lane Group Flow (vph)	0	180	0	0	0	143	0	0	27	0	0	240
Confl. Peds. (#/hr)	51		86	86	200		51	200		66		
Confl. Bikes (#/hr)			3							11		
Parking (#/hr)				10	10	10	10	10	10	10		
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		27.1				27.1			38.0			38.0
Effective Green, g (s)		27.1				27.1			38.0			38.0
Actuated g/C Ratio		0.30				0.30			0.42			0.42
Clearance Time (s)		5.0				5.0			5.0			5.0
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		399				288			424			340
v/s Ratio Prot												
v/s Ratio Perm		0.14				c0.15			0.03			c0.30
v/c Ratio		0.45				0.50			0.06			0.71
Uniform Delay, d1		25.4				25.8			15.4			21.4
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		3.7				1.3			0.1			6.6
Delay (s)		29.1				27.2			15.5			28.0
Level of Service		C				C			B			C
Approach Delay (s)		29.1				27.2			15.5			22.8
Approach LOS		C				C			B			C

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	97	260	5	42	69	34
Future Volume (vph)	97	260	5	42	69	34
Ideal Flow (vphpl)	1800	1800	1800	1900	1800	1800
Total Lost time (s)		5.0		5.0		
Lane Util. Factor		0.95		1.00		
Frpb, ped/bikes		0.69		0.73		
Flpb, ped/bikes		1.00		0.93		
Frt		0.85		0.91		
Flt Protected		1.00		0.98		
Satd. Flow (prot)		853		975		
Flt Permitted		1.00		0.98		
Satd. Flow (perm)		853		975		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	283	5	46	75	37
RTOR Reduction (vph)	0	138	0	76	0	0
Lane Group Flow (vph)	0	100	0	87	0	0
Confl. Peds. (#/hr)	200	200		51		86
Confl. Bikes (#/hr)	12	12				
Parking (#/hr)						
Turn Type		Perm	Perm	Prot		
Protected Phases				5		
Permitted Phases		4	5			
Actuated Green, G (s)		38.0		9.9		
Effective Green, g (s)		38.0		9.9		
Actuated g/C Ratio		0.42		0.11		
Clearance Time (s)		5.0		5.0		
Vehicle Extension (s)		3.0		3.0		
Lane Grp Cap (vph)		360		107		
v/s Ratio Prot						
v/s Ratio Perm		0.12		0.09		
v/c Ratio		0.28		0.82		
Uniform Delay, d1		17.0		39.2		
Progression Factor		1.00		1.00		
Incremental Delay, d2		0.4		36.2		
Delay (s)		17.5		75.4		
Level of Service		B		E		
Approach Delay (s)				75.4		
Approach LOS				E		

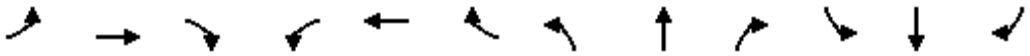
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	63	0	0	887	45	63	136	121	4	0	205
Future Volume (vph)	32	63	0	0	887	45	63	136	121	4	0	205
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.96	1.00	0.99			1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1281			2047	698	1459	2672			1330	
Flt Permitted		0.66			1.00	1.00	0.63	1.00			0.99	
Satd. Flow (perm)		854			2047	698	973	2672			1324	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	66	0	0	934	47	66	143	127	4	0	216
RTOR Reduction (vph)	0	0	0	0	0	0	0	76	0	0	0	0
Lane Group Flow (vph)	0	100	0	0	934	47	66	194	0	0	220	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)						10						
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Effective Green, g (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Actuated g/C Ratio		0.43			0.43	0.43	0.40	0.40			0.40	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		370			887	302	389	1068			529	
v/s Ratio Prot					c0.46			0.07				
v/s Ratio Perm		0.12				0.07	0.07				c0.17	
v/c Ratio		0.27			1.05	0.16	0.17	0.18			0.42	
Uniform Delay, d1		10.9			17.0	10.3	11.6	11.6			13.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		1.8			45.1	1.1	0.9	0.4			2.4	
Delay (s)		12.7			62.1	11.4	12.5	12.0			15.4	
Level of Service		B			E	B	B	B			B	
Approach Delay (s)		12.7			59.7			12.1			15.4	
Approach LOS		B			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



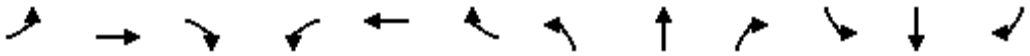
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	238	154	12	105	108	0	171	78	190	52	0
Future Volume (vph)	177	238	154	12	105	108	0	171	78	190	52	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.96			0.93			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.94			0.94			0.96			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2428			1334			1454			1477	
Flt Permitted	0.95	1.00			0.97			1.00			0.59	
Satd. Flow (perm)	1459	2428			1300			1454			909	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	184	248	160	12	109	112	0	178	81	198	54	0
RTOR Reduction (vph)	0	85	0	0	37	0	0	22	0	0	0	0
Lane Group Flow (vph)	184	323	0	0	198	0	0	237	0	0	252	0
Confl. Peds. (#/hr)			152			154			25			
Confl. Bikes (#/hr)			30									
Parking (#/hr)		10	10									
Turn Type	Prot	NA		Perm	NA			NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases				6						4		
Actuated Green, G (s)	6.3	26.6			16.3			25.7			24.7	
Effective Green, g (s)	8.3	29.6			18.3			28.7			28.7	
Actuated g/C Ratio	0.13	0.47			0.29			0.45			0.45	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	191	1135			375			659			412	
v/s Ratio Prot	c0.13	0.13						0.16				
v/s Ratio Perm					c0.15						c0.28	
v/c Ratio	0.96	0.28			0.53			0.36			0.61	
Uniform Delay, d1	27.3	10.3			18.9			11.3			13.1	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	54.1	0.1			1.3			0.3			2.7	
Delay (s)	81.5	10.5			20.2			11.6			15.8	
Level of Service	F	B			C			B			B	
Approach Delay (s)		32.6			20.2			11.6			15.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
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)	168	204	81	50	525	93	44	338	73	38	308	215
Future Volume (vph)	168	204	81	50	525	93	44	338	73	38	308	215
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.91			0.96			0.95			0.89	
Flpb, ped/bikes		0.96			0.98			0.99			0.99	
Frt		0.97			0.98			0.98			0.94	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		2267			2480			2642			2200	
Flt Permitted		0.61			0.89			0.87			0.90	
Satd. Flow (perm)		1400			2223			2313			1992	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	177	215	85	53	553	98	46	356	77	40	324	226
RTOR Reduction (vph)	0	17	0	0	15	0	0	23	0	0	9	0
Lane Group Flow (vph)	0	460	0	0	689	0	0	456	0	0	581	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			20			6			3			23
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		653			1037			1079			896	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.31			0.20			c0.29	
v/c Ratio		1.01dl			0.66			0.42			0.65	
Uniform Delay, d1		12.7			12.4			10.6			12.8	
Progression Factor		1.00			1.00			1.00			1.44	
Incremental Delay, d2		6.3			3.4			1.2			3.0	
Delay (s)		19.0			15.7			11.8			21.5	
Level of Service		B			B			B			C	
Approach Delay (s)		19.0			15.7			11.8			21.5	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

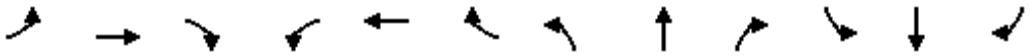
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	354	597	48	0	0	0	0	510	177	12	521	0
Future Volume (vph)	354	597	48	0	0	0	0	510	177	12	521	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1000	1000	1000	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0	2.0		2.0	
Lane Util. Factor	*0.50	*0.50						*0.50	0.91		0.95	
Frpb, ped/bikes	1.00	0.98						0.99	0.71		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						0.99	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	750	1177						840	470		2689	
Flt Permitted	0.95	1.00						1.00	1.00		0.93	
Satd. Flow (perm)	750	1177						840	470		2504	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	381	642	52	0	0	0	0	548	190	13	560	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	2	8	0	0	0
Lane Group Flow (vph)	381	687	0	0	0	0	0	565	163	0	573	0
Confl. Peds. (#/hr)			400						400	400		
Confl. Bikes (#/hr)			1						17			
Parking (#/hr)	10	10	10								10	
Turn Type	Split	NA						NA	Perm	Perm	NA	
Protected Phases	2	2						4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	27.0	27.0						26.0	26.0		26.0	
Effective Green, g (s)	28.5	28.5						27.5	27.5		27.5	
Actuated g/C Ratio	0.48	0.48						0.46	0.46		0.46	
Clearance Time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Grp Cap (vph)	356	559						385	215		1147	
v/s Ratio Prot	0.51	c0.58						c0.67				
v/s Ratio Perm									0.35		0.23	
v/c Ratio	1.07	1.23						1.47	0.76		0.50	
Uniform Delay, d1	15.8	15.8						16.2	13.5		11.4	
Progression Factor	0.76	0.76						0.77	0.71		1.00	
Incremental Delay, d2	37.5	104.3						222.6	19.9		1.6	
Delay (s)	49.4	116.2						235.1	29.5		13.0	
Level of Service	D	F						F	C		B	
Approach Delay (s)		92.5			0.0			187.5			13.0	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	102.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

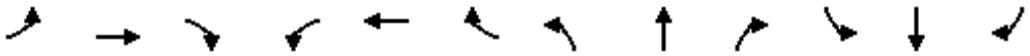
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	448	695	0	0	0	0	0	2074	351	0	0	0
Future Volume (vph)	448	695	0	0	0	0	0	2074	351	0	0	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	*0.50						0.91	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.77			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1572	1237						3982	1004			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1572	1237						3982	1004			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	462	716	0	0	0	0	0	2138	362	0	0	0
RTOR Reduction (vph)	17	0	0	0	0	0	0	0	81	0	0	0
Lane Group Flow (vph)	445	716	0	0	0	0	0	2138	281	0	0	0
Confl. Peds. (#/hr)									297			
Confl. Bikes (#/hr)									10			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	26.3	26.3						24.3	24.3			
Effective Green, g (s)	27.8	27.8						25.8	25.8			
Actuated g/C Ratio	0.46	0.46						0.43	0.43			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	728	573						1712	431			
v/s Ratio Prot		c0.58						c0.54				
v/s Ratio Perm	0.28								0.28			
v/c Ratio	0.61	1.25						1.25	0.65			
Uniform Delay, d1	12.1	16.1						17.1	13.5			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	3.8	126.3						117.0	7.5			
Delay (s)	15.9	142.4						134.1	21.0			
Level of Service	B	F						F	C			
Approach Delay (s)		92.8			0.0			117.7			0.0	
Approach LOS		F			A			F			A	

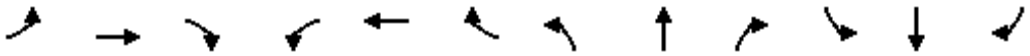
Intersection Summary			
HCM 2000 Control Delay	109.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



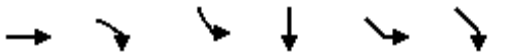
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1622	118	326	2046	213	0	0	0
Future Volume (vph)	0	0	0	0	1622	118	326	2046	213	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.99		1.00	1.00	0.60			
Flpb, ped/bikes					1.00		0.81	1.00	1.00			
Frt					0.99		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4313		1240	4424	831			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4313		1240	4424	831			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	0	1655	120	333	2088	217	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	59	0	85	0	0	0
Lane Group Flow (vph)	0	0	0	0	1775	0	274	2088	132	0	0	0
Confl. Peds. (#/hr)						131	270		307			
Confl. Bikes (#/hr)						10			30			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1689		568	2027	373			
v/s Ratio Prot					c0.41			c0.47				
v/s Ratio Perm							0.22		0.16			
v/c Ratio					1.05		0.48	1.03	0.35			
Uniform Delay, d1					18.2		11.3	16.2	10.8			
Progression Factor					1.00		1.04	0.88	1.24			
Incremental Delay, d2					36.7		0.3	15.9	0.2			
Delay (s)					54.9		12.1	30.2	13.6			
Level of Service					D		B	C	B			
Approach Delay (s)		0.0			54.9			26.5			0.0	
Approach LOS		A			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1731	323	365	1994	0	0	0	0
Future Volume (vph)	0	0	0	0	1731	323	365	1994	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0	7.5	1.4	1.4				
Lane Util. Factor					0.81	0.81	0.81	0.81				
Frpb, ped/bikes					0.99	0.68	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	0.71	0.99				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					4384	642	607	3571				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					4384	642	607	3571				
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	0	0	0	1748	326	369	2014	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	25	68	68	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1780	268	264	1983	0	0	0	0
Confl. Peds. (#/hr)						382	370					
Confl. Bikes (#/hr)						30						
Turn Type					NA	Perm	Perm	NA				
Protected Phases					6			8				
Permitted Phases						6	8					
Actuated Green, G (s)					23.5	23.5	21.6	21.6				
Effective Green, g (s)					26.0	25.5	25.6	25.6				
Actuated g/C Ratio					0.43	0.42	0.43	0.43				
Clearance Time (s)					9.5	9.5	5.4	5.4				
Lane Grp Cap (vph)					1899	272	258	1523				
v/s Ratio Prot					0.41							
v/s Ratio Perm						c0.42	0.44	0.56				
v/c Ratio					0.94	0.98	1.02	1.30				
Uniform Delay, d1					16.2	17.1	17.2	17.2				
Progression Factor					1.00	1.00	1.08	0.90				
Incremental Delay, d2					10.4	50.7	37.8	137.6				
Delay (s)					26.6	67.7	56.3	153.0				
Level of Service					C	E	E	F				
Approach Delay (s)		0.0			32.4			139.5			0.0	
Approach LOS		A			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	89.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	742	114	99	500	136	14
Future Volume (vph)	742	114	99	500	136	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	1.00	0.94	0.86
Frpb, ped/bikes	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5771		1459	1305	4118	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5771		1459	1305	4118	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	789	121	105	532	145	15
RTOR Reduction (vph)	31	0	71	0	0	0
Lane Group Flow (vph)	879	0	34	532	147	13
Confl. Peds. (#/hr)		143	776			
Confl. Bikes (#/hr)		10				
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	23.5		26.8	26.8	19.5	19.5
Effective Green, g (s)	25.5		28.8	28.8	23.5	23.5
Actuated g/C Ratio	0.28		0.32	0.32	0.26	0.26
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1635		466	417	1075	292
v/s Ratio Prot	c0.15		0.02	c0.41	c0.04	
v/s Ratio Perm						0.01
v/c Ratio	0.54		0.07	1.28	0.14	0.04
Uniform Delay, d1	27.3		21.3	30.6	25.5	24.9
Progression Factor	0.39		1.35	0.76	1.00	1.00
Incremental Delay, d2	0.1		0.1	130.1	0.3	0.3
Delay (s)	10.7		28.9	153.3	25.7	25.1
Level of Service	B		C	F	C	C
Approach Delay (s)	10.7			132.8	25.7	
Approach LOS	B			F	C	

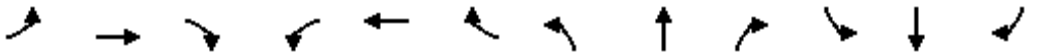
Intersection Summary			
HCM 2000 Control Delay	57.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	172	738	1141	660	951	288
Future Volume (vph)	172	738	1141	660	951	288
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.81		0.81	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.99	0.98	0.97
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.94	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1050		4853	2144	1038	1126
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1050		4853	2144	1038	1126
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	176	753	1164	673	970	294
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	158	0	1935	1129	514	280
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					10	10
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	450		2081	1031	533	579
v/s Ratio Prot				c0.53		
v/s Ratio Perm	0.15		0.40		0.50	0.25
v/c Ratio	0.35		1.32dl	1.10	0.96	0.48
Uniform Delay, d1	17.3		24.4	23.4	21.1	14.1
Progression Factor	1.00		1.00	1.66	1.87	2.06
Incremental Delay, d2	2.1		8.9	47.8	13.7	0.8
Delay (s)	19.4		33.3	86.6	53.0	30.0
Level of Service	B		C	F	D	C
Approach Delay (s)			32.3	69.1		
Approach LOS			C	E		

Intersection Summary			
HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	112.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	697	1429	0	0	0	0	0	1249	460
Future Volume (vph)	0	0	0	697	1429	0	0	0	0	0	1249	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.96	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.98	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4933						4681	694
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4933						4681	694
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	711	1458	0	0	0	0	0	1274	469
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	419	1750	0	0	0	0	0	1433	310
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						26.0	26.0
Effective Green, g (s)				33.5	33.5						28.0	28.0
Actuated g/C Ratio				0.37	0.37						0.31	0.31
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				439	1836						1456	215
v/s Ratio Prot				c0.35	0.35						0.31	
v/s Ratio Perm												c0.45
v/c Ratio				0.95	0.95						0.98	1.44
Uniform Delay, d1				27.5	27.5						30.8	31.0
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				32.9	12.5						20.1	223.2
Delay (s)				60.5	40.0						50.9	254.2
Level of Service				E	D						D	F
Approach Delay (s)		0.0			44.0			0.0			87.0	
Approach LOS		A			D			A			F	

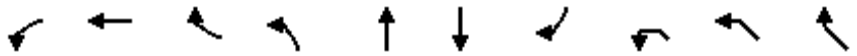
Intersection Summary			
HCM 2000 Control Delay	63.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	459	568	45	338	362	24	255	129	617
Future Volume (vph)	16	459	568	45	338	362	24	255	129	617
Ideal Flow (vphpl)	1000	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.99		0.84		0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00		1.00	1.00
Frt		1.00	0.99		0.92		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	0.99
Satd. Flow (prot)		1313	1914		2136		1163		1327	2541
Flt Permitted		0.95	1.00		1.00		1.00		0.15	0.63
Satd. Flow (perm)		1313	1914		2136		1163		207	1615
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	494	611	48	363	389	26	274	139	663
RTOR Reduction (vph)	0	0	8	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	457	705	0	755	0	6	0	306	770
Confl. Peds. (#/hr)	25			60		200				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Split	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases	2	2	2		8			7	7	4
Permitted Phases							8	4	4	
Actuated Green, G (s)		22.5	22.5		23.0		23.0		42.0	42.0
Effective Green, g (s)		22.5	25.0		24.5		23.0		43.5	43.5
Actuated g/C Ratio		0.25	0.28		0.27		0.26		0.48	0.48
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		328	531		581		297		305	950
v/s Ratio Prot		0.35	c0.37		c0.35				c0.18	0.15
v/s Ratio Perm							0.01		0.30	0.24
v/c Ratio		1.39	1.33		1.42dr		0.02		1.00	0.81
Uniform Delay, d1		33.8	32.5		32.8		25.1		31.1	19.7
Progression Factor		1.00	1.00		1.00		1.00		1.11	1.17
Incremental Delay, d2		194.7	160.2		147.1		0.1		16.2	0.7
Delay (s)		228.4	192.7		179.8		25.2		50.9	23.8
Level of Service		F	F		F		C		D	C
Approach Delay (s)			206.6		175.3					31.5
Approach LOS			F		F					C

Intersection Summary			
HCM 2000 Control Delay	136.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

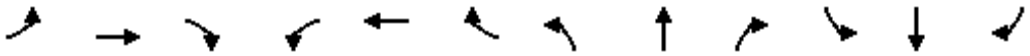


Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	272	1171	161	52	302	537	219	192	722	265
Future Volume (vph)	272	1171	161	52	302	537	219	192	722	265
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.96			0.99	0.87
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5749			2857	2464			3416	978
Flt Permitted		0.99			0.66	1.00			0.95	1.00
Satd. Flow (perm)		5749			1899	2464			3416	978
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	296	1259	173	56	325	577	235	209	776	285
RTOR Reduction (vph)	0	22	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1706	0	0	381	808	0	0	1014	256
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			10				10			10
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10				10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1852			590	766			1024	293
v/s Ratio Prot						c0.33				
v/s Ratio Perm		0.30			0.20				0.30	0.26
v/c Ratio		0.92			0.65	1.05			0.99	0.87
Uniform Delay, d1		29.4			26.7	31.0			31.4	29.9
Progression Factor		1.48			0.05	1.00			1.00	1.00
Incremental Delay, d2		6.6			0.5	47.9			25.9	28.4
Delay (s)		50.1			2.0	78.9			57.2	58.2
Level of Service		D			A	E			E	E
Approach Delay (s)		50.1			2.0	78.9			57.4	
Approach LOS		D			A	E			E	

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	108.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

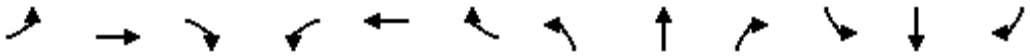
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	146	1426	4	32	168
Future Volume (vph)	8	146	1426	4	32	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.98	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3076		1513	3079
Flt Permitted	0.95	1.00	1.00		0.11	1.00
Satd. Flow (perm)	1540	1378	3076		172	3079
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	160	1567	4	35	185
RTOR Reduction (vph)	0	16	0	0	0	0
Lane Group Flow (vph)	9	144	1571	0	35	185
Confl. Peds. (#/hr)	87			209	209	
Confl. Bikes (#/hr)				21		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2091		116	2093
v/s Ratio Prot	0.01		c0.51			0.06
v/s Ratio Perm		c0.10			0.20	
v/c Ratio	0.03	0.45	0.75		0.30	0.09
Uniform Delay, d1	32.6	36.2	11.5		7.1	6.0
Progression Factor	1.00	1.00	1.00		2.62	0.40
Incremental Delay, d2	0.1	4.5	2.5		6.3	0.1
Delay (s)	32.7	40.7	14.1		24.8	2.5
Level of Service	C	D	B		C	A
Approach Delay (s)	40.3		14.1			6.1
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



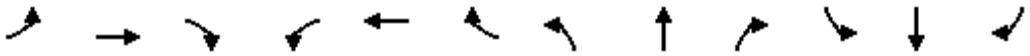
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	12	61	19	10	67	20	1185	18	12	193	15
Future Volume (vph)	44	12	61	19	10	67	20	1185	18	12	193	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.91		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1546	1353		1426		1540	3066		1540	3038	
Flt Permitted		0.77	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1235	1353		1368		1540	3066		1540	3038	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	13	64	20	11	71	21	1247	19	13	203	16
RTOR Reduction (vph)	0	0	43	0	48	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	59	21	0	54	0	21	1265	0	13	213	0
Confl. Peds. (#/hr)	15		5	5		15			64			14
Confl. Bikes (#/hr)			2			1			16			14
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		396	434		439		227	1088		254	1139	
v/s Ratio Prot							0.01	c0.41		0.01	c0.07	
v/s Ratio Perm		c0.05	0.02		0.04							
v/c Ratio		0.15	0.05		0.12		0.09	1.16		0.05	0.19	
Uniform Delay, d1		24.2	23.4		24.0		36.8	32.2		35.2	21.0	
Progression Factor		1.00	1.00		1.00		1.65	0.70		1.00	1.00	
Incremental Delay, d2		0.8	0.2		0.6		0.1	74.1		0.4	0.4	
Delay (s)		25.0	23.6		24.6		60.9	96.8		35.5	21.4	
Level of Service		C	C		C		E	F		D	C	
Approach Delay (s)		24.3			24.6			96.2			22.2	
Approach LOS		C			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	77.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
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)	65	4	11	9	6	23	9	1160	8	11	245	4
Future Volume (vph)	65	4	11	9	6	23	9	1160	8	11	245	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.92		1.00	1.00		1.00	1.00	
Flt Protected		0.96			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1507			1447		1540	3074		1540	3070	
Flt Permitted		0.76			0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1198			1388		1540	3074		1540	3070	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	71	4	12	10	7	25	10	1275	9	12	269	4
RTOR Reduction (vph)	0	6	0	0	17	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	81	0	0	25	0	10	1283	0	12	272	0
Confl. Peds. (#/hr)	16		9	9		16			50			20
Confl. Bikes (#/hr)						1			22			13
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		391			453		231	1134		229	1132	
v/s Ratio Prot							0.01	c0.42		0.01	c0.09	
v/s Ratio Perm		c0.07			0.02							
v/c Ratio		0.21			0.06		0.04	1.13		0.05	0.24	
Uniform Delay, d1		24.3			23.1		36.4	31.6		36.5	21.8	
Progression Factor		1.00			1.00		1.23	0.59		0.66	0.68	
Incremental Delay, d2		1.2			0.2		0.3	69.1		0.4	0.5	
Delay (s)		25.5			23.3		45.2	87.7		24.4	15.3	
Level of Service		C			C		D	F		C	B	
Approach Delay (s)		25.5			23.3			87.4			15.7	
Approach LOS		C			C			F			B	

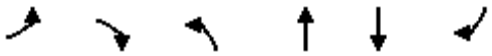
Intersection Summary			
HCM 2000 Control Delay	70.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	12	10	3	1	32	7	136	4	112	176	16
Future Volume (vph)	19	12	10	3	1	32	7	136	4	112	176	16
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.99	1.00	1.00		1.00	0.98	
Flpb, ped/bikes		0.99			1.00	1.00	0.85	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1348			1395	1226	1164	1443		1377	1405	
Flt Permitted		1.00			1.00	1.00	0.63	1.00		0.95	1.00	
Satd. Flow (perm)		1379			1447	1226	771	1443		1377	1405	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	13	11	3	1	34	8	146	4	120	189	17
RTOR Reduction (vph)	0	10	0	0	0	19	0	2	0	0	3	0
Lane Group Flow (vph)	0	34	0	0	4	15	8	148	0	120	203	0
Confl. Peds. (#/hr)	28		3	3		28	213		19			213
Confl. Bikes (#/hr)			1						18			10
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		2.5			2.5	17.4	8.2	8.2		14.9	28.1	
Effective Green, g (s)		2.5			2.5	17.4	8.2	8.2		14.9	28.1	
Actuated g/C Ratio		0.06			0.06	0.43	0.20	0.20		0.37	0.69	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		84			89	676	155	291		505	972	
v/s Ratio Prot						0.01		c0.10		0.09	c0.14	
v/s Ratio Perm		c0.02			0.00	0.00	0.01					
v/c Ratio		0.40			0.04	0.02	0.05	0.51		0.24	0.21	
Uniform Delay, d1		18.3			17.9	6.7	13.1	14.4		8.9	2.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.1			0.2	0.0	0.1	1.4		0.2	0.1	
Delay (s)		21.4			18.1	6.7	13.2	15.8		9.2	2.4	
Level of Service		C			B	A	B	B		A	A	
Approach Delay (s)		21.4			7.9			15.7			4.9	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	40.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

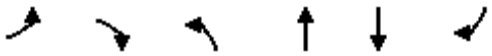
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	2	20	19	131	116	11
Future Volume (vph)	2	20	19	131	116	11
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	2	24	23	156	138	13

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	2	24	75	104	92	59
Volume Left (vph)	2	0	23	0	0	0
Volume Right (vph)	0	24	0	0	0	13
Hadj (s)	0.53	-0.67	0.19	0.03	0.03	-0.12
Departure Headway (s)	5.8	4.6	4.9	4.7	4.7	4.6
Degree Utilization, x	0.00	0.03	0.10	0.14	0.12	0.08
Capacity (veh/h)	584	733	726	750	742	769
Control Delay (s)	7.6	6.5	7.2	7.2	7.2	6.7
Approach Delay (s)	6.6		7.2		7.0	
Approach LOS	A		A		A	

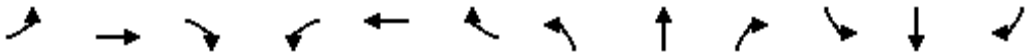
Intersection Summary			
Delay	7.1		
Level of Service	A		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	14	105	161	347	105
Future Volume (Veh/h)	14	14	105	161	347	105
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	16	16	124	189	408	124
Pedestrians	25			1	1	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	838	292	557			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	838	292	557			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	98	87			
cM capacity (veh/h)	261	690	990			

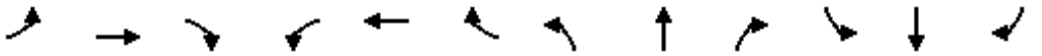
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	32	187	126	272	260
Volume Left	16	124	0	0	0
Volume Right	16	0	0	0	124
cSH	379	990	1700	1700	1700
Volume to Capacity	0.08	0.13	0.07	0.16	0.15
Queue Length 95th (ft)	7	11	0	0	0
Control Delay (s)	15.4	6.5	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	15.4	3.9		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		



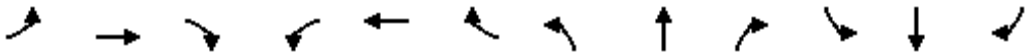
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	64	369	23	202	104	299	592	7	22	533	320
Future Volume (vph)	222	64	369	23	202	104	299	592	7	22	533	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1510	1621	1337	1523	1510		2987	3072		1540	2876	
Flt Permitted	0.40	1.00	1.00	0.71	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	642	1621	1337	1140	1510		2987	3072		1540	2876	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	244	70	405	25	222	114	329	651	8	24	586	352
RTOR Reduction (vph)	0	0	265	0	18	0	0	1	0	0	89	0
Lane Group Flow (vph)	244	70	140	25	318	0	329	658	0	24	849	0
Confl. Peds. (#/hr)	41		14	14		41			39			8
Confl. Bikes (#/hr)			9			10			4			14
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	221	559	461	393	520		418	1161		184	1029	
v/s Ratio Prot		0.04			0.21		c0.11	0.21		0.02	c0.30	
v/s Ratio Perm	c0.38		0.10	0.02								
v/c Ratio	1.10	0.13	0.30	0.06	0.61		0.79	0.57		0.13	0.82	
Uniform Delay, d1	32.8	22.4	24.0	21.9	27.2		41.6	24.6		39.3	29.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.61	0.73		0.82	0.71	
Incremental Delay, d2	91.2	0.5	1.7	0.3	5.3		10.8	1.5		1.5	7.5	
Delay (s)	124.0	22.9	25.6	22.2	32.5		36.4	19.6		33.7	28.4	
Level of Service	F	C	C	C	C		D	B		C	C	
Approach Delay (s)		58.7			31.7			25.2			28.5	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	116.7%	ICU Level of Service	H
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)	136	349	23	150	745	83	134	170	173	160	321	186
Future Volume (vph)	136	349	23	150	745	83	134	170	173	160	321	186
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Lane Width	8	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	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
Frt	1.00	1.00	0.85		0.99		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1235	1450	1378		2531		1540	2846			3030	1134
Flt Permitted	0.95	1.00	1.00		0.81		0.38	1.00			0.69	1.00
Satd. Flow (perm)	1235	1450	1378		2059		615	2846			2120	1134
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92	0.96
Adj. Flow (vph)	142	364	25	163	776	86	146	185	188	167	349	194
RTOR Reduction (vph)	0	0	10	0	6	0	0	125	0	0	0	107
Lane Group Flow (vph)	142	364	15	0	1019	0	146	248	0	0	516	87
Confl. Peds. (#/hr)						17						3
Confl. Bikes (#/hr)						36						
Turn Type	Prot	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6			8			4		4
Actuated Green, G (s)	4.0	45.4	45.4		36.4		27.2	27.2			26.2	26.2
Effective Green, g (s)	4.0	45.4	45.4		36.4		27.2	27.2			26.2	26.2
Actuated g/C Ratio	0.05	0.56	0.56		0.45		0.33	0.33			0.32	0.32
Clearance Time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	60	806	766		918		205	948			680	364
v/s Ratio Prot	c0.11	0.25						0.09				
v/s Ratio Perm			0.01		c0.49		0.24				c0.24	0.08
v/c Ratio	2.37	0.45	0.02		1.11		0.71	0.26			0.76	0.24
Uniform Delay, d1	38.8	10.7	8.1		22.6		23.8	19.9			24.9	20.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	663.2	0.4	0.0		64.6		11.1	0.1			4.9	0.3
Delay (s)	702.0	11.1	8.1		87.2		34.9	20.0			29.7	20.7
Level of Service	F	B	A		F		C	C			C	C
Approach Delay (s)		195.7			87.2			24.2			27.3	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	80.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



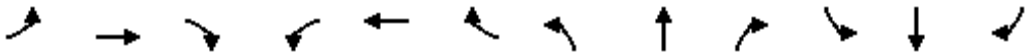
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	365	85	59	568	457	51	335	39	92	150	90
Future Volume (vph)	57	365	85	59	568	457	51	335	39	92	150	90
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		*0.80	*0.80		*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	
Frpb, ped/bikes		1.00	0.96		1.00	0.93	1.00	1.00	0.97	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	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		951	782		1120	894	1070	957	925	1070	1042	
Flt Permitted		0.16	1.00		0.41	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		152	782		463	894	1070	957	925	1070	1042	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	61	388	90	63	604	486	54	356	41	98	160	96
RTOR Reduction (vph)	0	0	45	0	0	91	0	0	28	0	17	0
Lane Group Flow (vph)	0	449	45	0	667	395	54	356	13	98	239	0
Confl. Peds. (#/hr)	28		6	6		28			4			11
Confl. Bikes (#/hr)			9			50			7			15
Parking (#/hr)		10	10					10				
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.3	34.3		34.3	51.3	13.2	32.4	32.4	17.0	36.2	
Effective Green, g (s)		34.3	34.3		34.3	51.3	13.2	32.4	32.4	17.0	36.2	
Actuated g/C Ratio		0.35	0.35		0.35	0.52	0.13	0.33	0.33	0.17	0.37	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		52	271		160	509	143	314	303	184	382	
v/s Ratio Prot						c0.13	0.05	c0.37		0.09	0.23	
v/s Ratio Perm		c2.95	0.06		1.44	0.31			0.01			
v/c Ratio		8.63	0.17		4.17	0.78	0.38	1.13	0.04	0.53	0.63	
Uniform Delay, d1		32.2	22.3		32.2	19.1	39.0	33.2	22.6	37.2	25.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		3474.3	0.3		1440.6	7.3	1.7	92.0	0.1	2.9	3.2	
Delay (s)		3506.5	22.6		1472.8	26.3	40.7	125.1	22.7	40.2	28.9	
Level of Service		F	C		F	C	D	F	C	D	C	
Approach Delay (s)		2924.8			863.1			105.7			32.0	
Approach LOS		F			F			F			C	

Intersection Summary			
HCM 2000 Control Delay	1053.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.10		
Actuated Cycle Length (s)	98.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	92	67	958	35	57	239
Future Volume (vph)	92	67	958	35	57	239
Ideal Flow (vphpl)	1400	1400	1200	1200	1400	1400
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.74	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1134	1745	1515	848	1134	1194
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1134	1745	1515	848	1134	1194
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	73	1041	38	62	260
RTOR Reduction (vph)	0	62	0	5	0	0
Lane Group Flow (vph)	100	11	1041	33	62	260
Confl. Peds. (#/hr)	60	1		5		
Confl. Bikes (#/hr)		1		30		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	12.8	12.8	47.8	42.8	8.4	61.2
Effective Green, g (s)	12.8	12.8	47.8	42.8	8.4	61.2
Actuated g/C Ratio	0.15	0.15	0.57	0.51	0.10	0.73
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	172	265	862	482	113	869
v/s Ratio Prot	c0.09		c0.69	0.02	c0.05	0.22
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.58	0.04	1.21	0.07	0.55	0.30
Uniform Delay, d1	33.1	30.4	18.1	10.5	36.0	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.1	104.3	0.1	5.4	0.2
Delay (s)	38.0	30.4	122.4	10.5	41.4	4.2
Level of Service	D	C	F	B	D	A
Approach Delay (s)	34.8		118.5			11.3
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	87.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

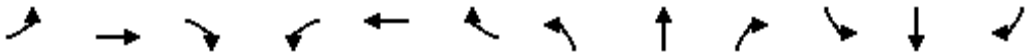
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	19	85	63	45	312	2	129	138	78	11	69	51
Future Volume (vph)	19	85	63	45	312	2	129	138	78	11	69	51
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
Hourly flow rate (vph)	21	94	70	50	347	2	143	153	87	12	77	57

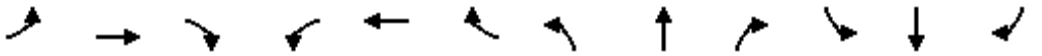
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	185	50	349	296	87	146
Volume Left (vph)	21	50	0	143	0	12
Volume Right (vph)	70	0	2	0	87	57
Hadj (s)	-0.17	0.53	0.03	0.28	-0.67	-0.18
Departure Headway (s)	6.9	7.2	6.6	7.0	6.0	7.1
Degree Utilization, x	0.35	0.10	0.64	0.58	0.15	0.29
Capacity (veh/h)	480	477	517	489	560	450
Control Delay (s)	13.6	9.7	19.7	17.8	8.9	12.9
Approach Delay (s)	13.6	18.4		15.8		12.9
Approach LOS	B	C		C		B

Intersection Summary				
Delay	16.0			
Level of Service	C			
Intersection Capacity Utilization	53.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	94	63	29	396	55	67	811	36	25	564	324
Future Volume (vph)	100	94	63	29	396	55	67	811	36	25	564	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94			0.98		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1685	1667			3329		1711	3393		1711	3193	
Flt Permitted	0.35	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	627	1667			3095		1711	3393		1711	3193	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	100	67	31	421	59	71	863	38	27	600	345
RTOR Reduction (vph)	0	24	0	0	10	0	0	3	0	0	82	0
Lane Group Flow (vph)	106	143	0	0	501	0	71	898	0	27	863	0
Confl. Peds. (#/hr)	34		24	24		34			16			15
Confl. Bikes (#/hr)			2			6			6			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	186	495			919		289	1353		254	1210	
v/s Ratio Prot		0.09					0.04	c0.26		0.02	c0.27	
v/s Ratio Perm	c0.17				0.16							
v/c Ratio	0.57	0.29			0.55		0.25	0.66		0.11	0.71	
Uniform Delay, d1	29.7	27.0			29.5		36.0	24.6		36.8	26.4	
Progression Factor	1.00	1.00			1.00		1.00	0.90		1.45	0.84	
Incremental Delay, d2	12.1	1.5			2.3		1.4	1.7		0.6	2.5	
Delay (s)	41.8	28.5			31.8		37.3	23.9		54.1	24.8	
Level of Service	D	C			C		D	C		D	C	
Approach Delay (s)		33.7			31.8			24.8			25.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
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)	23	89	0	0	958	26	463	156	204	0	0	593
Future Volume (vph)	23	89	0	0	958	26	463	156	204	0	0	593
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			1.00		1.00	0.92				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3385			4895		1711	3139				2694
Flt Permitted		0.77			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2623			4895		1711	3139				2694
Peak-hour factor, PHF	0.92	0.98	0.98	0.98	0.98	0.92	0.98	0.92	0.98	0.92	0.92	0.92
Adj. Flow (vph)	25	91	0	0	978	28	472	170	208	0	0	645
RTOR Reduction (vph)	0	0	0	0	3	0	0	172	0	0	0	446
Lane Group Flow (vph)	0	116	0	0	1003	0	472	206	0	0	0	199
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		52.0			52.0		31.0	20.0				31.0
Effective Green, g (s)		52.0			52.0		31.0	20.0				31.0
Actuated g/C Ratio		0.46			0.46		0.27	0.18				0.27
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		1196			2232		465	550				732
v/s Ratio Prot					c0.20		c0.28	c0.07				
v/s Ratio Perm		0.04										0.07
v/c Ratio		0.10			0.45		1.02	0.38				0.27
Uniform Delay, d1		17.6			21.2		41.5	41.5				32.6
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			0.7		45.6	2.0				0.9
Delay (s)		17.8			21.9		87.1	43.4				33.6
Level of Service		B			C		F	D				C
Approach Delay (s)		17.8			21.9			67.7			33.6	
Approach LOS		B			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	39.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

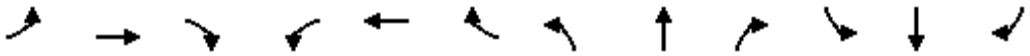
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	114	594	810	85	0	0
Future Volume (vph)	114	594	810	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.99	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.90	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1514	1426	3319	1801		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1514	1426	3319	1801		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	118	612	835	88	0	0
RTOR Reduction (vph)	72	72	0	0	0	0
Lane Group Flow (vph)	303	283	835	88	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		5				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	21.0	21.0	29.0	60.0		
Effective Green, g (s)	21.0	21.0	29.0	60.0		
Actuated g/C Ratio	0.35	0.35	0.48	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	529	499	1604	1801		
v/s Ratio Prot	c0.20		c0.25	0.05		
v/s Ratio Perm		0.20				
v/c Ratio	0.57	0.57	0.52	0.05		
Uniform Delay, d1	15.9	15.8	10.7	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	4.5	4.6	1.2	0.1		
Delay (s)	20.3	20.4	11.9	0.1		
Level of Service	C	C	B	A		
Approach Delay (s)	20.4			10.8	0.0	
Approach LOS	C			B	A	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.5%	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)	36	12	52	69	55	24	0	837	49	0	876	34
Future Volume (vph)	36	12	52	69	55	24	0	837	49	0	876	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1200	1200	1200	1200	1200	1200
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.94			0.98			0.98			0.99	
Flpb, ped/bikes		0.97			0.96			1.00			1.00	
Frt		0.93			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1176			1271			1780			1794	
Flt Permitted		0.84			0.80			1.00			1.00	
Satd. Flow (perm)		1007			1035			1780			1794	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	39	13	56	74	59	26	0	900	53	0	942	37
RTOR Reduction (vph)	0	44	0	0	8	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	64	0	0	151	0	0	950	0	0	977	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.4			19.4			70.7			70.7	
Effective Green, g (s)		19.4			19.4			70.7			70.7	
Actuated g/C Ratio		0.19			0.19			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			200			1258			1268	
v/s Ratio Prot								0.53			c0.54	
v/s Ratio Perm		0.06			c0.15							
v/c Ratio		0.33			0.75			0.75			0.77	
Uniform Delay, d1		34.7			38.1			9.2			9.4	
Progression Factor		1.00			1.00			1.32			0.51	
Incremental Delay, d2		1.0			14.9			1.9			4.1	
Delay (s)		35.7			52.9			14.1			8.8	
Level of Service		D			D			B			A	
Approach Delay (s)		35.7			52.9			14.1			8.8	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

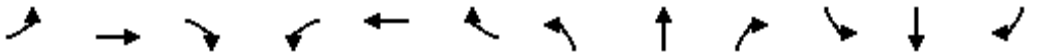
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	135	181	7	204	13	176	563	16	17	606	290
Future Volume (vph)	305	135	181	7	204	13	176	563	16	17	606	290
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.94	
Flpb, ped/bikes	0.98	1.00		0.94	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1188	1952		1139	1257		1215	2413		1215	2183	
Flt Permitted	0.36	1.00		0.55	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	452	1952		662	1257		1215	2413		1215	2183	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	141	189	7	212	14	183	586	17	18	631	302
RTOR Reduction (vph)	0	127	0	0	2	0	0	2	0	0	58	0
Lane Group Flow (vph)	318	203	0	7	225	0	183	601	0	18	875	0
Confl. Peds. (#/hr)	100		100	100		100			100			100
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.9	32.9		21.9	21.9		17.3	46.6		4.2	33.5	
Effective Green, g (s)	32.9	32.9		21.9	21.9		17.3	46.6		4.2	33.5	
Actuated g/C Ratio	0.33	0.33		0.22	0.22		0.17	0.47		0.04	0.34	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	642		144	275		210	1124		51	731	
v/s Ratio Prot	c0.10	0.10			0.18		c0.15	0.25		0.01	c0.40	
v/s Ratio Perm	c0.45			0.01								
v/c Ratio	1.67	0.32		0.05	0.82		0.87	0.54		0.35	1.20	
Uniform Delay, d1	34.1	25.1		30.8	37.1		40.3	19.0		46.6	33.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.13	1.15	
Incremental Delay, d2	325.1	0.3		0.1	16.9		30.2	1.8		2.8	97.8	
Delay (s)	359.2	25.4		31.0	54.0		70.5	20.8		55.6	136.1	
Level of Service	F	C		C	D		E	C		E	F	
Approach Delay (s)		189.2			53.3			32.4			134.6	
Approach LOS		F			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	110.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	114.8%	ICU Level of Service	H
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)	59	3	201	1	0	1	132	757	3	28	1039	149
Future Volume (vph)	59	3	201	1	0	1	132	757	3	28	1039	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95			0.97		1.00	1.00		1.00	1.00	0.36
Flpb, ped/bikes	0.94	1.00			0.99		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85			0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1454	1309			1404		1540	3070		1296	2593	422
Flt Permitted	0.76	1.00			0.93		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1158	1309			1334		1540	3070		1296	2593	422
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	63	3	216	1	0	1	142	814	3	30	1117	160
RTOR Reduction (vph)	0	141	0	0	1	0	0	0	0	0	0	72
Lane Group Flow (vph)	63	78	0	0	1	0	142	817	0	30	1117	88
Confl. Peds. (#/hr)	64		48	48		64			688			395
Confl. Bikes (#/hr)						1			171			163
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Effective Green, g (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Actuated g/C Ratio	0.35	0.35			0.35		0.19	0.38		0.10	0.30	0.30
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	401	453			462		287	1158		130	773	125
v/s Ratio Prot		c0.06					0.09	c0.27		0.02	c0.43	
v/s Ratio Perm	0.05				0.00							0.21
v/c Ratio	0.16	0.17			0.00		0.49	0.71		0.23	1.45	0.70
Uniform Delay, d1	24.9	25.0			23.5		40.1	29.1		45.5	38.6	34.3
Progression Factor	1.00	1.00			1.00		0.65	0.58		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.8			0.0		5.4	3.3		4.1	207.6	28.0
Delay (s)	25.7	25.8			23.5		31.4	20.2		49.6	246.2	62.3
Level of Service	C	C			C		C	C		D	F	E
Approach Delay (s)		25.8			23.5			21.9			219.1	
Approach LOS		C			C			C			F	

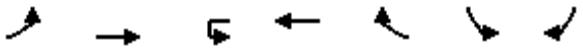
Intersection Summary			
HCM 2000 Control Delay	123.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	114	24	29	677	1	928	424
Future Volume (vph)	114	24	29	677	1	928	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.92	1.00	1.00	1.00	1.00	0.64
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	1272	1540	3079	1540	3079	885
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1540	1272	1540	3079	1540	3079	885
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	121	26	31	720	1	987	451
RTOR Reduction (vph)	0	14	0	0	0	0	165
Lane Group Flow (vph)	121	12	31	720	1	987	286
Confl. Peds. (#/hr)	76	76					432
Confl. Bikes (#/hr)							111
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	533	440	215	1226	140	1035	297
v/s Ratio Prot	c0.08		0.02	c0.23	0.00	0.32	
v/s Ratio Perm		0.01					c0.32
v/c Ratio	0.23	0.03	0.14	0.59	0.01	0.95	0.96
Uniform Delay, d1	25.5	23.7	41.5	26.0	45.5	35.7	35.8
Progression Factor	1.00	1.00	0.52	0.86	0.92	0.70	1.36
Incremental Delay, d2	1.0	0.1	1.2	1.7	0.0	2.8	9.1
Delay (s)	26.5	23.8	22.6	24.0	41.9	27.9	57.9
Level of Service	C	C	C	C	D	C	E
Approach Delay (s)	26.0			24.0		37.3	
Approach LOS	C			C		D	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	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)	81	1	29	1	11	4	45	711	2	5	745	156
Future Volume (vph)	81	1	29	1	11	4	45	711	2	5	745	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.97			0.97		1.00	1.00		1.00	0.90	
Flpb, ped/bikes		0.94			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	1.00		1.00	0.97	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1377			1514		1540	3073		1296	2266	
Flt Permitted		0.78			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1114			1505		1540	3073		1296	2266	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	1	30	1	11	4	47	741	2	5	776	162
RTOR Reduction (vph)	0	12	0	0	3	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	103	0	0	13	0	47	743	0	5	923	0
Confl. Peds. (#/hr)	100		100	100		100			500			430
Confl. Bikes (#/hr)			10			10			90			111
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		384			519		210	1201		108	774	
v/s Ratio Prot							0.03	c0.24		0.00	c0.41	
v/s Ratio Perm		c0.09			0.01							
v/c Ratio		0.27			0.03		0.22	0.62		0.05	1.19	
Uniform Delay, d1		26.0			23.8		42.3	26.9		46.4	36.2	
Progression Factor		1.00			1.00		0.78	0.67		1.81	0.61	
Incremental Delay, d2		1.7			0.1		1.8	1.8		0.3	91.7	
Delay (s)		27.7			23.9		34.6	19.8		84.1	113.9	
Level of Service		C			C		C	B		F	F	
Approach Delay (s)		27.7			23.9			20.6			113.7	
Approach LOS		C			C			C			F	

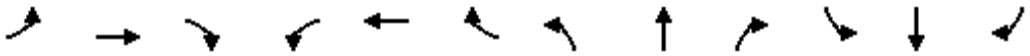
Intersection Summary			
HCM 2000 Control Delay	68.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	124	702	5	696	45	30	254
Future Volume (vph)	124	702	5	696	45	30	254
Ideal Flow (vphpl)	1500	1500	1450	1450	1450	1900	1900
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97		1.00	0.46
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1215	2431	1175	2253		1540	638
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1215	2431	1175	2253		1540	638
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	128	724	5	718	46	31	262
RTOR Reduction (vph)	0	0	0	4	0	0	171
Lane Group Flow (vph)	128	724	5	760	0	31	91
Confl. Peds. (#/hr)					1700	1700	1700
Confl. Bikes (#/hr)					10		30
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	170	990	89	745		534	221
v/s Ratio Prot	0.11	c0.30	0.00	c0.34		0.02	
v/s Ratio Perm							c0.14
v/c Ratio	0.75	0.73	0.06	1.02		0.06	0.41
Uniform Delay, d1	45.5	27.5	47.1	36.8		23.9	27.3
Progression Factor	0.71	1.38	0.67	0.52		1.00	1.00
Incremental Delay, d2	12.6	2.1	0.1	15.5		0.2	5.6
Delay (s)	45.0	40.1	31.6	34.6		24.1	32.9
Level of Service	D	D	C	C		C	C
Approach Delay (s)		40.8		34.6		32.0	
Approach LOS		D		C		C	

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

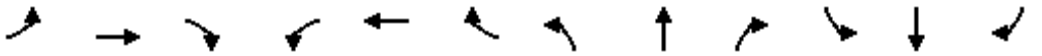
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	762	670	99	298	614	48	12	1010	160	0	0	0
Future Volume (vph)	762	670	99	298	614	48	12	1010	160	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.93		1.00	0.96			1.00	0.47			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00			
Frt	1.00	0.98		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	3656	2366		2515	2464			4662	547			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	3656	2366		2515	2464			4662	547			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	794	698	103	310	640	50	12	1052	167	0	0	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	113	0	0	0
Lane Group Flow (vph)	794	791	0	310	690	0	0	1065	54	0	0	0
Confl. Peds. (#/hr)			1700			1700	1700		1700			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	19.9	37.9		16.2	35.7			35.5	35.5			
Effective Green, g (s)	19.9	37.9		16.2	35.7			35.5	35.5			
Actuated g/C Ratio	0.18	0.34		0.15	0.32			0.32	0.32			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	661	815		370	799			1504	176			
v/s Ratio Prot	c0.22	c0.33		0.12	c0.28							
v/s Ratio Perm								0.23	0.10			
v/c Ratio	1.20	0.97		0.84	0.86			0.71	0.31			
Uniform Delay, d1	45.0	35.5		45.6	34.9			32.7	28.0			
Progression Factor	1.20	1.30		1.54	1.07			1.57	3.96			
Incremental Delay, d2	95.1	11.3		6.8	4.2			1.2	0.8			
Delay (s)	149.1	57.6		77.1	41.4			52.4	111.5			
Level of Service	F	E		E	D			D	F			
Approach Delay (s)		103.2			52.5			60.4			0.0	
Approach LOS		F			D			E			A	

Intersection Summary			
HCM 2000 Control Delay	76.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
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)	128	1358	30	36	563	24	7	160	134	126	503	437
Future Volume (vph)	128	1358	30	36	563	24	7	160	134	126	503	437
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	*0.80		1.00	*0.90			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.99		1.00	0.96			1.00	0.46	1.00	0.88	0.46
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.58	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.97	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3227		1296	2352			1352	528	754	2106	480
Flt Permitted	0.95	1.00		0.95	1.00			0.97	1.00	0.64	1.00	1.00
Satd. Flow (perm)	1296	3227		1296	2352			1310	528	508	2106	480
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	129	1372	30	36	569	24	7	162	135	127	508	441
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	88	0	23	187
Lane Group Flow (vph)	129	1400	0	36	590	0	0	169	47	127	635	104
Confl. Peds. (#/hr)			1700			1700	1700		1700	1700		1700
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1261		104	767			454	183	181	750	171
v/s Ratio Prot	0.10	c0.43		0.03	c0.25						c0.30	
v/s Ratio Perm								0.13	0.09	0.25		0.22
v/c Ratio	0.76	1.11		0.35	0.77			0.37	0.26	0.70	0.85	0.61
Uniform Delay, d1	46.2	33.5		47.8	33.3			26.9	25.7	30.4	32.6	29.1
Progression Factor	0.61	0.93		0.85	0.77			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	50.9		1.0	2.3			0.5	0.7	11.6	8.7	6.0
Delay (s)	30.2	82.0		41.6	27.9			27.4	26.5	42.0	41.4	35.0
Level of Service	C	F		D	C			C	C	D	D	D
Approach Delay (s)		77.7			28.6			27.0			39.7	
Approach LOS		E			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	134.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1494	151	0	1042	77	25
Future Volume (vph)	1494	151	0	1042	77	25
Ideal Flow (vphpl)	1800	1800	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2870			3079	1540	1378
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2870			3079	1540	1378
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1540	156	0	1074	79	26
RTOR Reduction (vph)	7	0	0	0	0	16
Lane Group Flow (vph)	1689	0	0	1074	79	10
Confl. Peds. (#/hr)		25				
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1620			1738	512	458
v/s Ratio Prot	c0.59			0.35	c0.05	
v/s Ratio Perm						0.01
v/c Ratio	1.04			0.62	0.15	0.02
Uniform Delay, d1	23.9			16.0	25.8	24.7
Progression Factor	1.00			0.79	1.00	1.00
Incremental Delay, d2	34.4			1.1	0.6	0.1
Delay (s)	58.3			13.7	26.5	24.8
Level of Service	E			B	C	C
Approach Delay (s)	58.3			13.7	26.0	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

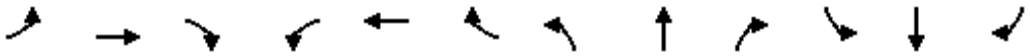
c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	42	108	7	4	17	68	93	41	13	2	8	24
Future Volume (vph)	42	108	7	4	17	68	93	41	13	2	8	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.97					0.98				0.93	
Flpb, ped/bikes		0.98					0.96				0.89	
Frt		0.99					0.97				0.93	
Flt Protected		0.99					0.98				0.98	
Satd. Flow (prot)		1430					1173				991	
Flt Permitted		0.88					0.81				0.89	
Satd. Flow (perm)		1280					972				892	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	44	112	7	4	18	71	97	43	14	2	8	25
RTOR Reduction (vph)	0	0	0	0	0	0	9	0	0	0	14	0
Lane Group Flow (vph)	0	168	0	0	0	0	220	0	0	0	35	0
Confl. Peds. (#/hr)	58		84	200	84			58	235	275		133
Confl. Bikes (#/hr)			10	10				1				18
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		27.0					27.0				38.0	
Effective Green, g (s)		27.0					27.0				38.0	
Actuated g/C Ratio		0.30					0.30				0.42	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		384					291				376	
v/s Ratio Prot												
v/s Ratio Perm		0.13					c0.23				0.04	
v/c Ratio		0.44					0.76				0.09	
Uniform Delay, d1		25.4					28.5				15.6	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		3.6					10.6				0.1	
Delay (s)		29.0					39.2				15.7	
Level of Service		C					D				B	
Approach Delay (s)		29.0					39.2				15.7	
Approach LOS		C					D				B	

Intersection Summary			
HCM 2000 Control Delay	43.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	86	23	133	286	1	51	102	12
Future Volume (vph)	86	23	133	286	1	51	102	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1900	1800	1800
Total Lost time (s)		5.0		5.0		5.0		
Lane Util. Factor		0.95		0.95		1.00		
Frpb, ped/bikes		0.66		0.58		0.73		
Flpb, ped/bikes		0.97		1.00		0.92		
Frt		0.91		0.85		0.91		
Flt Protected		0.98		1.00		0.98		
Satd. Flow (prot)		827		713		969		
Flt Permitted		0.89		1.00		0.98		
Satd. Flow (perm)		746		713		969		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	90	24	139	298	1	53	106	12
RTOR Reduction (vph)	0	5	0	127	0	76	0	0
Lane Group Flow (vph)	0	278	0	141	0	97	0	0
Confl. Peds. (#/hr)	133		235	275		58		84
Confl. Bikes (#/hr)			26	26				2
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot		
Protected Phases		4				5		
Permitted Phases	4			4	5			
Actuated Green, G (s)		38.0		38.0		10.0		
Effective Green, g (s)		38.0		38.0		10.0		
Actuated g/C Ratio		0.42		0.42		0.11		
Clearance Time (s)		5.0		5.0		5.0		
Vehicle Extension (s)		3.0		3.0		3.0		
Lane Grp Cap (vph)		314		301		107		
v/s Ratio Prot								
v/s Ratio Perm		c0.37		0.20		0.10		
v/c Ratio		0.89		0.47		0.91		
Uniform Delay, d1		24.0		18.7		39.6		
Progression Factor		1.00		1.00		1.00		
Incremental Delay, d2		24.5		1.2		59.3		
Delay (s)		48.5		19.9		98.9		
Level of Service		D		B		F		
Approach Delay (s)		34.6				98.9		
Approach LOS		C				F		

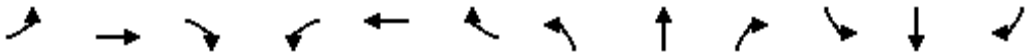
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	75	0	0	755	47	143	166	316	9	0	281
Future Volume (vph)	30	75	0	0	755	47	143	166	316	9	0	281
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1400	1400	1400	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.75	1.00	*0.80	*0.80			1.00	
Frpb, ped/bikes		1.00			1.00	0.96	1.00	0.98			1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.90			0.87	
Flt Protected		0.99			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1284			1919	698	908	1688			1332	
Flt Permitted		0.70			1.00	1.00	0.53	1.00			0.98	
Satd. Flow (perm)		912			1919	698	508	1688			1304	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	82	0	0	821	51	155	180	343	10	0	305
RTOR Reduction (vph)	0	0	0	0	0	0	0	206	0	0	0	0
Lane Group Flow (vph)	0	115	0	0	821	51	155	317	0	0	315	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)						10						
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Effective Green, g (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Actuated g/C Ratio		0.43			0.43	0.43	0.40	0.40			0.40	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		395			831	302	203	675			521	
v/s Ratio Prot					c0.43			0.19				
v/s Ratio Perm		0.13				0.07	c0.30				0.24	
v/c Ratio		0.29			0.99	0.17	0.76	0.47			0.60	
Uniform Delay, d1		11.0			16.8	10.4	15.5	13.3			14.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		1.9			28.4	1.2	23.5	2.3			5.1	
Delay (s)		12.9			45.3	11.6	39.0	15.6			19.4	
Level of Service		B			D	B	D	B			B	
Approach Delay (s)		12.9			43.3			21.0			19.4	
Approach LOS		B			D			C			B	

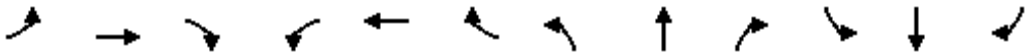
Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	275	182	21	110	129	0	114	117	234	80	2
Future Volume (vph)	188	275	182	21	110	129	0	114	117	234	80	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.92			0.98			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.94			0.93			0.93			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2409			1312			1402			1479	
Flt Permitted	0.95	1.00			0.94			1.00			0.58	
Satd. Flow (perm)	1459	2409			1244			1402			897	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	299	198	23	120	140	0	124	127	254	87	2
RTOR Reduction (vph)	0	111	0	0	39	0	0	47	0	0	1	0
Lane Group Flow (vph)	204	386	0	0	244	0	0	204	0	0	342	0
Confl. Peds. (#/hr)			152			154			25			
Confl. Bikes (#/hr)			30									
Parking (#/hr)		10	10									
Turn Type	Prot	NA		Perm	NA			NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases				6						4		
Actuated Green, G (s)	6.3	29.1			18.8			33.1			32.1	
Effective Green, g (s)	8.3	32.1			20.8			36.1			36.1	
Actuated g/C Ratio	0.11	0.44			0.28			0.49			0.49	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	165	1056			353			691			442	
v/s Ratio Prot	c0.14	0.16						0.15				
v/s Ratio Perm					c0.20						c0.38	
v/c Ratio	1.24	0.37			0.69			0.30			0.77	
Uniform Delay, d1	32.5	13.7			23.3			11.0			15.2	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	147.5	0.2			5.7			0.2			8.3	
Delay (s)	180.0	14.0			29.0			11.2			23.5	
Level of Service	F	B			C			B			C	
Approach Delay (s)		62.3			29.0			11.2			23.5	
Approach LOS		E			C			B			C	

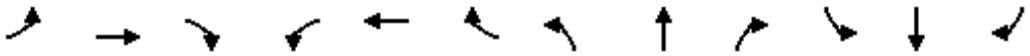
Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	294	97	43	565	93	26	307	31	62	352	211
Future Volume (vph)	203	294	97	43	565	93	26	307	31	62	352	211
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.97			0.98			0.97			0.88	
Flpb, ped/bikes		0.99			1.00			0.99			0.98	
Frt		0.98			0.98			0.99			0.95	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		2469			2576			2735			2172	
Flt Permitted		0.60			0.90			0.90			0.88	
Satd. Flow (perm)		1498			2318			2470			1928	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	205	297	98	43	571	94	26	310	31	63	356	213
RTOR Reduction (vph)	0	1	0	0	5	0	0	12	0	0	36	0
Lane Group Flow (vph)	0	599	0	0	703	0	0	355	0	0	596	0
Confl. Peds. (#/hr)	182		134	134		182	777		592	592		777
Confl. Bikes (#/hr)			27			15			20			41
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		699			1081			1152			867	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.30			0.14			c0.31	
v/c Ratio		1.19dl			0.65			0.31			0.69	
Uniform Delay, d1		14.2			12.3			10.0			13.1	
Progression Factor		1.00			1.00			1.00			1.54	
Incremental Delay, d2		12.8			3.0			0.7			3.5	
Delay (s)		27.1			15.3			10.7			23.6	
Level of Service		C			B			B			C	
Approach Delay (s)		27.1			15.3			10.7			23.6	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		

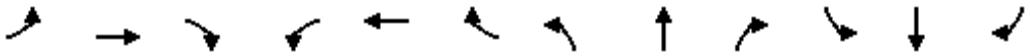
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	623	60	0	0	0	0	524	167	17	619	0
Future Volume (vph)	334	623	60	0	0	0	0	524	167	17	619	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1000	1000	1000	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0	2.0		2.0	
Lane Util. Factor	*0.50	*0.50						*0.50	0.91		0.95	
Frpb, ped/bikes	1.00	0.99						0.99	0.64		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	750	1188						840	424		2686	
Flt Permitted	0.95	1.00						1.00	1.00		0.92	
Satd. Flow (perm)	750	1188						840	424		2485	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	341	636	61	0	0	0	0	535	170	17	632	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	2	42	0	0	0
Lane Group Flow (vph)	341	688	0	0	0	0	0	550	111	0	649	0
Confl. Peds. (#/hr)			146						759	759		
Confl. Bikes (#/hr)			7						34			
Parking (#/hr)	10	10	10								10	
Turn Type	Split	NA						NA	Perm	Perm	NA	
Protected Phases	2	2						4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	27.0	27.0						26.0	26.0		26.0	
Effective Green, g (s)	28.5	28.5						27.5	27.5		27.5	
Actuated g/C Ratio	0.48	0.48						0.46	0.46		0.46	
Clearance Time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Grp Cap (vph)	356	564						385	194		1138	
v/s Ratio Prot	0.45	c0.58						c0.65				
v/s Ratio Perm									0.26		0.26	
v/c Ratio	0.96	1.22						1.43	0.57		0.57	
Uniform Delay, d1	15.2	15.8						16.2	11.9		11.9	
Progression Factor	0.89	0.89						0.79	0.58		1.00	
Incremental Delay, d2	15.9	103.3						205.7	10.6		2.1	
Delay (s)	29.4	117.3						218.6	17.5		14.0	
Level of Service	C	F						F	B		B	
Approach Delay (s)		88.4			0.0			175.0			14.0	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	93.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

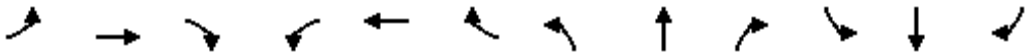
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	559	0	0	0	0	0	2069	461	0	0	0
Future Volume (vph)	300	559	0	0	0	0	0	2069	461	0	0	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1700	1700	1700	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	*0.50						*0.90	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.76			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1572	1237						3719	932			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1572	1237						3719	932			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	588	0	0	0	0	0	2178	485	0	0	0
RTOR Reduction (vph)	17	0	0	0	0	0	0	0	119	0	0	0
Lane Group Flow (vph)	299	588	0	0	0	0	0	2178	366	0	0	0
Confl. Peds. (#/hr)									306			
Confl. Bikes (#/hr)									30			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	26.3	26.3						24.3	24.3			
Effective Green, g (s)	27.8	27.8						25.8	25.8			
Actuated g/C Ratio	0.46	0.46						0.43	0.43			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	728	573						1599	400			
v/s Ratio Prot		c0.48						c0.59				
v/s Ratio Perm	0.19								0.39			
v/c Ratio	0.41	1.03						1.36	0.92			
Uniform Delay, d1	10.7	16.1						17.1	16.1			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	1.7	44.4						167.1	28.1			
Delay (s)	12.4	60.5						184.2	44.2			
Level of Service	B	E						F	D			
Approach Delay (s)		43.7			0.0			158.7			0.0	
Approach LOS		D			A			F			A	

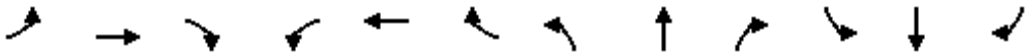
Intersection Summary			
HCM 2000 Control Delay	129.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



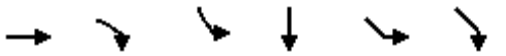
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1124	81	327	1899	140	0	0	0
Future Volume (vph)	0	0	0	0	1124	81	327	1899	140	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.98		1.00	1.00	0.71			
Flpb, ped/bikes					1.00		0.92	1.00	1.00			
Frt					0.99		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4253		1423	4424	984			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4253		1423	4424	984			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	0	1159	84	337	1958	144	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	59	0	61	0	0	0
Lane Group Flow (vph)	0	0	0	0	1242	0	278	1958	84	0	0	0
Confl. Peds. (#/hr)						453	105		196			
Confl. Bikes (#/hr)						25			56			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1665		652	2027	442			
v/s Ratio Prot					c0.29			c0.44				
v/s Ratio Perm							0.20		0.08			
v/c Ratio					0.75		0.43	0.97	0.19			
Uniform Delay, d1					15.7		10.9	15.8	9.9			
Progression Factor					1.00		1.10	0.87	1.42			
Incremental Delay, d2					3.1		0.2	2.0	0.1			
Delay (s)					18.8		12.2	15.8	14.1			
Level of Service					B		B	B	B			
Approach Delay (s)		0.0			18.8			15.2			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1068	208	312	1970	0	0	0	0
Future Volume (vph)	0	0	0	0	1068	208	312	1970	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0	7.5	1.4	1.4				
Lane Util. Factor					0.81	0.81	0.81	0.81				
Frpb, ped/bikes					0.99	0.63	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	0.76	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					4377	590	650	3576				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					4377	590	650	3576				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	1112	217	325	2052	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	25	68	68	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1134	170	224	2017	0	0	0	0
Confl. Peds. (#/hr)						722	306					
Confl. Bikes (#/hr)						43						
Turn Type					NA	Perm	Perm	NA				
Protected Phases					6			8				
Permitted Phases						6	8					
Actuated Green, G (s)					23.5	23.5	21.6	21.6				
Effective Green, g (s)					26.0	25.5	25.6	25.6				
Actuated g/C Ratio					0.43	0.42	0.43	0.43				
Clearance Time (s)					9.5	9.5	5.4	5.4				
Lane Grp Cap (vph)					1896	250	277	1525				
v/s Ratio Prot					0.26							
v/s Ratio Perm						c0.29	0.35	0.56				
v/c Ratio					0.60	0.68	0.81	1.32				
Uniform Delay, d1					13.0	13.9	15.1	17.2				
Progression Factor					1.00	1.00	1.03	0.91				
Incremental Delay, d2					1.4	13.9	13.0	147.9				
Delay (s)					14.4	27.8	28.5	163.6				
Level of Service					B	C	C	F				
Approach Delay (s)		0.0			16.4			147.0			0.0	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	100.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	776	156	102	626	114	32
Future Volume (vph)	776	156	102	626	114	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	1.00	0.94	0.86
Frpb, ped/bikes	0.95		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5585		1459	1305	4113	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5585		1459	1305	4113	1122
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	784	158	103	632	115	32
RTOR Reduction (vph)	41	0	70	0	0	0
Lane Group Flow (vph)	901	0	33	632	118	29
Confl. Peds. (#/hr)		251	970			
Confl. Bikes (#/hr)		10				
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	23.5		26.8	26.8	19.5	19.5
Effective Green, g (s)	25.5		28.8	28.8	23.5	23.5
Actuated g/C Ratio	0.28		0.32	0.32	0.26	0.26
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1582		466	417	1073	292
v/s Ratio Prot	c0.16		0.02	c0.48	c0.03	
v/s Ratio Perm						0.03
v/c Ratio	0.57		0.07	1.52	0.11	0.10
Uniform Delay, d1	27.6		21.3	30.6	25.3	25.2
Progression Factor	0.28		2.51	0.90	1.00	1.00
Incremental Delay, d2	0.1		0.2	241.5	0.2	0.7
Delay (s)	7.9		53.6	269.1	25.5	25.9
Level of Service	A		D	F	C	C
Approach Delay (s)	7.9			238.9	25.6	
Approach LOS	A			F	C	

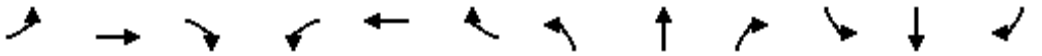
Intersection Summary			
HCM 2000 Control Delay	102.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	149	954	807	571	462	136
Future Volume (vph)	149	954	807	571	462	136
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.81		0.81	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	0.98	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.97	0.85	0.85
Flt Protected	0.95		0.97	1.00	1.00	1.00
Satd. Flow (prot)	1050		4818	2219	1038	1141
Flt Permitted	0.95		0.97	1.00	1.00	1.00
Satd. Flow (perm)	1050		4818	2219	1038	1141
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	154	984	832	589	476	140
RTOR Reduction (vph)	0	0	0	0	0	40
Lane Group Flow (vph)	139	0	1831	741	324	100
Confl. Bikes (#/hr)					10	10
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	450		2066	1067	533	586
v/s Ratio Prot				c0.33		
v/s Ratio Perm	0.13		0.38		0.31	0.09
v/c Ratio	0.31		1.72dl	0.69	0.61	0.17
Uniform Delay, d1	16.9		23.7	18.2	15.4	11.6
Progression Factor	1.00		1.00	1.69	1.91	2.69
Incremental Delay, d2	1.8		6.1	2.6	3.5	0.4
Delay (s)	18.7		29.7	33.3	32.9	31.8
Level of Service	B		C	C	C	C
Approach Delay (s)			29.0	33.0		
Approach LOS			C	C		

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	500	1173	0	0	0	0	0	633	475
Future Volume (vph)	0	0	0	500	1173	0	0	0	0	0	633	475
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.91	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.96	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4942						4301	694
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4942						4301	694
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	526	1235	0	0	0	0	0	666	500
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	342	1419	0	0	0	0	0	916	250
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						26.0	26.0
Effective Green, g (s)				33.5	33.5						28.0	28.0
Actuated g/C Ratio				0.37	0.37						0.31	0.31
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				439	1839						1338	215
v/s Ratio Prot				c0.29	0.29						0.21	
v/s Ratio Perm												c0.36
v/c Ratio				0.78	0.77						0.68	1.16
Uniform Delay, d1				25.0	24.9						27.1	31.0
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				12.8	3.2						2.9	112.3
Delay (s)				37.8	28.1						30.0	143.3
Level of Service				D	C						C	F
Approach Delay (s)		0.0			30.0			0.0			54.3	
Approach LOS		A			C			A			D	

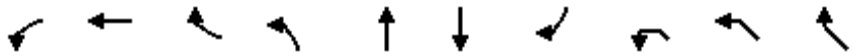
Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	374	683	63	221	322	64	191	125	563
Future Volume (vph)	28	374	683	63	221	322	64	191	125	563
Ideal Flow (vphpl)	1000	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.99		0.89		0.91		1.00	1.00
Flpb, ped/bikes		0.96	1.00		1.00		1.00		0.99	1.00
Frt		1.00	0.99		0.91		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	1.00
Satd. Flow (prot)		1264	1904		2244		1078		1316	2544
Flt Permitted		0.95	1.00		1.00		1.00		0.23	0.85
Satd. Flow (perm)		1264	1904		2244		1078		324	2184
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	30	402	734	68	238	346	69	205	134	605
RTOR Reduction (vph)	0	0	9	0	1	0	46	0	0	0
Lane Group Flow (vph)	0	392	833	0	590	0	16	0	279	665
Confl. Peds. (#/hr)	14			88		53	43	53	43	
Confl. Bikes (#/hr)				6		17	17	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Perm	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases		2	2		8			7	7	4
Permitted Phases	2						8	4	4	
Actuated Green, G (s)		22.5	22.5		23.0		23.0		42.0	42.0
Effective Green, g (s)		22.5	25.0		24.5		23.0		43.5	43.5
Actuated g/C Ratio		0.25	0.28		0.27		0.26		0.48	0.48
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		316	528		610		275		338	1121
v/s Ratio Prot			c0.44		c0.26				c0.15	0.11
v/s Ratio Perm		0.31					0.01		0.25	0.18
v/c Ratio		1.24	1.58		1.20dr		0.06		0.83	0.59
Uniform Delay, d1		33.8	32.5		32.4		25.3		26.6	16.8
Progression Factor		1.00	1.00		1.00		1.00		1.08	1.21
Incremental Delay, d2		132.3	268.6		29.3		0.4		2.2	0.2
Delay (s)		166.0	301.1		61.7		25.7		31.0	20.6
Level of Service		F	F		E		C		C	C
Approach Delay (s)			258.2		58.2					23.7
Approach LOS			F		E					C

Intersection Summary			
HCM 2000 Control Delay	133.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



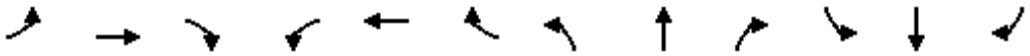
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	88	794	99	52	227	661	205	255	755	261
Future Volume (vph)	88	794	99	52	227	661	205	255	755	261
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.98			1.00	0.94			0.99	0.81
Flpb, ped/bikes		1.00			0.99	1.00			0.99	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		1.00			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5787			2841	2429			4058	909
Flt Permitted		1.00			0.62	1.00			0.95	1.00
Satd. Flow (perm)		5787			1788	2429			4058	909
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	827	103	54	236	689	214	266	786	272
RTOR Reduction (vph)	0	22	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1000	0	0	290	898	0	0	1079	245
Confl. Peds. (#/hr)	3		157	212			212	3		157
Confl. Bikes (#/hr)			10				10			10
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10				10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1864			556	755			1217	272
v/s Ratio Prot						c0.37				
v/s Ratio Perm		0.17			0.16				0.27	c0.27
v/c Ratio		0.54			0.52	1.19			0.89	0.90
Uniform Delay, d1		25.0			25.5	31.0			30.0	30.2
Progression Factor		1.75			0.20	1.00			1.00	1.00
Incremental Delay, d2		0.7			1.3	98.3			9.7	34.1
Delay (s)		44.5			6.4	129.3			39.8	64.3
Level of Service		D			A	F			D	E
Approach Delay (s)		44.5			6.4	129.3			44.3	
Approach LOS		D			A	F			D	

Intersection Summary			
HCM 2000 Control Delay	62.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	108.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	25	1186	5	10	337
Future Volume (vph)	2	25	1186	5	10	337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.94	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3070		1444	3079
Flt Permitted	0.95	1.00	1.00		0.16	1.00
Satd. Flow (perm)	1540	1378	3070		238	3079
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2	28	1333	6	11	379
RTOR Reduction (vph)	0	7	0	0	0	0
Lane Group Flow (vph)	2	21	1339	0	11	379
Confl. Peds. (#/hr)	146			518	518	
Confl. Bikes (#/hr)				13		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2087		161	2093
v/s Ratio Prot	0.00		c0.44			0.12
v/s Ratio Perm		c0.02			0.05	
v/c Ratio	0.01	0.07	0.64		0.07	0.18
Uniform Delay, d1	32.4	32.9	10.0		5.9	6.4
Progression Factor	1.00	1.00	1.00		0.47	0.57
Incremental Delay, d2	0.0	0.4	1.5		0.4	0.1
Delay (s)	32.4	33.3	11.5		3.2	3.7
Level of Service	C	C	B		A	A
Approach Delay (s)	33.2		11.5			3.7
Approach LOS	C		B			A

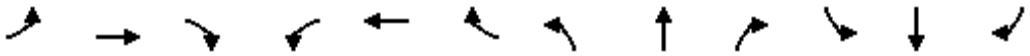
Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



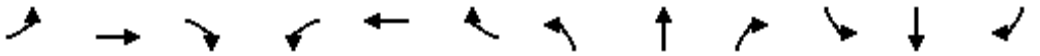
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	58	73	1	0	3	23	1117	56	135	192	31
Future Volume (vph)	61	58	73	1	0	3	23	1117	56	135	192	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.95		0.96		1.00	0.98		1.00	0.99	
Flpb, ped/bikes		0.98	1.00		0.99		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.90		1.00	0.99		1.00	0.98	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1544	1311		1367		1540	3002		1540	2979	
Flt Permitted		0.86	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1362	1311		1343		1540	3002		1540	2979	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	63	60	75	1	0	3	24	1152	58	139	198	32
RTOR Reduction (vph)	0	0	51	0	3	0	0	4	0	0	13	0
Lane Group Flow (vph)	0	123	24	0	1	0	24	1206	0	139	217	0
Confl. Peds. (#/hr)	48		40	40		48			255			77
Confl. Bikes (#/hr)									8			23
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		437	420		431		227	1065		254	1117	
v/s Ratio Prot							0.02	c0.40		c0.09	0.07	
v/s Ratio Perm		c0.09	0.02		0.00							
v/c Ratio		0.28	0.06		0.00		0.11	1.13		0.55	0.19	
Uniform Delay, d1		25.3	23.5		23.1		36.9	32.2		38.3	21.1	
Progression Factor		1.00	1.00		1.00		1.57	0.73		1.00	1.00	
Incremental Delay, d2		1.6	0.3		0.0		0.3	64.2		8.2	0.4	
Delay (s)		26.9	23.7		23.1		58.2	87.6		46.6	21.5	
Level of Service		C	C		C		E	F		D	C	
Approach Delay (s)		25.7			23.1			87.0			30.9	
Approach LOS		C			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	68.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
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)	65	11	19	20	37	100	73	1062	31	35	192	17
Future Volume (vph)	65	11	19	20	37	100	73	1062	31	35	192	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.91		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1509			1447		1540	3055		1540	3013	
Flt Permitted		0.75			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1166			1397		1540	3055		1540	3013	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	70	12	20	22	40	108	78	1142	33	38	206	18
RTOR Reduction (vph)	0	9	0	0	63	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	93	0	0	107	0	78	1173	0	38	218	0
Confl. Peds. (#/hr)	16		6	6		16			73			67
Confl. Bikes (#/hr)			1						12			11
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		381			456		231	1127		229	1111	
v/s Ratio Prot							0.05	c0.38		0.02	c0.07	
v/s Ratio Perm		c0.08			0.08							
v/c Ratio		0.24			0.24		0.34	1.04		0.17	0.20	
Uniform Delay, d1		24.6			24.5		38.1	31.6		37.1	21.5	
Progression Factor		1.00			1.00		1.22	0.63		0.63	0.67	
Incremental Delay, d2		1.5			1.2		1.9	30.4		1.5	0.4	
Delay (s)		26.1			25.7		48.3	50.4		25.0	14.8	
Level of Service		C			C		D	D		C	B	
Approach Delay (s)		26.1			25.7			50.3			16.3	
Approach LOS		C			C			D			B	

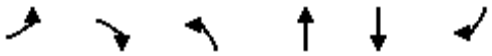
Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	15	23	1	6	46	44	307	12	154	190	27
Future Volume (vph)	33	15	23	1	6	46	44	307	12	154	190	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.98	1.00	1.00		1.00	0.97	
Flpb, ped/bikes		0.97			1.00	1.00	0.82	1.00		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1464			1609	1349	1270	1609		1459	1456	
Flt Permitted		0.85			0.94	1.00	0.61	1.00		0.95	1.00	
Satd. Flow (perm)		1268			1524	1349	810	1609		1459	1456	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	38	17	26	1	7	52	50	349	14	175	216	31
RTOR Reduction (vph)	0	24	0	0	0	35	0	2	0	0	5	0
Lane Group Flow (vph)	0	57	0	0	8	17	50	361	0	175	242	0
Confl. Peds. (#/hr)	62		6	6		62	205		28			205
Confl. Bikes (#/hr)						1			23			16
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		4.7			4.7	16.8	18.8	18.8		12.1	35.9	
Effective Green, g (s)		4.7			4.7	16.8	18.8	18.8		12.1	35.9	
Actuated g/C Ratio		0.09			0.09	0.33	0.37	0.37		0.24	0.71	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		117			141	581	300	597		348	1033	
v/s Ratio Prot						0.01		c0.22		c0.12	0.17	
v/s Ratio Perm		c0.05			0.01	0.01	0.06					
v/c Ratio		0.49			0.06	0.03	0.17	0.60		0.50	0.23	
Uniform Delay, d1		21.8			20.9	11.4	10.7	12.9		16.6	2.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.2			0.2	0.0	0.3	1.7		1.1	0.1	
Delay (s)		25.0			21.1	11.4	10.9	14.6		17.8	2.7	
Level of Service		C			C	B	B	B		B	A	
Approach Delay (s)		25.0			12.7			14.2			8.9	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	50.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

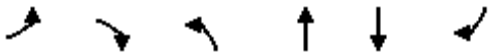
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	18	24	137	99	98	139
Future Volume (vph)	18	24	137	99	98	139
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	23	30	171	124	123	174

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	23	30	212	83	82	215
Volume Left (vph)	23	0	171	0	0	0
Volume Right (vph)	0	30	0	0	0	174
Hadj (s)	0.53	-0.67	0.44	0.03	0.03	-0.53
Departure Headway (s)	6.3	5.1	5.3	4.9	4.9	4.4
Degree Utilization, x	0.04	0.04	0.31	0.11	0.11	0.26
Capacity (veh/h)	523	637	664	713	705	803
Control Delay (s)	8.4	7.2	9.5	7.3	7.4	7.7
Approach Delay (s)	7.7		8.9		7.6	
Approach LOS	A		A		A	

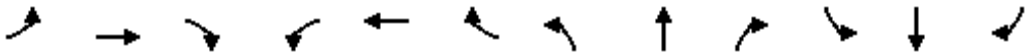
Intersection Summary			
Delay	8.2		
Level of Service	A		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	14	105	259	354	105
Future Volume (Veh/h)	14	14	105	259	354	105
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	16	16	118	291	398	118
Pedestrians	33			4		
Lane Width (ft)	11.0			11.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	3			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	872	295	549			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	872	295	549			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	98	88			
cM capacity (veh/h)	249	682	991			

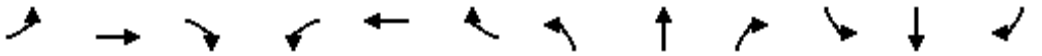
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	32	215	194	265	251
Volume Left	16	118	0	0	0
Volume Right	16	0	0	0	118
cSH	365	991	1700	1700	1700
Volume to Capacity	0.09	0.12	0.11	0.16	0.15
Queue Length 95th (ft)	7	10	0	0	0
Control Delay (s)	15.8	5.5	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	15.8	2.9		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	85	374	24	247	128	346	687	19	23	489	401
Future Volume (vph)	264	85	374	24	247	128	346	687	19	23	489	401
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.98		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1515	1621	1327	1521	1510		2987	3061		1540	2801	
Flt Permitted	0.32	1.00	1.00	0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	504	1621	1327	1116	1510		2987	3061		1540	2801	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	92	407	26	268	139	376	747	21	25	532	436
RTOR Reduction (vph)	0	0	267	0	19	0	0	2	0	0	139	0
Lane Group Flow (vph)	287	92	140	26	388	0	376	766	0	25	829	0
Confl. Peds. (#/hr)	41		16	16		41			58			14
Confl. Bikes (#/hr)			17			9			10			15
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	173	559	457	385	520		418	1157		184	1002	
v/s Ratio Prot		0.06			0.26		c0.13	0.25		0.02	c0.30	
v/s Ratio Perm	c0.57		0.11	0.02								
v/c Ratio	1.66	0.16	0.31	0.07	0.75		0.90	0.66		0.14	0.83	
Uniform Delay, d1	32.8	22.7	24.0	22.0	28.9		42.3	25.8		39.4	29.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.80	0.84		0.90	0.80	
Incremental Delay, d2	320.7	0.6	1.7	0.3	9.4		18.9	2.1		1.5	7.8	
Delay (s)	353.5	23.4	25.7	22.3	38.3		52.9	23.8		36.8	31.2	
Level of Service	F	C	C	C	D		D	C		D	C	
Approach Delay (s)		145.1			37.3			33.4			31.3	
Approach LOS		F			D			C			C	

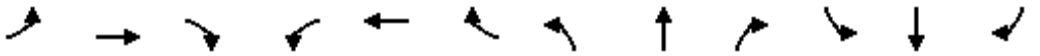
Intersection Summary			
HCM 2000 Control Delay	59.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	390	23	150	894	109	134	170	173	167	321	199
Future Volume (vph)	144	390	23	150	894	109	134	170	173	167	321	199
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.98	1.00
Satd. Flow (prot)	1377	1450	1378	1540	1365	1106	1540	2846			3028	1135
Flt Permitted	0.95	1.00	1.00	0.52	1.00	1.00	0.38	1.00			0.68	1.00
Satd. Flow (perm)	1377	1450	1378	842	1365	1106	608	2846			2107	1135
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	153	415	25	163	951	116	146	185	188	178	349	212
RTOR Reduction (vph)	0	0	10	0	0	43	0	123	0	0	0	87
Lane Group Flow (vph)	153	415	15	163	951	73	146	250	0	0	527	125
Confl. Peds. (#/hr)						36						2
Confl. Bikes (#/hr)						19						
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	4.0	45.4	45.4	36.4	36.4	36.4	28.6	28.6			27.6	27.6
Effective Green, g (s)	4.0	45.4	45.4	36.4	36.4	36.4	28.6	28.6			27.6	27.6
Actuated g/C Ratio	0.05	0.55	0.55	0.44	0.44	0.44	0.34	0.34			0.33	0.33
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	66	793	753	369	598	485	209	980			700	377
v/s Ratio Prot	c0.11	0.29			c0.70			0.09				
v/s Ratio Perm			0.01	0.19		0.07	0.24				c0.25	0.11
v/c Ratio	2.32	0.52	0.02	0.44	1.59	0.15	0.70	0.25			0.75	0.33
Uniform Delay, d1	39.5	11.9	8.6	16.2	23.3	14.0	23.5	19.5			24.7	20.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	637.8	0.6	0.0	0.8	273.5	0.1	9.8	0.1			4.6	0.5
Delay (s)	677.3	12.6	8.6	17.1	296.8	14.2	33.2	19.7			29.3	21.3
Level of Service	F	B	A	B	F	B	C	B			C	C
Approach Delay (s)		183.9			233.1			23.5			27.0	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	138.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	83.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



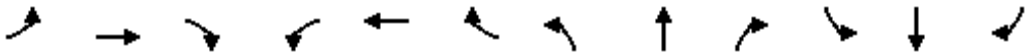
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	415	99	62	647	534	33	443	45	107	142	85
Future Volume (vph)	50	415	99	62	647	534	33	443	45	107	142	85
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		*0.80	1.00		*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	
Frpb, ped/bikes		1.00	0.94		1.00	0.93	1.00	1.00	0.96	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	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		952	952		1121	890	1070	957	915	1070	1041	
Flt Permitted		0.17	1.00		0.12	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		159	952		131	890	1070	957	915	1070	1041	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	432	103	65	674	556	34	461	47	111	148	89
RTOR Reduction (vph)	0	0	48	0	0	47	0	0	34	0	16	0
Lane Group Flow (vph)	0	484	55	0	739	509	34	461	13	111	221	0
Confl. Peds. (#/hr)	50		13	13		50			5			10
Confl. Bikes (#/hr)			17			37			12			17
Parking (#/hr)		10	10					10				
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.0	34.0		34.0	64.5	18.3	32.0	32.0	30.5	44.2	
Effective Green, g (s)		34.0	34.0		34.0	64.5	18.3	32.0	32.0	30.5	44.2	
Actuated g/C Ratio		0.30	0.30		0.30	0.58	0.16	0.29	0.29	0.27	0.40	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		48	290		39	554	175	274	262	292	412	
v/s Ratio Prot						c0.25	0.03	c0.48		0.10	0.21	
v/s Ratio Perm		3.04	0.06		c5.66	0.32			0.01			
v/c Ratio		10.08	0.19		18.95	0.92	0.19	1.68	0.05	0.38	0.54	
Uniform Delay, d1		38.8	28.6		38.8	21.2	40.2	39.8	28.8	32.8	25.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		4128.7	0.3		8125.4	20.3	0.5	322.5	0.1	0.8	1.3	
Delay (s)		4167.5	28.9		8164.1	41.4	40.8	362.3	28.8	33.7	27.1	
Level of Service		F	C		F	D	D	F	C	C	C	
Approach Delay (s)		3441.3			4676.7			313.2			29.2	
Approach LOS		F			F			F			C	

Intersection Summary			
HCM 2000 Control Delay	2978.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	7.39		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	133.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	108	1113	43	71	233
Future Volume (vph)	105	108	1113	43	71	233
Ideal Flow (vphpl)	1900	1900	1400	1400	1400	1400
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.75	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2369	1791	996	1134	1194
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2369	1791	996	1134	1194
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	117	1210	47	77	253
RTOR Reduction (vph)	0	101	0	5	0	0
Lane Group Flow (vph)	114	16	1210	42	77	253
Confl. Peds. (#/hr)	49	3				
Confl. Bikes (#/hr)				20		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.7	11.7	47.8	42.8	9.3	62.1
Effective Green, g (s)	11.7	11.7	47.8	42.8	9.3	62.1
Actuated g/C Ratio	0.14	0.14	0.57	0.51	0.11	0.74
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	215	330	1021	568	125	884
v/s Ratio Prot	c0.07		c0.68	0.02	c0.07	0.21
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.53	0.05	1.19	0.07	0.62	0.29
Uniform Delay, d1	33.5	31.2	18.0	10.4	35.5	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.1	93.4	0.1	8.7	0.2
Delay (s)	36.0	31.3	111.4	10.5	44.3	3.7
Level of Service	D	C	F	B	D	A
Approach Delay (s)	33.6		107.6			13.2
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	81.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	83.8	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



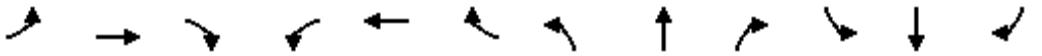
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	262	110	75	331	18	153	154	70	19	136	38
Future Volume (vph)	35	262	110	75	331	18	153	154	70	19	136	38
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	38	282	118	81	356	19	165	166	75	20	146	41

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	438	81	375	331	75	207
Volume Left (vph)	38	81	0	165	0	20
Volume Right (vph)	118	0	19	0	75	41
Hadj (s)	-0.11	0.53	0.00	0.28	-0.67	-0.07
Departure Headway (s)	8.4	8.9	8.3	8.8	7.8	9.2
Degree Utilization, x	1.02	0.20	0.87	0.81	0.16	0.53
Capacity (veh/h)	421	398	427	402	448	367
Control Delay (s)	77.6	12.9	44.6	38.5	11.2	22.2
Approach Delay (s)	77.6	39.0		33.4		22.2
Approach LOS	F	E		D		C

Intersection Summary				
Delay	46.4			
Level of Service	E			
Intersection Capacity Utilization	83.5%	ICU Level of Service	E	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	331	54	20	423	65	66	733	35	31	544	318
Future Volume (vph)	205	331	54	20	423	65	66	733	35	31	544	318
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98			0.98		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1696	1751			3333		1711	3384		1711	3188	
Flt Permitted	0.33	1.00			0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	582	1751			2831		1711	3384		1711	3188	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	220	356	58	22	455	70	71	788	38	33	585	342
RTOR Reduction (vph)	0	6	0	0	11	0	0	4	0	0	84	0
Lane Group Flow (vph)	220	408	0	0	536	0	71	822	0	33	843	0
Confl. Peds. (#/hr)	21		34	34		21			43			21
Confl. Bikes (#/hr)			5			1			14			15
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	172	520			840		289	1350		254	1208	
v/s Ratio Prot		0.23					0.04	c0.24		0.02	c0.26	
v/s Ratio Perm	c0.38				0.19							
v/c Ratio	1.28	0.79			0.64		0.25	0.61		0.13	0.70	
Uniform Delay, d1	35.1	32.2			30.5		36.0	23.9		36.9	26.2	
Progression Factor	1.00	1.00			1.00		1.11	1.13		1.40	0.86	
Incremental Delay, d2	162.6	11.3			3.7		1.4	1.4		0.7	2.3	
Delay (s)	197.8	43.6			34.2		41.4	28.3		52.3	24.8	
Level of Service	F	D			C		D	C		D	C	
Approach Delay (s)		97.1			34.2			29.4			25.7	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



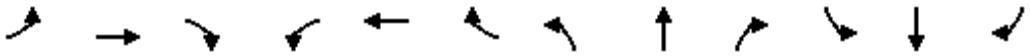
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	98	0	0	1013	26	548	156	672	0	0	593
Future Volume (vph)	23	98	0	0	1013	26	548	156	672	0	0	593
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			1.00		1.00	0.88				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3388			4897		1711	3008				2694
Flt Permitted		0.77			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2617			4897		1711	3008				2694
Peak-hour factor, PHF	0.92	0.96	0.96	0.96	0.96	0.92	0.96	0.92	0.96	0.92	0.92	0.92
Adj. Flow (vph)	25	102	0	0	1055	28	571	170	700	0	0	645
RTOR Reduction (vph)	0	0	0	0	2	0	0	577	0	0	0	434
Lane Group Flow (vph)	0	127	0	0	1081	0	571	293	0	0	0	211
Confl. Peds. (#/hr)							1					
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		52.0			52.0		31.0	20.0				31.0
Effective Green, g (s)		52.0			52.0		31.0	20.0				31.0
Actuated g/C Ratio		0.46			0.46		0.27	0.18				0.27
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		1193			2233		465	527				732
v/s Ratio Prot					c0.22		c0.33	c0.10				
v/s Ratio Perm		0.05										0.08
v/c Ratio		0.11			0.48		1.23	0.56				0.29
Uniform Delay, d1		17.7			21.6		41.5	42.9				32.8
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			0.8		120.4	4.2				1.0
Delay (s)		17.9			22.4		161.9	47.1				33.8
Level of Service		B			C		F	D				C
Approach Delay (s)		17.9			22.4			92.6			33.8	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	55.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	121	644	810	85	0	0
Future Volume (vph)	121	644	810	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.98	0.97	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.90	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1501	1409	3319	1801		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1501	1409	3319	1801		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	123	657	827	87	0	0
RTOR Reduction (vph)	73	73	0	0	0	0
Lane Group Flow (vph)	326	308	827	87	0	0
Confl. Peds. (#/hr)		4	5			
Confl. Bikes (#/hr)		24				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	21.0	21.0	29.0	60.0		
Effective Green, g (s)	21.0	21.0	29.0	60.0		
Actuated g/C Ratio	0.35	0.35	0.48	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	525	493	1604	1801		
v/s Ratio Prot	0.22		c0.25	0.05		
v/s Ratio Perm		c0.22				
v/c Ratio	0.62	0.62	0.52	0.05		
Uniform Delay, d1	16.2	16.2	10.7	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	5.4	5.9	1.2	0.1		
Delay (s)	21.6	22.1	11.9	0.1		
Level of Service	C	C	B	A		
Approach Delay (s)	21.8			10.7	0.0	
Approach LOS	C			B	A	

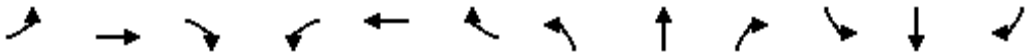
Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	25	43	72	59	29	0	869	46	0	769	38
Future Volume (vph)	46	25	43	72	59	29	0	869	46	0	769	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1200	1200	1200	1200	1200	1200
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.95			0.98			0.99			0.99	
Flpb, ped/bikes		0.97			0.96			1.00			1.00	
Frt		0.95			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1217			1268			1784			1786	
Flt Permitted		0.81			0.79			1.00			1.00	
Satd. Flow (perm)		1000			1028			1784			1786	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	47	26	44	73	60	30	0	887	47	0	785	39
RTOR Reduction (vph)	0	25	0	0	10	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	92	0	0	153	0	0	931	0	0	821	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.5			19.5			70.6			70.6	
Effective Green, g (s)		19.5			19.5			70.6			70.6	
Actuated g/C Ratio		0.20			0.20			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			200			1259			1260	
v/s Ratio Prot								c0.52			0.46	
v/s Ratio Perm		0.09			c0.15							
v/c Ratio		0.47			0.77			0.74			0.65	
Uniform Delay, d1		35.7			38.1			9.0			8.0	
Progression Factor		1.00			1.00			0.60			0.38	
Incremental Delay, d2		1.8			16.0			1.1			2.2	
Delay (s)		37.5			54.1			6.5			5.2	
Level of Service		D			D			A			A	
Approach Delay (s)		37.5			54.1			6.5			5.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	74.8%	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)	320	159	178	8	222	16	199	637	5	25	494	281
Future Volume (vph)	320	159	178	8	222	16	199	637	5	25	494	281
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.94	
Flpb, ped/bikes	0.98	1.00		0.94	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1192	1976		1141	1255		1215	2426		1215	2154	
Flt Permitted	0.34	1.00		0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	428	1976		648	1255		1215	2426		1215	2154	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	167	187	8	234	17	209	671	5	26	520	296
RTOR Reduction (vph)	0	123	0	0	3	0	0	1	0	0	80	0
Lane Group Flow (vph)	337	231	0	8	248	0	209	675	0	26	736	0
Confl. Peds. (#/hr)	100		100	100		100			100			100
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	34.3	34.3		23.3	23.3		15.9	45.6		3.8	33.5	
Effective Green, g (s)	34.3	34.3		23.3	23.3		15.9	45.6		3.8	33.5	
Actuated g/C Ratio	0.34	0.34		0.23	0.23		0.16	0.46		0.04	0.34	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	677		150	292		193	1106		46	721	
v/s Ratio Prot	c0.10	0.12			0.20		c0.17	0.28		0.02	c0.34	
v/s Ratio Perm	c0.51			0.01								
v/c Ratio	1.77	0.34		0.05	0.85		1.08	0.61		0.57	1.02	
Uniform Delay, d1	33.5	24.4		29.8	36.7		42.0	20.5		47.3	33.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.28	1.27	
Incremental Delay, d2	368.7	0.3		0.1	19.9		88.6	2.5		11.8	35.0	
Delay (s)	402.2	24.7		29.9	56.6		130.7	23.0		72.2	77.3	
Level of Service	F	C		C	E		F	C		E	E	
Approach Delay (s)		208.8			55.8			48.4			77.1	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	99.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		

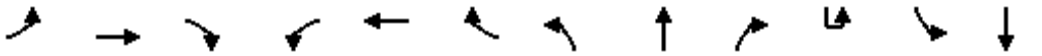
c Critical Lane Group

Intersection LOS Calculations

Baseline Plus Project

Maximum Commercial Scenario

FEHR PEERS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	113	4	170	0	5	3	123	1134	2	10	16	1091
Future Volume (vph)	113	4	170	0	5	3	123	1134	2	10	16	1091
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5			5.9	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.97			0.99		1.00	1.00			1.00	1.00
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.85			0.95		1.00	1.00			1.00	1.00
Flt Protected	0.95	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1501	1341			1517		1540	2846			1540	3079
Flt Permitted	0.75	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1189	1341			1517		1540	2846			1540	3079
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	4	179	0	5	3	129	1194	2	11	17	1148
RTOR Reduction (vph)	0	117	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	119	66	0	0	6	0	129	1196	0	0	28	1148
Confl. Peds. (#/hr)	29		22	22		29			125			
Confl. Bikes (#/hr)									145			
Parking (#/hr)								10	10			
Turn Type	Perm	NA			NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5			15.1	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5			15.1	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34			0.14	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5			5.9	5.2
Lane Grp Cap (vph)	411	464			525		231	970			211	1030
v/s Ratio Prot		0.05			0.00		0.08	c0.42			0.02	c0.37
v/s Ratio Perm	c0.10											
v/c Ratio	0.29	0.14			0.01		0.56	1.23			0.13	1.11
Uniform Delay, d1	26.1	24.7			23.6		43.4	36.2			41.7	36.6
Progression Factor	1.00	1.00			1.00		0.90	0.81			1.00	1.00
Incremental Delay, d2	1.8	0.6			0.0		4.2	109.0			1.3	65.0
Delay (s)	27.9	25.4			23.6		43.1	138.4			43.0	101.6
Level of Service	C	C			C		D	F			D	F
Approach Delay (s)		26.4			23.6			129.1				96.7
Approach LOS		C			C			F				F

Intersection Summary			
HCM 2000 Control Delay	104.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	55
Future Volume (vph)	55
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.2
Lane Util. Factor	1.00
Frpb, ped/bikes	0.71
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	976
Flt Permitted	1.00
Satd. Flow (perm)	976
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	58
RTOR Reduction (vph)	39
Lane Group Flow (vph)	19
Confl. Peds. (#/hr)	88
Confl. Bikes (#/hr)	148
Parking (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	36.8
Effective Green, g (s)	36.8
Actuated g/C Ratio	0.33
Clearance Time (s)	5.2
Lane Grp Cap (vph)	326
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.06
Uniform Delay, d1	24.9
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	25.2
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

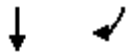
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	142	18	1	16	1096	3	1171	151
Future Volume (vph)	142	18	1	16	1096	3	1171	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9		6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.93		1.00	1.00	1.00	1.00	0.74
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1309	1090		1540	3079	1540	3079	1018
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1309	1090		1540	3079	1540	3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	153	19	1	17	1178	3	1259	162
RTOR Reduction (vph)	0	8	0	0	0	0	0	46
Lane Group Flow (vph)	153	11	0	18	1178	3	1259	116
Confl. Peds. (#/hr)	49	67						214
Confl. Bikes (#/hr)								137
Parking (#/hr)	10	10						
Turn Type	Prot	Perm	Prot	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	5	2	1	6	
Permitted Phases		4						6
Actuated Green, G (s)	38.1	38.1		15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1		15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35		0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9		6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	453	377		215	1226	140	1035	342
v/s Ratio Prot	c0.12			0.01	c0.38	0.00	c0.41	
v/s Ratio Perm		0.01						0.11
v/c Ratio	0.34	0.03		0.08	0.96	0.02	1.22	0.34
Uniform Delay, d1	26.6	23.7		41.2	32.3	45.5	36.5	27.3
Progression Factor	1.00	1.00		0.60	0.58	0.71	0.57	0.32
Incremental Delay, d2	2.0	0.1		0.4	10.9	0.1	100.7	0.9
Delay (s)	28.6	23.9		24.9	29.6	32.2	121.6	9.6
Level of Service	C	C		C	C	C	F	A
Approach Delay (s)	28.1				29.5		108.7	
Approach LOS	C				C		F	

Intersection Summary			
HCM 2000 Control Delay	69.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
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	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	59	3	12	3	4	2	7	12	1057	4	4	14
Future Volume (vph)	59	3	12	3	4	2	7	12	1057	4	4	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600
Total Lost time (s)		7.0			7.0			7.0	7.0			5.8
Lane Util. Factor		1.00			1.00			1.00	0.95			1.00
Frpb, ped/bikes		0.99			0.99			1.00	1.00			1.00
Flpb, ped/bikes		0.97			0.99			1.00	1.00			1.00
Frt		0.98			0.97			1.00	1.00			1.00
Flt Protected		0.96			0.98			0.95	1.00			0.95
Satd. Flow (prot)		1472			1516			1540	3075			1296
Flt Permitted		0.79			0.95			0.27	1.00			0.43
Satd. Flow (perm)		1205			1464			432	3075			593
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	61	3	12	3	4	2	7	12	1101	4	4	15
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	70	0	0	8	0	0	20	1105	0	0	19
Confl. Peds. (#/hr)	39		36	36		39				84		
Confl. Bikes (#/hr)										96		
Turn Type	Perm	NA		Perm	NA		Perm	Prot	NA		Perm	Prot
Protected Phases		4			8			5	2			1
Permitted Phases	4			8			2				6	
Actuated Green, G (s)		38.0			38.0			15.0	43.0			9.2
Effective Green, g (s)		38.0			38.0			15.0	43.0			9.2
Actuated g/C Ratio		0.35			0.35			0.14	0.39			0.08
Clearance Time (s)		7.0			7.0			7.0	7.0			5.8
Lane Grp Cap (vph)		416			505			58	1202			49
v/s Ratio Prot									c0.36			
v/s Ratio Perm		c0.06			0.01			0.05				0.03
v/c Ratio		0.17			0.02			0.34	0.92			0.39
Uniform Delay, d1		25.0			23.7			43.0	31.9			47.7
Progression Factor		1.00			1.00			0.61	0.35			1.28
Incremental Delay, d2		0.9			0.1			7.7	6.9			2.1
Delay (s)		25.9			23.7			33.8	18.2			63.1
Level of Service		C			C			C	B			E
Approach Delay (s)		25.9			23.7				18.4			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	112.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



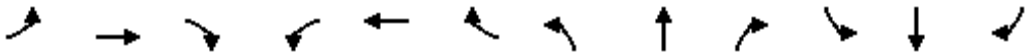
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1094	99
Future Volume (vph)	1094	99
Ideal Flow (vphpl)	1600	1600
Total Lost time (s)	5.4	
Lane Util. Factor	0.95	
Frpb, ped/bikes	0.98	
Flpb, ped/bikes	1.00	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	2505	
Flt Permitted	1.00	
Satd. Flow (perm)	2505	
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1140	103
RTOR Reduction (vph)	6	0
Lane Group Flow (vph)	1237	0
Confl. Peds. (#/hr)		103
Confl. Bikes (#/hr)		102
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	37.6	
Effective Green, g (s)	37.6	
Actuated g/C Ratio	0.34	
Clearance Time (s)	5.4	
Lane Grp Cap (vph)	856	
v/s Ratio Prot	c0.49	
v/s Ratio Perm		
v/c Ratio	1.45	
Uniform Delay, d1	36.2	
Progression Factor	0.11	
Incremental Delay, d2	200.9	
Delay (s)	204.8	
Level of Service	F	
Approach Delay (s)	202.7	
Approach LOS	F	

Intersection Summary

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	4	120	1039	4	1071	24	4	294
Future Volume (vph)	4	120	1039	4	1071	24	4	294
Ideal Flow (vphpl)	1900	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)		6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor		1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00
Frt		1.00	1.00	1.00	1.00		1.00	0.85
Flt Protected		0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1459	2917	1540	2680		1459	1144
Flt Permitted		0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1459	2917	1540	2680		1459	1144
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	4	124	1071	4	1104	25	4	303
RTOR Reduction (vph)	0	0	0	0	1	0	0	198
Lane Group Flow (vph)	0	128	1071	4	1128	0	4	105
Confl. Peds. (#/hr)						99	56	132
Confl. Bikes (#/hr)						89		
Parking (#/hr)					10	10		
Turn Type	Prot	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	5	2	1	6		4	
Permitted Phases								4
Actuated Green, G (s)		15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)		15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio		0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)		6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)		204	1188	117	886		506	397
v/s Ratio Prot		0.09	c0.37	0.00	c0.42		0.00	
v/s Ratio Perm								c0.09
v/c Ratio		0.63	0.90	0.03	1.27		0.01	0.27
Uniform Delay, d1		44.6	30.5	47.0	36.8		23.5	25.8
Progression Factor		0.62	0.78	0.42	0.24		1.00	1.00
Incremental Delay, d2		7.7	6.5	0.0	123.6		0.0	1.6
Delay (s)		35.4	30.3	19.8	132.2		23.5	27.4
Level of Service		D	C	B	F		C	C
Approach Delay (s)			30.9		131.8		27.4	
Approach LOS			C		F		C	

Intersection Summary			
HCM 2000 Control Delay	73.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

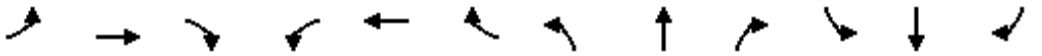
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	688	818	50	542	724	31	53	1108	426	0	0	0
Future Volume (vph)	688	818	50	542	724	31	53	1108	426	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3033		2987	3028			5546	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3033		2987	3028			5546	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	732	870	53	577	770	33	56	1179	453	0	0	0
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	218	0	0	0
Lane Group Flow (vph)	732	919	0	577	800	0	0	1235	235	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	19.8	37.2		14.5	33.4			37.9	37.9			
Effective Green, g (s)	19.8	37.2		14.5	33.4			37.9	37.9			
Actuated g/C Ratio	0.18	0.34		0.13	0.30			0.34	0.34			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	781	1025		393	919			1910	436			
v/s Ratio Prot	0.17	c0.30		c0.19	0.26							
v/s Ratio Perm								0.22	0.19			
v/c Ratio	0.94	0.90		1.47	0.87			0.65	0.54			
Uniform Delay, d1	44.5	34.6		47.8	36.3			30.4	29.0			
Progression Factor	0.92	0.92		1.10	0.32			1.29	2.34			
Incremental Delay, d2	2.5	1.3		212.0	0.9			0.6	1.0			
Delay (s)	43.6	33.1		264.5	12.5			39.8	68.8			
Level of Service	D	C		F	B			D	E			
Approach Delay (s)		37.7			117.8			47.6			0.0	
Approach LOS		D			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	64.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



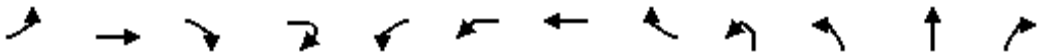
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	1333	58	51	760	27	40	54	35	87	1086	203
Future Volume (vph)	86	1333	58	51	760	27	40	54	35	87	1086	203
Ideal Flow (vphpl)	1500	1500	1500	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.99		1.00	0.98			1.00	0.71	1.00	0.99	0.58
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98	1.00	0.76	1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1215	3444		1459	2846			1475	911	1102	2765	669
Flt Permitted	0.95	1.00		0.95	1.00			0.25	1.00	0.69	1.00	1.00
Satd. Flow (perm)	1215	3444		1459	2846			379	911	802	2765	669
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	92	1433	62	55	817	29	43	58	38	94	1168	218
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	24	0	1	110
Lane Group Flow (vph)	92	1491	0	55	844	0	0	101	14	94	1189	86
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	11.5	38.0		12.0	36.9			40.1	40.1	41.1	41.1	41.1
Effective Green, g (s)	11.5	38.0		12.0	36.9			40.1	40.1	41.1	41.1	41.1
Actuated g/C Ratio	0.10	0.35		0.11	0.34			0.36	0.36	0.37	0.37	0.37
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	127	1189		159	954			138	332	299	1033	249
v/s Ratio Prot	0.08	c0.43		0.04	c0.30						c0.43	
v/s Ratio Perm								0.27	0.02	0.12		0.13
v/c Ratio	0.72	1.25		0.35	0.88			0.73	0.04	0.31	1.15	0.34
Uniform Delay, d1	47.7	36.0		45.4	34.5			30.3	22.6	24.5	34.5	24.8
Progression Factor	1.23	0.72		0.66	0.56			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	115.0		0.8	6.3			18.0	0.1	0.6	79.2	0.8
Delay (s)	60.8	140.9		30.5	25.5			48.3	22.6	25.1	113.7	25.6
Level of Service	E	F		C	C			D	C	C	F	C
Approach Delay (s)		136.3			25.8			41.3			96.4	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	94.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	124.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1725	93	0	876	111	10
Future Volume (vph)	1725	93	0	876	111	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3050			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3050			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1816	98	0	922	117	11
RTOR Reduction (vph)	3	0	0	0	0	7
Lane Group Flow (vph)	1911	0	0	922	117	4
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1721			1738	512	451
v/s Ratio Prot	c0.63			0.30	c0.08	
v/s Ratio Perm						0.00
v/c Ratio	1.11			0.53	0.23	0.01
Uniform Delay, d1	23.9			14.9	26.5	24.6
Progression Factor	1.00			2.14	1.00	1.00
Incremental Delay, d2	58.5			0.7	1.0	0.0
Delay (s)	82.4			32.5	27.5	24.6
Level of Service	F			C	C	C
Approach Delay (s)	82.4			32.5	27.3	
Approach LOS	F			C	C	

Intersection Summary			
HCM 2000 Control Delay	64.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	123	287	5	3	3	13	54	5	2	4	8	36
Future Volume (vph)	123	287	5	3	3	13	54	5	2	4	8	36
Ideal Flow (vphpl)	1900	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		1.00					1.00				0.96	
Flpb, ped/bikes		0.99					0.99				0.97	
Frt		1.00					0.99				0.90	
Flt Protected		0.99					0.99				0.99	
Satd. Flow (prot)		1490					1267				1089	
Flt Permitted		0.87					0.89				0.96	
Satd. Flow (perm)		1316					1134				1056	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	143	334	6	3	3	15	63	6	2	5	9	42
RTOR Reduction (vph)	0	0	0	0	0	0	3	0	0	0	29	0
Lane Group Flow (vph)	0	486	0	0	0	0	84	0	0	0	29	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		25.1					25.1				20.2	
Effective Green, g (s)		25.1					25.1				20.2	
Actuated g/C Ratio		0.38					0.38				0.30	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		493					425				318	
v/s Ratio Prot												
v/s Ratio Perm		c0.37					0.07				0.03	
v/c Ratio		0.99					0.20				0.09	
Uniform Delay, d1		20.7					14.1				16.8	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		36.5					0.2				0.1	
Delay (s)		57.3					14.3				16.9	
Level of Service		E					B				B	
Approach Delay (s)		57.3					14.3				16.9	
Approach LOS		E					B				B	

Intersection Summary			
HCM 2000 Control Delay	39.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	124	3	35	61	5	51	82	3
Future Volume (vph)	124	3	35	61	5	51	82	3
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	0.95	
Frpb, ped/bikes		0.90		0.62		1.00	0.83	
Flpb, ped/bikes		1.00		1.00		0.93	1.00	
Frt		0.96		0.85		0.96	0.85	
Flt Protected		0.96		1.00		0.96	1.00	
Satd. Flow (prot)		1220		768		1328	1028	
Flt Permitted		0.75		1.00		0.96	1.00	
Satd. Flow (perm)		947		768		1328	1028	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	144	3	41	71	6	59	95	3
RTOR Reduction (vph)	0	2	0	44	0	0	70	0
Lane Group Flow (vph)	0	193	0	20	0	85	8	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		21.2		21.2		6.6	6.6	
Effective Green, g (s)		21.2		21.2		6.6	6.6	
Actuated g/C Ratio		0.32		0.32		0.10	0.10	
Clearance Time (s)		4.0		4.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		300		243		131	101	
v/s Ratio Prot								
v/s Ratio Perm		c0.20		0.03		0.06	0.01	
v/c Ratio		0.64		0.08		0.65	0.08	
Uniform Delay, d1		19.6		16.0		29.0	27.4	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.7		0.1		10.6	0.3	
Delay (s)		24.3		16.2		39.6	27.7	
Level of Service		C		B		D	C	
Approach Delay (s)		22.3				33.9		
Approach LOS		C				C		

Intersection Summary

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	118	122	0	1	0	407	39	253	350	308	4
Future Volume (vph)	4	118	122	0	1	0	407	39	253	350	308	4
Ideal Flow (vphpl)	1900	1800	1800	1800	1900	1000	1000	1000	1800	1800	1800	1800
Total Lost time (s)			5.0				5.0	5.0	5.0	5.0		
Lane Util. Factor			1.00				*0.80	1.00	1.00	0.95		
Frpb, ped/bikes			1.00				1.00	0.91	1.00	0.96		
Flpb, ped/bikes			0.98				1.00	1.00	0.98	1.00		
Frt			1.00				1.00	0.85	1.00	0.93		
Flt Protected			0.98				1.00	1.00	0.95	1.00		
Satd. Flow (prot)			1246				2047	657	1435	2603		
Flt Permitted			0.56				0.94	1.00	0.70	1.00		
Satd. Flow (perm)			712				1923	657	1054	2603		
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	5	139	144	0	1	0	479	46	298	412	362	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	169	0	0
Lane Group Flow (vph)	0	0	288	0	0	0	480	46	298	605	0	0
Confl. Peds. (#/hr)		84		4		4		84	32		72	72
Confl. Bikes (#/hr)												
Parking (#/hr)		10	10									10
Turn Type	Perm	Perm	NA		Perm		NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2			6			6	8			4
Actuated Green, G (s)			18.0				18.0	18.0	32.0	32.0		
Effective Green, g (s)			18.0				18.0	18.0	32.0	32.0		
Actuated g/C Ratio			0.30				0.30	0.30	0.53	0.53		
Clearance Time (s)			5.0				5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)			213				576	197	562	1388		
v/s Ratio Prot										0.23		
v/s Ratio Perm			c0.40				0.25	0.07	c0.28			
v/c Ratio			1.35				0.83	0.23	0.53	0.44		
Uniform Delay, d1			21.0				19.6	15.8	9.1	8.5		
Progression Factor			1.00				1.00	1.00	1.00	1.00		
Incremental Delay, d2			186.1				13.3	2.8	3.6	1.0		
Delay (s)			207.1				32.9	18.6	12.7	9.5		
Level of Service			F				C	B	B	A		
Approach Delay (s)			207.1				31.6			10.4		
Approach LOS			F				C			B		

Intersection Summary			
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

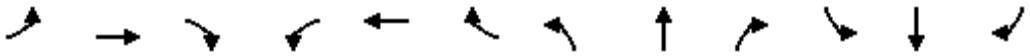
c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	74
Future Volume (vph)	0	74
Ideal Flow (vphpl)	1800	1800
Total Lost time (s)	5.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.97	
Flpb, ped/bikes	1.00	
Frt	0.87	
Flt Protected	1.00	
Satd. Flow (prot)	1102	
Flt Permitted	0.97	
Satd. Flow (perm)	1068	
Peak-hour factor, PHF	0.85	0.85
Adj. Flow (vph)	0	87
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	92	0
Confl. Peds. (#/hr)		32
Confl. Bikes (#/hr)		1
Parking (#/hr)	10	10
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	32.0	
Effective Green, g (s)	32.0	
Actuated g/C Ratio	0.53	
Clearance Time (s)	5.0	
Lane Grp Cap (vph)	569	
v/s Ratio Prot		
v/s Ratio Perm	0.09	
v/c Ratio	0.16	
Uniform Delay, d1	7.1	
Progression Factor	1.00	
Incremental Delay, d2	0.6	
Delay (s)	7.8	
Level of Service	A	
Approach Delay (s)	7.8	
Approach LOS	A	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
10: Fremont St. & Folsom St.

04/25/2017



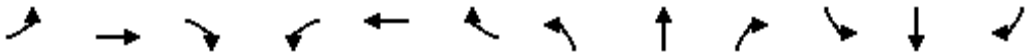
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	611	15	0	65	35	1	372	120	311	53	0
Future Volume (vph)	246	611	15	0	65	35	1	372	120	311	53	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			0.90			0.97			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			0.95			0.97			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2678			1322			1441			1472	
Flt Permitted	0.95	1.00			1.00			1.00			0.39	
Satd. Flow (perm)	1459	2678			1322			1441			600	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	262	650	16	0	69	37	1	396	128	331	56	0
RTOR Reduction (vph)	0	2	0	0	25	0	0	12	0	0	0	0
Lane Group Flow (vph)	262	664	0	0	81	0	0	513	0	0	387	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10						10			
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	12.9	28.1			11.2			41.2			40.2	
Effective Green, g (s)	14.9	31.1			13.2			44.2			44.2	
Actuated g/C Ratio	0.19	0.39			0.16			0.55			0.55	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	270	1037			217			793			330	
v/s Ratio Prot	c0.18	c0.25			0.06							
v/s Ratio Perm								0.36			c0.64	
v/c Ratio	0.97	0.64			0.37			0.65			1.17	
Uniform Delay, d1	32.5	20.0			29.9			12.6			18.0	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	46.4	1.3			1.1			1.8			105.1	
Delay (s)	78.9	21.3			30.9			14.4			123.2	
Level of Service	E	C			C			B			F	
Approach Delay (s)		37.6			30.9			14.4			123.2	
Approach LOS		D			C			B			F	

Intersection Summary			
HCM 2000 Control Delay	48.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
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)	254	319	59	22	260	68	15	281	24	68	408	154
Future Volume (vph)	254	319	59	22	260	68	15	281	24	68	408	154
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.98			0.98			0.99			0.95	
Flpb, ped/bikes		0.99			1.00			1.00			0.99	
Frt		0.99			0.97			0.99			0.96	
Flt Protected		0.98			1.00			1.00			0.99	
Satd. Flow (prot)		2525			2559			2808			2440	
Flt Permitted		0.66			0.90			0.92			0.87	
Satd. Flow (perm)		1697			2302			2584			2137	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	295	371	69	26	302	79	17	327	28	79	474	179
RTOR Reduction (vph)	0	13	0	0	35	0	0	10	0	0	52	0
Lane Group Flow (vph)	0	722	0	0	372	0	0	362	0	0	680	0
Confl. Peds. (#/hr)	93		138	138		93	250		186	186		250
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	5	0	0	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		791			1074			1205			961	
v/s Ratio Prot												
v/s Ratio Perm		c0.43			0.16			0.14			c0.32	
v/c Ratio		1.02dl			0.35			0.30			0.71	
Uniform Delay, d1		14.9			10.2			9.9			13.3	
Progression Factor		1.00			1.00			1.00			0.50	
Incremental Delay, d2		16.7			0.9			0.6			3.9	
Delay (s)		31.6			11.1			10.6			10.5	
Level of Service		C			B			B			B	
Approach Delay (s)		31.6			11.1			10.6			10.5	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

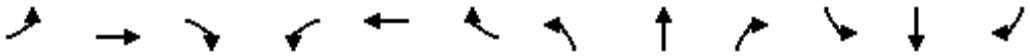
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	387	547	42	0	0	0	0	426	119	42	558	0
Future Volume (vph)	387	547	42	0	0	0	0	426	119	42	558	0
Ideal Flow (vphpl)	1400	1400	1400	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0			2.0	
Lane Util. Factor	0.97	0.91						0.95			0.95	
Frpb, ped/bikes	1.00	1.00						0.93			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			0.99	
Frt	1.00	0.99						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	2036	3049						2624			2665	
Flt Permitted	0.95	1.00						1.00			0.89	
Satd. Flow (perm)	2036	3049						2624			2390	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	412	582	45	0	0	0	0	453	127	45	594	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	43	0	0	0	0
Lane Group Flow (vph)	412	612	0	0	0	0	0	537	0	0	639	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Parking (#/hr)	10	10	10								10	
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2									4		
Actuated Green, G (s)	27.0	27.0						26.0			26.0	
Effective Green, g (s)	28.5	28.5						27.5			27.5	
Actuated g/C Ratio	0.48	0.48						0.46			0.46	
Clearance Time (s)	3.5	3.5						3.5			3.5	
Lane Grp Cap (vph)	967	1448						1202			1095	
v/s Ratio Prot		0.20						0.20				
v/s Ratio Perm	c0.20										c0.27	
v/c Ratio	0.43	0.42						0.45			0.58	
Uniform Delay, d1	10.4	10.3						11.1			12.0	
Progression Factor	0.49	0.45						1.03			1.00	
Incremental Delay, d2	1.3	0.8						1.0			2.3	
Delay (s)	6.3	5.5						12.4			14.3	
Level of Service	A	A						B			B	
Approach Delay (s)		5.8			0.0			12.4			14.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

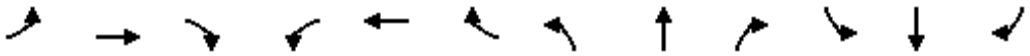
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1061	786	0	0	0	0	0	1669	261	0	0	0
Future Volume (vph)	1061	786	0	0	0	0	0	1669	261	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	0.91						0.91	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.78			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	2830	4052						3982	1015			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	2830	4052						3982	1015			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1105	819	0	0	0	0	0	1739	272	0	0	0
RTOR Reduction (vph)	16	0	0	0	0	0	0	0	75	0	0	0
Lane Group Flow (vph)	1089	819	0	0	0	0	0	1739	197	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	28.3	28.3						22.3	22.3			
Effective Green, g (s)	29.8	29.8						23.8	23.8			
Actuated g/C Ratio	0.50	0.50						0.40	0.40			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	1405	2012						1579	402			
v/s Ratio Prot		0.20						c0.44				
v/s Ratio Perm	c0.39								0.19			
v/c Ratio	0.78	0.41						1.10	0.49			
Uniform Delay, d1	12.4	9.5						18.1	13.6			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	4.2	0.6						55.7	4.2			
Delay (s)	16.6	10.1						73.8	17.8			
Level of Service	B	B						E	B			
Approach Delay (s)		13.9			0.0			66.3			0.0	
Approach LOS		B			A			E			A	

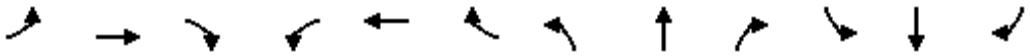
Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



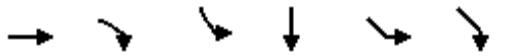
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1091	161	205	1925	180	0	0	0
Future Volume (vph)	0	0	0	0	1091	161	205	1925	180	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.98		1.00	1.00	0.48			
Flpb, ped/bikes					1.00		0.80	1.00	1.00			
Frt					0.98		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4011		1168	4191	621			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4011		1168	4191	621			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1161	171	218	2048	191	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	59	0	76	0	0	0
Lane Group Flow (vph)	0	0	0	0	1332	0	159	2048	115	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1570		535	1920	279			
v/s Ratio Prot					c0.33			c0.49				
v/s Ratio Perm							0.14		0.18			
v/c Ratio					0.85		0.30	1.07	0.41			
Uniform Delay, d1					16.6		10.2	16.2	11.1			
Progression Factor					1.00		1.20	1.09	1.39			
Incremental Delay, d2					5.9		0.4	33.7	1.2			
Delay (s)					22.5		12.6	51.3	16.7			
Level of Service					C		B	D	B			
Approach Delay (s)		0.0			22.5			45.2			0.0	
Approach LOS		A			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1032	259	207	1972	0	0	0	0
Future Volume (vph)	0	0	0	0	1032	259	207	1972	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0		-1.1	-1.1				
Lane Util. Factor					0.86		0.81	0.81				
Frpb, ped/bikes					0.94		1.00	1.00				
Flpb, ped/bikes					1.00		0.68	1.00				
Frt					0.97		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4267		583	3579				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4267		583	3579				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1098	276	220	2098	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1372	0	198	2120	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Perm	NA				
Protected Phases					6			8				
Permitted Phases							8					
Actuated Green, G (s)					22.0		23.1	23.1				
Effective Green, g (s)					24.5		29.6	29.6				
Actuated g/C Ratio					0.41		0.49	0.49				
Clearance Time (s)					9.5		5.4	5.4				
Lane Grp Cap (vph)					1742		287	1765				
v/s Ratio Prot					c0.32							
v/s Ratio Perm							0.34	0.59				
v/c Ratio					0.79		0.69	1.20				
Uniform Delay, d1					15.5		11.7	15.2				
Progression Factor					1.00		0.56	0.50				
Incremental Delay, d2					3.7		1.2	91.1				
Delay (s)					19.2		7.7	98.6				
Level of Service					B		A	F				
Approach Delay (s)		0.0			19.2			90.9			0.0	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	64.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



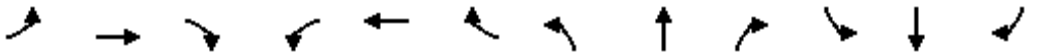
Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	508	319	85	1142	1253	115
Future Volume (vph)	508	319	85	1142	1253	115
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	0.91	0.94	0.86
Frpb, ped/bikes	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5588		1459	3982	4119	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5588		1459	3982	4119	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	558	351	93	1255	1377	126
RTOR Reduction (vph)	127	0	68	0	0	0
Lane Group Flow (vph)	782	0	25	1255	1390	113
Confl. Peds. (#/hr)		24	528			
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	20.5		21.8	21.8	27.5	27.5
Effective Green, g (s)	22.5		23.8	23.8	31.5	31.5
Actuated g/C Ratio	0.25		0.26	0.26	0.35	0.35
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1397		385	1053	1441	392
v/s Ratio Prot	c0.14		0.02	c0.32	c0.34	
v/s Ratio Perm						0.10
v/c Ratio	0.87dr		0.06	1.19	0.96	0.29
Uniform Delay, d1	29.4		24.8	33.1	28.7	21.1
Progression Factor	1.00		1.82	0.89	1.00	1.00
Incremental Delay, d2	1.6		0.2	93.5	16.6	1.8
Delay (s)	31.1		45.3	122.8	45.3	23.0
Level of Service	C		D	F	D	C
Approach Delay (s)	31.1			117.5	43.7	
Approach LOS	C			F	D	

Intersection Summary			
HCM 2000 Control Delay	67.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	119	654	509	879	436	150
Future Volume (vph)	119	654	509	879	436	150
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)		5.4	2.4	5.7	2.7	2.7
Lane Util. Factor		0.81	0.81	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	0.96	0.96
Flpb, ped/bikes		0.97	0.99	1.00	1.00	1.00
Frt		1.00	1.00	0.99	0.85	0.85
Flt Protected		0.95	0.98	1.00	1.00	1.00
Satd. Flow (prot)		1021	4816	2277	1015	1115
Flt Permitted		0.95	0.98	1.00	1.00	1.00
Satd. Flow (perm)		1021	4816	2277	1015	1115
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	125	688	536	925	459	158
RTOR Reduction (vph)	0	0	0	0	0	71
Lane Group Flow (vph)	0	407	942	971	413	87
Confl. Peds. (#/hr)	17	17				
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)		32.6	32.6	46.3	46.3	46.3
Effective Green, g (s)		32.6	35.6	46.3	49.3	49.3
Actuated g/C Ratio		0.36	0.40	0.51	0.55	0.55
Clearance Time (s)		5.4	5.4	5.7	5.7	5.7
Lane Grp Cap (vph)		369	1904	1171	555	610
v/s Ratio Prot				c0.43		
v/s Ratio Perm		c0.40	0.20		0.41	0.08
v/c Ratio		1.10	0.49	0.83	0.74	0.14
Uniform Delay, d1		28.7	20.4	18.5	15.5	10.0
Progression Factor		1.00	1.00	1.78	2.00	6.39
Incremental Delay, d2		77.6	0.9	5.7	7.3	0.4
Delay (s)		106.3	21.4	38.6	38.4	64.1
Level of Service		F	C	D	D	E
Approach Delay (s)			47.0	41.1		
Approach LOS			D	D		

Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



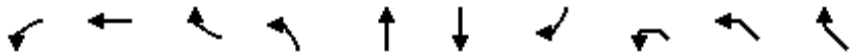
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	385	899	0	0	0	0	0	963	175
Future Volume (vph)	0	0	0	385	899	0	0	0	0	0	963	175
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.99	0.70
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4941						4910	736
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4941						4910	736
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	405	946	0	0	0	0	0	1014	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	259	1092	0	0	0	0	0	1032	166
Confl. Peds. (#/hr)												321
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				30.0	30.0						28.0	28.0
Effective Green, g (s)				31.5	31.5						30.0	30.0
Actuated g/C Ratio				0.35	0.35						0.33	0.33
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				413	1729						1636	245
v/s Ratio Prot				0.22	c0.22						0.21	
v/s Ratio Perm												c0.23
v/c Ratio				0.63	0.63						0.63	0.68
Uniform Delay, d1				24.4	24.4						25.3	25.8
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				7.0	1.8						1.9	14.1
Delay (s)				31.4	26.2						27.2	39.9
Level of Service				C	C						C	D
Approach Delay (s)		0.0			27.2			0.0			28.9	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	92	276	542	112	288	201	69	116	264	451
Future Volume (vph)	92	276	542	112	288	201	69	116	264	451
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.98		0.95		0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00		1.00	1.00
Frt		1.00	0.98		0.94		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	0.99
Satd. Flow (prot)		2363	3342		2453		1163		1327	2530
Flt Permitted		0.95	1.00		1.00		1.00		0.30	0.67
Satd. Flow (perm)		2363	3342		2453		1163		416	1713
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	99	297	583	120	310	216	74	125	284	485
RTOR Reduction (vph)	0	0	31	0	1	0	49	0	0	0
Lane Group Flow (vph)	0	366	702	0	532	0	18	0	264	630
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Split	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases	2	2	2		8			7	7	4
Permitted Phases							8	4	4	
Actuated Green, G (s)		16.5	16.5		20.0		20.0		33.0	33.0
Effective Green, g (s)		16.5	19.0		21.5		20.0		34.5	34.5
Actuated g/C Ratio		0.22	0.25		0.29		0.27		0.46	0.46
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		519	846		703		310		318	902
v/s Ratio Prot		0.15	c0.21		0.22				c0.12	0.10
v/s Ratio Perm							0.02		c0.27	0.22
v/c Ratio		0.71	0.83		0.76		0.06		0.83	0.70
Uniform Delay, d1		27.0	26.5		24.4		20.5		22.1	16.1
Progression Factor		1.00	1.00		1.00		1.00		0.77	0.73
Incremental Delay, d2		7.8	9.2		7.4		0.4		6.3	1.1
Delay (s)		34.8	35.7		31.8		20.8		23.2	12.9
Level of Service		C	D		C		C		C	B
Approach Delay (s)			35.4		30.6					15.9
Approach LOS			D		C					B

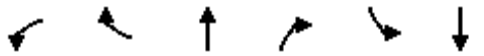
Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	43	493	115	45	327	562	200	397	444	289
Future Volume (vph)	43	493	115	45	327	562	200	397	444	289
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.97			1.00	0.95			0.99	0.80
Flpb, ped/bikes		1.00			0.99	1.00			0.79	1.00
Frt		0.97			1.00	0.96			1.00	0.85
Flt Protected		1.00			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5648			2855	2445			3204	902
Flt Permitted		1.00			0.71	1.00			0.95	1.00
Satd. Flow (perm)		5648			2034	2445			3204	902
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	519	121	47	344	592	211	418	467	304
RTOR Reduction (vph)	0	52	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	633	0	0	391	785	0	0	915	274
Confl. Peds. (#/hr)			159	185			97		185	159
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10	10			10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		22.0			20.0	20.0			19.0	19.0
Effective Green, g (s)		24.0			23.0	23.0			22.0	22.0
Actuated g/C Ratio		0.32			0.31	0.31			0.29	0.29
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1807			623	749			939	264
v/s Ratio Prot						c0.32				
v/s Ratio Perm		0.11			0.19				0.29	c0.30
v/c Ratio		0.35			0.63	1.05			1.26dl	1.04
Uniform Delay, d1		19.5			22.3	26.0			26.2	26.5
Progression Factor		1.00			0.88	1.00			1.00	1.00
Incremental Delay, d2		0.5			3.1	46.2			23.8	65.6
Delay (s)		20.1			22.8	72.2			50.0	92.1
Level of Service		C			C	E			D	F
Approach Delay (s)		20.1			22.8	72.2			59.7	
Approach LOS		C			C	E			E	

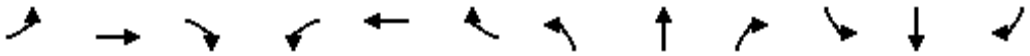
Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



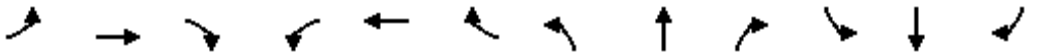
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	257	1216	1	183	470
Future Volume (vph)	5	257	1216	1	183	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3078		1520	3079
Flt Permitted	0.95	1.00	1.00		0.15	1.00
Satd. Flow (perm)	1540	1378	3078		245	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	286	1351	1	203	522
RTOR Reduction (vph)	0	35	0	0	0	0
Lane Group Flow (vph)	6	251	1352	0	203	522
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2093		166	2093
v/s Ratio Prot	0.00		0.44			0.17
v/s Ratio Perm		c0.18			c0.83	
v/c Ratio	0.02	0.79	0.65		1.22	0.25
Uniform Delay, d1	32.5	39.6	10.0		17.6	6.8
Progression Factor	1.00	1.00	1.00		2.52	0.48
Incremental Delay, d2	0.1	17.5	1.6		105.4	0.0
Delay (s)	32.6	57.1	11.6		149.8	3.3
Level of Service	C	E	B		F	A
Approach Delay (s)	56.6		11.6			44.3
Approach LOS	E		B			D

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	158.3%	ICU Level of Service	H
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)	17	95	194	24	28	69	16	1120	132	59	374	38
Future Volume (vph)	17	95	194	24	28	69	16	1120	132	59	374	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.98		1.00	0.99	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1607	1342		1461		1459	2847		1540	3016	
Flt Permitted		0.95	1.00		0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1541	1342		1376		1459	2847		1540	3016	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	107	218	27	31	78	18	1258	148	66	420	43
RTOR Reduction (vph)	0	0	148	0	48	0	0	9	0	0	8	0
Lane Group Flow (vph)	0	126	70	0	88	0	18	1397	0	66	456	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		494	430		441		215	1010		254	1131	
v/s Ratio Prot							0.01	c0.49		0.04	c0.15	
v/s Ratio Perm		c0.08	0.05		0.06							
v/c Ratio		0.26	0.16		0.20		0.08	1.38		0.26	0.40	
Uniform Delay, d1		25.1	24.3		24.6		36.8	32.2		36.4	23.0	
Progression Factor		1.00	1.00		1.00		1.63	0.70		1.00	1.00	
Incremental Delay, d2		1.2	0.8		1.0		0.1	173.0		2.5	1.1	
Delay (s)		26.4	25.1		25.6		59.9	195.7		38.9	24.1	
Level of Service		C	C		C		E	F		D	C	
Approach Delay (s)		25.6			25.6			194.0			25.9	
Approach LOS		C			C			F			C	

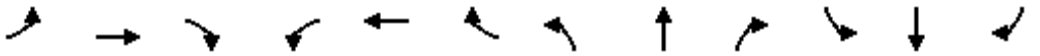
Intersection Summary			
HCM 2000 Control Delay	124.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	226	29	127	11	88	8	1258	137	48	535	15
Future Volume (vph)	20	226	29	127	11	88	8	1258	137	48	535	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.95		1.00	0.99		1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1347			1460		1418	2756		1540	3059	
Flt Permitted		0.97			0.55		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1306			827		1418	2756		1540	3059	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	248	32	140	12	97	9	1382	151	53	588	16
RTOR Reduction (vph)	0	4	0	0	23	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	298	0	0	226	0	9	1525	0	53	602	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		427			270		212	1016		229	1128	
v/s Ratio Prot							0.01	c0.55		0.03	c0.20	
v/s Ratio Perm		0.23			c0.27							
v/c Ratio		0.70			0.84		0.04	1.50		0.23	0.53	
Uniform Delay, d1		29.3			31.2		36.4	31.6		37.5	24.8	
Progression Factor		1.00			1.00		1.17	0.83		0.69	0.68	
Incremental Delay, d2		9.1			25.5		0.0	225.8		2.2	1.7	
Delay (s)		38.5			56.7		42.7	251.9		28.0	18.5	
Level of Service		D			E		D	F		C	B	
Approach Delay (s)		38.5			56.7			250.6			19.3	
Approach LOS		D			E			F			B	

Intersection Summary			
HCM 2000 Control Delay	154.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	115.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



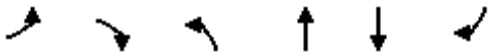
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	10	17	0	3	79	15	60	4	304	670	38
Future Volume (vph)	9	10	17	0	3	79	15	60	4	304	670	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.98			1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	0.94	1.00		1.00	1.00	
Frt		0.94			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1243			1621	1373	1221	1347		1296	1340	
Flt Permitted		0.91			1.00	1.00	0.69	1.00		0.95	1.00	
Satd. Flow (perm)		1147			1621	1373	886	1347		1296	1340	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	11	18	0	3	86	16	65	4	330	728	41
RTOR Reduction (vph)	0	17	0	0	0	36	0	4	0	0	2	0
Lane Group Flow (vph)	0	22	0	0	3	50	16	65	0	330	767	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA			NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		2.8			2.8	28.5	5.8	5.8		25.7	36.5	
Effective Green, g (s)		2.8			2.8	28.5	5.8	5.8		25.7	36.5	
Actuated g/C Ratio		0.06			0.06	0.58	0.12	0.12		0.52	0.74	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		65			92	932	104	158		675	992	
v/s Ratio Prot					0.00	0.03		0.05		0.25	c0.57	
v/s Ratio Perm		c0.02				0.01	0.02					
v/c Ratio		0.34			0.03	0.05	0.15	0.41		0.49	0.77	
Uniform Delay, d1		22.4			22.0	4.5	19.5	20.2		7.6	3.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.1			0.1	0.0	0.7	1.8		0.6	3.8	
Delay (s)		25.4			22.1	4.6	20.2	21.9		8.1	7.7	
Level of Service		C			C	A	C	C		A	A	
Approach Delay (s)		25.4			5.1			21.6			7.8	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	49.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations							
Sign Control		Stop			Stop	Stop	
Traffic Volume (vph)	1	11	117	223	328	102	5
Future Volume (vph)	1	11	117	223	328	102	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	13	133	253	373	116	6

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	13	133	377	249	77	45
Volume Left (vph)	13	0	253	0	0	0
Volume Right (vph)	0	133	0	0	0	6
Hadj (s)	0.53	-0.67	0.37	0.03	0.03	-0.06
Departure Headway (s)	6.7	5.5	5.4	5.1	5.6	5.5
Degree Utilization, x	0.02	0.20	0.57	0.35	0.12	0.07
Capacity (veh/h)	495	600	652	689	607	617
Control Delay (s)	8.7	8.7	14.2	9.6	8.2	7.7
Approach Delay (s)	8.7		12.4		8.0	
Approach LOS	A		B		A	

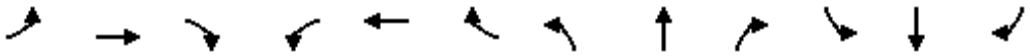
Intersection Summary			
Delay	11.2		
Level of Service	B		
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	126	126	11	800	177	11
Future Volume (Veh/h)	126	126	11	800	177	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	152	152	13	964	213	13
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	742	127	238			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	742	127	238			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	56	83	99			
cM capacity (veh/h)	343	890	1314			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	304	334	643	142	84
Volume Left	152	13	0	0	0
Volume Right	152	0	0	0	13
cSH	496	1314	1700	1700	1700
Volume to Capacity	0.61	0.01	0.38	0.08	0.05
Queue Length 95th (ft)	102	1	0	0	0
Control Delay (s)	23.1	0.4	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	23.1	0.1		0.0	
Approach LOS	C				

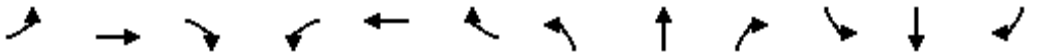
Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	546	230	209	1	121	68	403	945	43	88	307	320
Future Volume (vph)	546	230	209	1	121	68	403	945	43	88	307	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	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	0.95		1.00	0.99		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1525	1378	1136	1533	1518		2987	3052		1540	2783	
Flt Permitted	0.58	1.00	1.00	0.52	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	934	1378	1136	843	1518		2987	3052		1540	2783	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	581	245	222	1	129	72	429	1005	46	94	327	340
RTOR Reduction (vph)	0	0	145	0	20	0	0	3	0	0	188	0
Lane Group Flow (vph)	581	245	77	1	181	0	429	1048	0	94	479	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	322	475	391	290	523		418	1153		184	996	
v/s Ratio Prot		0.18			0.12		0.14	c0.34		0.06	c0.17	
v/s Ratio Perm	c0.62		0.07	0.00								
v/c Ratio	1.80	0.52	0.20	0.00	0.35		1.03	0.91		0.51	0.48	
Uniform Delay, d1	32.8	26.1	23.0	21.5	24.4		43.0	29.5		41.2	24.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.73	0.80		0.62	0.24	
Incremental Delay, d2	374.1	4.0	1.1	0.0	1.8		36.7	6.2		7.9	1.3	
Delay (s)	406.8	30.1	24.1	21.5	26.2		68.0	29.7		33.6	7.3	
Level of Service	F	C	C	C	C		E	C		C	A	
Approach Delay (s)		237.7			26.1			40.8			10.6	
Approach LOS		F			C			D			B	

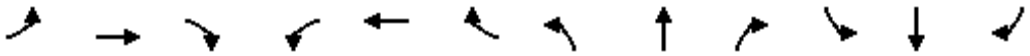
Intersection Summary			
HCM 2000 Control Delay	92.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	122.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	905	180	140	420	155	86	348	359	61	223	70
Future Volume (vph)	334	905	180	140	420	155	86	348	359	61	223	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1540	1378	1378	1540	1621	1341	1540	2845			3046	1344
Flt Permitted	0.95	1.00	1.00	0.11	1.00	1.00	0.54	1.00			0.60	1.00
Satd. Flow (perm)	1540	1378	1378	179	1621	1341	869	2845			1858	1344
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	371	1006	196	152	467	172	93	378	390	68	242	78
RTOR Reduction (vph)	0	0	27	0	0	56	0	50	0	0	0	53
Lane Group Flow (vph)	371	1006	169	152	467	116	93	718	0	0	310	25
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	14.1	55.4	55.4	36.3	36.3	36.3	31.8	31.8			30.8	30.8
Effective Green, g (s)	14.1	55.4	55.4	36.3	36.3	36.3	31.8	31.8			30.8	30.8
Actuated g/C Ratio	0.15	0.58	0.58	0.38	0.38	0.38	0.33	0.33			0.32	0.32
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	225	793	793	67	611	506	287	940			594	430
v/s Ratio Prot	c0.24	0.73			0.29			c0.25				
v/s Ratio Perm			0.12	c0.85		0.09	0.11				0.17	0.02
v/c Ratio	1.65	1.27	0.21	2.27	0.76	0.23	0.32	0.76			0.52	0.06
Uniform Delay, d1	41.1	20.4	9.9	30.0	26.2	20.4	24.1	28.8			26.7	22.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	311.1	130.8	0.1	615.5	5.7	0.2	0.7	3.7			0.8	0.1
Delay (s)	352.1	151.2	10.0	645.4	31.9	20.6	24.8	32.6			27.5	22.7
Level of Service	F	F	A	F	C	C	C	C			C	C
Approach Delay (s)		181.0			147.3			31.7			26.6	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	121.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



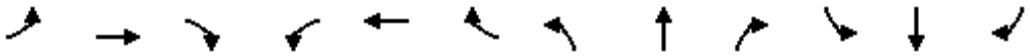
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1002	85	20	356	200	14	395	107	320	103	47
Future Volume (vph)	96	1002	85	20	356	200	14	395	107	320	103	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.89		1.00	0.92	1.00	1.00	0.94	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	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1366	1042		1616	1273	1540	1621	1101	1540	1519	
Flt Permitted		0.52	1.00		0.38	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		720	1042		616	1273	1540	1621	1101	1540	1519	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	101	1055	89	21	375	211	15	416	113	337	108	49
RTOR Reduction (vph)	0	0	47	0	0	64	0	0	48	0	13	0
Lane Group Flow (vph)	0	1156	42	0	396	147	15	416	65	337	144	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.2	34.2		34.2	60.7	16.8	32.1	32.1	26.5	41.8	
Effective Green, g (s)		34.2	34.2		34.2	60.7	16.8	32.1	32.1	26.5	41.8	
Actuated g/C Ratio		0.32	0.32		0.32	0.56	0.16	0.30	0.30	0.25	0.39	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		228	330		195	775	240	482	327	378	589	
v/s Ratio Prot						0.05	0.01	c0.26		c0.22	0.09	
v/s Ratio Perm		c1.61	0.04		0.64	0.07			0.06			
v/c Ratio		5.07	0.13		2.03	0.19	0.06	0.86	0.20	0.89	0.24	
Uniform Delay, d1		36.8	26.2		36.8	11.5	38.8	35.8	28.2	39.3	22.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1841.4	0.2		481.4	0.1	0.1	14.7	0.3	22.2	0.2	
Delay (s)		1878.2	26.4		518.2	11.6	38.9	50.5	28.5	61.4	22.5	
Level of Service		F	C		F	B	D	D	C	E	C	
Approach Delay (s)		1745.8			342.1			45.6			49.1	
Approach LOS		F			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	840.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.42		
Actuated Cycle Length (s)	107.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	148.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBU	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	1	133	80	720	24	56	396
Future Volume (vph)	1	133	80	720	24	56	396
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1600	1600
Total Lost time (s)		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor		1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes		1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes		0.95	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)		1461	2424	1911	1133	1296	1092
Flt Permitted		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)		1461	2424	1911	1133	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1	137	82	742	25	58	408
RTOR Reduction (vph)	0	0	69	0	4	0	0
Lane Group Flow (vph)	0	138	13	742	21	58	408
Confl. Peds. (#/hr)		50					
Confl. Bikes (#/hr)					31		
Turn Type	Perm	Prot	Perm	NA	custom	Prot	NA
Protected Phases		4		2 5	5	1	6
Permitted Phases	4		4		2		
Actuated Green, G (s)		13.5	13.5	47.7	42.7	7.7	60.4
Effective Green, g (s)		13.5	13.5	47.7	42.7	7.7	60.4
Actuated g/C Ratio		0.16	0.16	0.57	0.51	0.09	0.72
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		235	390	1086	644	118	786
v/s Ratio Prot				c0.39	0.01	0.04	c0.37
v/s Ratio Perm		0.09	0.01		0.01		
v/c Ratio		0.59	0.03	0.68	0.03	0.49	0.52
Uniform Delay, d1		32.6	29.7	12.8	10.3	36.2	5.3
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		3.7	0.0	1.8	0.0	3.2	0.6
Delay (s)		36.3	29.7	14.6	10.3	39.4	5.8
Level of Service		D	C	B	B	D	A
Approach Delay (s)		33.9		14.4			10.0
Approach LOS		C		B			B

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

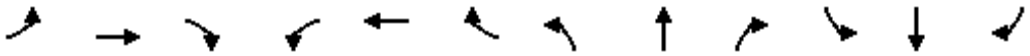
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	81	634	131	36	137	4	44	21	184	3	89	5
Future Volume (vph)	81	634	131	36	137	4	44	21	184	3	89	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	93	729	151	41	157	5	51	24	211	3	102	6

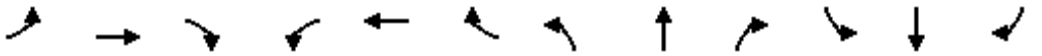
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	973	41	162	75	211	111
Volume Left (vph)	93	41	0	51	0	3
Volume Right (vph)	151	0	5	0	211	6
Hadj (s)	-0.04	0.53	0.01	0.37	-0.67	0.01
Departure Headway (s)	6.2	7.3	6.8	7.5	6.5	7.5
Degree Utilization, x	1.67	0.08	0.31	0.16	0.38	0.23
Capacity (veh/h)	583	473	510	465	540	454
Control Delay (s)	325.0	9.8	11.5	10.7	12.2	12.8
Approach Delay (s)	325.0	11.2		11.8		12.8
Approach LOS	F	B		B		B

Intersection Summary				
Delay	205.5			
Level of Service	F			
Intersection Capacity Utilization	75.5%	ICU Level of Service		D
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	674	38	6	171	13	147	999	104	72	342	137
Future Volume (vph)	342	674	38	6	171	13	147	999	104	72	342	137
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.96	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99			0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1730	1876			3364		1711	3344		1711	3242	
Flt Permitted	0.63	1.00			0.76		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1141	1876			2552		1711	3344		1711	3242	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	360	709	40	6	180	14	155	1052	109	76	360	144
RTOR Reduction (vph)	0	2	0	0	6	0	0	8	0	0	43	0
Lane Group Flow (vph)	360	747	0	0	194	0	155	1153	0	76	461	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	338	557			757		289	1334		254	1228	
v/s Ratio Prot		c0.40					0.09	c0.34		0.04	c0.14	
v/s Ratio Perm	0.32				0.08							
v/c Ratio	1.07	1.34			0.26		0.54	0.86		0.30	0.38	
Uniform Delay, d1	35.1	35.1			26.8		38.0	27.6		37.9	22.5	
Progression Factor	1.00	1.00			1.00		0.77	0.72		1.31	1.22	
Incremental Delay, d2	67.2	165.2			0.8		6.0	6.7		2.7	0.8	
Delay (s)	102.4	200.4			27.6		35.3	26.4		52.3	28.3	
Level of Service	F	F			C		D	C		D	C	
Approach Delay (s)		168.6			27.6			27.5			31.4	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	77.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	123.7%	ICU Level of Service	H
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)	102	140	0	0	475	40	817	828	1221	0	0	106
Future Volume (vph)	102	140	0	0	475	40	817	828	1221	0	0	106
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.99		1.00	0.91				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2820			4090		1350	3122				2694
Flt Permitted		0.62			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1787			4090		1350	3122				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	111	144	0	0	490	43	842	900	1259	0	0	115
RTOR Reduction (vph)	0	0	0	0	11	0	0	238	0	0	0	45
Lane Group Flow (vph)	0	255	0	0	522	0	842	1921	0	0	0	70
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		28.0			28.0		55.0	54.5				55.0
Effective Green, g (s)		28.0			28.0		55.0	54.5				55.0
Actuated g/C Ratio		0.31			0.31		0.61	0.61				0.61
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		555			1272		825	1890				1646
v/s Ratio Prot					0.13		c0.62	0.62				
v/s Ratio Perm		c0.14										0.03
v/c Ratio		0.46			0.41		1.02	1.08dr				0.04
Uniform Delay, d1		24.9			24.5		17.5	17.8				7.0
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		2.7			1.0		36.6	24.9				0.0
Delay (s)		27.6			25.5		54.1	42.7				7.0
Level of Service		C			C		D	D				A
Approach Delay (s)		27.6			25.5			45.9			7.0	
Approach LOS		C			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	136.5%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

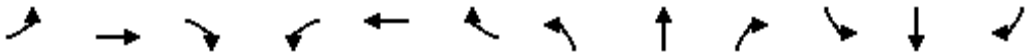
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	117	1	415	981	0	0
Future Volume (vph)	117	1	415	981	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1540	1266	2987	1621		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1540	1266	2987	1621		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	1	428	1011	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	121	1	428	1011	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	45.0	45.0	5.0	60.0		
Effective Green, g (s)	45.0	45.0	5.0	60.0		
Actuated g/C Ratio	0.75	0.75	0.08	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	1155	949	248	1621		
v/s Ratio Prot	0.08		c0.14	c0.62		
v/s Ratio Perm		0.00				
v/c Ratio	0.10	0.00	1.73	0.62		
Uniform Delay, d1	2.0	1.9	27.5	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.2	0.0	343.0	1.8		
Delay (s)	2.2	1.9	370.5	1.8		
Level of Service	A	A	F	A		
Approach Delay (s)	2.2			111.5	0.0	
Approach LOS	A			F	A	

Intersection Summary			
HCM 2000 Control Delay	102.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.5%	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)	43	30	46	17	34	14	0	1156	57	0	404	30
Future Volume (vph)	43	30	46	17	34	14	0	1156	57	0	404	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.98			0.99			0.99	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.95			0.97			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1267			1328			2851			2833	
Flt Permitted		0.88			0.91			1.00			1.00	
Satd. Flow (perm)		1135			1225			2851			2833	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	44	31	47	17	35	14	0	1180	58	0	412	31
RTOR Reduction (vph)	0	28	0	0	12	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	94	0	0	54	0	0	1236	0	0	440	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		13.7			13.7			76.4			76.4	
Effective Green, g (s)		13.7			13.7			76.4			76.4	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		155			167			2178			2164	
v/s Ratio Prot								c0.43			0.16	
v/s Ratio Perm		c0.08			0.04							
v/c Ratio		0.61			0.32			0.57			0.20	
Uniform Delay, d1		40.6			39.0			4.9			3.3	
Progression Factor		1.00			1.00			1.30			0.30	
Incremental Delay, d2		6.6			1.1			0.6			0.2	
Delay (s)		47.2			40.1			7.0			1.2	
Level of Service		D			D			A			A	
Approach Delay (s)		47.2			40.1			7.0			1.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

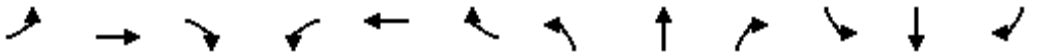
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	494	358	271	5	105	11	160	770	8	15	293	123
Future Volume (vph)	494	358	271	5	105	11	160	770	8	15	293	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1538	2684		1538	1595		1540	3074		1540	2879	
Flt Permitted	0.45	1.00		0.40	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	730	2684		648	1595		1540	3074		1540	2879	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	520	377	285	5	111	12	168	811	8	16	308	129
RTOR Reduction (vph)	0	137	0	0	4	0	0	1	0	0	49	0
Lane Group Flow (vph)	520	525	0	5	119	0	168	818	0	16	388	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	37.6	37.6		13.6	13.6		16.5	43.0		3.1	29.6	
Effective Green, g (s)	37.6	37.6		13.6	13.6		16.5	43.0		3.1	29.6	
Actuated g/C Ratio	0.38	0.38		0.14	0.14		0.16	0.43		0.03	0.30	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	425	1009		88	216		254	1321		47	852	
v/s Ratio Prot	c0.23	0.20			0.07		0.11	c0.27		0.01	c0.13	
v/s Ratio Perm	c0.23			0.01								
v/c Ratio	1.22	0.52		0.06	0.55		0.66	0.62		0.34	0.46	
Uniform Delay, d1	28.8	24.2		37.6	40.3		39.1	22.1		47.4	28.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.91	1.18	
Incremental Delay, d2	120.0	0.5		0.3	2.8		6.3	2.2		4.2	1.7	
Delay (s)	148.9	24.7		37.9	43.2		45.5	24.3		47.5	35.6	
Level of Service	F	C		D	D		D	C		D	D	
Approach Delay (s)		79.3			43.0			27.9			36.0	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	4	236	7	9	4	198	824	0	17	1103	76
Future Volume (vph)	36	4	236	7	9	4	198	824	0	17	1103	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			0.99		1.00	1.00		1.00	1.00	0.77
Flpb, ped/bikes	0.96	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85			0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1481	1336			1531		1540	3079		1296	2593	890
Flt Permitted	0.74	1.00			0.89		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1159	1336			1389		1540	3079		1296	2593	890
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	4	257	8	10	4	215	896	0	18	1199	83
RTOR Reduction (vph)	0	168	0	0	3	0	0	0	0	0	0	58
Lane Group Flow (vph)	39	93	0	0	19	0	215	896	0	18	1199	25
Confl. Peds. (#/hr)	45		24	24		45			173			77
Confl. Bikes (#/hr)			2						52			80
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Effective Green, g (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Actuated g/C Ratio	0.35	0.35			0.35		0.19	0.38		0.10	0.30	0.30
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	401	462			481		287	1161		130	773	265
v/s Ratio Prot		c0.07					0.14	c0.29		0.01	c0.46	
v/s Ratio Perm	0.03				0.01							0.03
v/c Ratio	0.10	0.20			0.04		0.75	0.77		0.14	1.55	0.09
Uniform Delay, d1	24.3	25.3			23.8		42.3	30.1		45.1	38.6	27.9
Progression Factor	1.00	1.00			1.00		0.91	0.93		1.00	1.00	1.00
Incremental Delay, d2	0.5	1.0			0.2		10.9	3.2		2.2	254.4	0.7
Delay (s)	24.8	26.2			24.0		49.6	31.3		47.3	293.0	28.6
Level of Service	C	C			C		D	C		D	F	C
Approach Delay (s)		26.1			24.0			34.9			272.7	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	146.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	98	24	32	929	5	942	379
Future Volume (vph)	98	24	32	929	5	942	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	1314	1540	3079	1540	3079	1134
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1540	1314	1540	3079	1540	3079	1134
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	105	26	34	999	5	1013	408
RTOR Reduction (vph)	0	16	0	0	0	0	145
Lane Group Flow (vph)	105	10	34	999	5	1013	263
Confl. Peds. (#/hr)	36	40					133
Confl. Bikes (#/hr)							92
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	533	455	215	1226	140	1035	381
v/s Ratio Prot	c0.07		0.02	c0.32	0.00	c0.33	
v/s Ratio Perm		0.01					0.23
v/c Ratio	0.20	0.02	0.16	0.81	0.04	0.98	0.69
Uniform Delay, d1	25.2	23.7	41.6	29.5	45.6	36.1	31.5
Progression Factor	1.00	1.00	0.51	0.88	0.78	0.69	1.03
Incremental Delay, d2	0.8	0.1	1.0	3.8	0.0	4.8	0.9
Delay (s)	26.0	23.8	22.3	29.8	35.8	29.6	33.5
Level of Service	C	C	C	C	D	C	C
Approach Delay (s)	25.6			29.6		30.8	
Approach LOS	C			C		C	

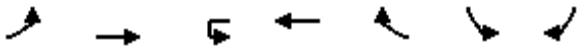
Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	105	6	16	3	5	6	10	43	898	3	2	838
Future Volume (vph)	105	6	16	3	5	6	10	43	898	3	2	838
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600
Total Lost time (s)		7.0			7.0			7.0	7.0		5.8	5.4
Lane Util. Factor		1.00			1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes		0.96			0.86			1.00	1.00		1.00	0.91
Flpb, ped/bikes		0.75			0.95			1.00	1.00		1.00	1.00
Frt		0.98			0.94			1.00	1.00		1.00	0.98
Flt Protected		0.96			0.99			0.95	1.00		0.95	1.00
Satd. Flow (prot)		1098			1231			1540	3073		1296	2315
Flt Permitted		0.75			0.96			0.95	1.00		0.95	1.00
Satd. Flow (perm)		860			1194			1540	3073		1296	2315
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	6	17	3	5	6	11	46	966	3	2	901
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	0	0	0	14
Lane Group Flow (vph)	0	131	0	0	10	0	0	57	969	0	2	1056
Confl. Peds. (#/hr)	400		400	400		400				400		
Confl. Bikes (#/hr)			30			30				30		
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0			15.0	43.0		9.2	37.6
Effective Green, g (s)		38.0			38.0			15.0	43.0		9.2	37.6
Actuated g/C Ratio		0.35			0.35			0.14	0.39		0.08	0.34
Clearance Time (s)		7.0			7.0			7.0	7.0		5.8	5.4
Lane Grp Cap (vph)		297			412			210	1201		108	791
v/s Ratio Prot								0.04	c0.32		0.00	c0.46
v/s Ratio Perm		c0.15			0.01							
v/c Ratio		0.44			0.02			0.27	0.81		0.02	1.34
Uniform Delay, d1		27.8			23.8			42.6	29.8		46.3	36.2
Progression Factor		1.00			1.00			0.76	0.61		1.97	0.61
Incremental Delay, d2		4.7			0.1			2.4	4.4		0.1	154.1
Delay (s)		32.5			23.9			34.7	22.7		91.2	176.2
Level of Service		C			C			C	C		F	F
Approach Delay (s)		32.5			23.9				23.4			176.0
Approach LOS		C			C				C			F

Intersection Summary			
HCM 2000 Control Delay	96.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	157
Future Volume (vph)	157
Ideal Flow (vphpl)	1600
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	169
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

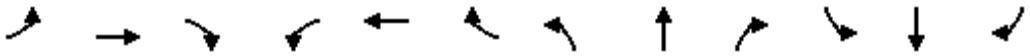
Intersection Summary



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	190	892	3	877	22	19	297
Future Volume (vph)	190	892	3	877	22	19	297
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1900	1900
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	0.68
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1540	3079	1540	2563		1540	931
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1540	3079	1540	2563		1540	931
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	920	3	904	23	20	306
RTOR Reduction (vph)	0	0	0	1	0	0	200
Lane Group Flow (vph)	196	920	3	926	0	20	106
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					10		30
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	215	1253	117	848		534	323
v/s Ratio Prot	0.13	c0.30	0.00	c0.36		0.01	
v/s Ratio Perm							c0.11
v/c Ratio	0.91	0.73	0.03	1.09		0.04	0.33
Uniform Delay, d1	46.6	27.6	47.0	36.8		23.7	26.5
Progression Factor	0.78	1.28	0.66	0.50		1.00	1.00
Incremental Delay, d2	30.9	2.5	0.0	43.4		0.1	2.7
Delay (s)	67.4	37.6	30.9	61.9		23.9	29.2
Level of Service	E	D	C	E		C	C
Approach Delay (s)		42.9		61.8		28.8	
Approach LOS		D		E		C	

Intersection Summary			
HCM 2000 Control Delay	48.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

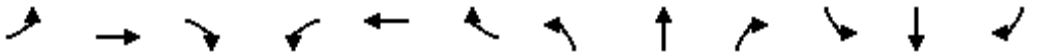
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	908	739	16	221	888	36	53	1720	377	0	0	0
Future Volume (vph)	908	739	16	221	888	36	53	1720	377	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	*0.97	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.68			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00			
Frt	1.00	1.00		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4480	3049		2987	3022			5515	942			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4480	3049		2987	3022			5515	942			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	936	762	16	228	915	37	55	1773	389	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	178	0	0	0
Lane Group Flow (vph)	936	777	0	228	952	0	0	1828	211	0	0	0
Confl. Peds. (#/hr)			400			400	400		400			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	741	1031		358	925			1965	335			
v/s Ratio Prot	c0.21	0.25		0.08	c0.32							
v/s Ratio Perm								0.33	0.22			
v/c Ratio	1.26	0.75		0.64	1.03			0.93	0.63			
Uniform Delay, d1	45.9	32.3		46.1	38.1			34.1	29.4			
Progression Factor	1.37	1.55		1.56	1.00			1.36	2.17			
Incremental Delay, d2	121.6	1.5		1.1	24.2			3.3	1.3			
Delay (s)	184.6	51.6		72.9	62.3			49.5	65.0			
Level of Service	F	D		E	E			D	E			
Approach Delay (s)		124.2			64.4			52.2			0.0	
Approach LOS		F			E			D			A	

Intersection Summary			
HCM 2000 Control Delay	79.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
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)	151	1521	55	26	907	19	67	98	104	38	578	301
Future Volume (vph)	151	1521	55	26	907	19	67	98	104	38	578	301
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.64	1.00	0.97	0.47
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.92	1.00	0.72	1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3657		1296	2553			1390	813	1049	2683	550
Flt Permitted	0.95	1.00		0.95	1.00			0.49	1.00	0.64	1.00	1.00
Satd. Flow (perm)	1296	3657		1296	2553			700	813	708	2683	550
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	154	1552	56	27	926	19	68	100	106	39	590	307
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	69	0	4	138
Lane Group Flow (vph)	154	1605	0	27	944	0	0	168	37	39	623	132
Confl. Peds. (#/hr)			761			695	1648		678	678		1648
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1429		104	833			243	282	252	956	196
v/s Ratio Prot	0.12	c0.44		0.02	c0.37						0.23	
v/s Ratio Perm								0.24	0.05	0.06		c0.24
v/c Ratio	0.91	1.12		0.26	1.13			0.69	0.13	0.15	0.65	0.67
Uniform Delay, d1	47.2	33.5		47.5	37.0			30.8	24.5	24.1	29.7	30.0
Progression Factor	0.60	1.08		0.87	0.85			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	56.4		0.1	61.4			8.2	0.2	0.3	1.6	8.8
Delay (s)	35.5	92.7		41.3	93.1			39.0	24.8	24.4	31.3	38.8
Level of Service	D	F		D	F			D	C	C	C	D
Approach Delay (s)		87.7			91.6			33.5			33.2	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	72.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	139.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1603	138	0	1288	86	8
Future Volume (vph)	1603	138	0	1288	86	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.99
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3035			3079	1540	1357
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3035			3079	1540	1357
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1670	144	0	1342	90	8
RTOR Reduction (vph)	6	0	0	0	0	5
Lane Group Flow (vph)	1808	0	0	1342	90	3
Confl. Peds. (#/hr)		37	37		1	3
Confl. Bikes (#/hr)		1				
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1713			1738	512	451
v/s Ratio Prot	c0.60			0.44	c0.06	
v/s Ratio Perm						0.00
v/c Ratio	1.06			0.77	0.18	0.01
Uniform Delay, d1	23.9			18.5	26.0	24.5
Progression Factor	1.00			0.60	1.00	1.00
Incremental Delay, d2	38.1			0.8	0.7	0.0
Delay (s)	62.1			11.9	26.8	24.6
Level of Service	E			B	C	C
Approach Delay (s)	62.1			11.9	26.6	
Approach LOS	E			B	C	

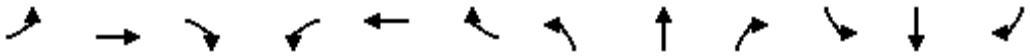
Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	43	115	7	18	29	84	18	11	8	13	84	18
Future Volume (vph)	43	115	7	18	29	84	18	11	8	13	84	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0				5.0			5.0			5.0
Lane Util. Factor		1.00				1.00			1.00			0.95
Frpb, ped/bikes		0.99				0.99			0.97			0.70
Flpb, ped/bikes		0.98				0.89			0.93			1.00
Frt		0.99				0.98			0.95			0.92
Flt Protected		0.99				0.98			0.98			0.98
Satd. Flow (prot)		1471				1115			1101			913
Flt Permitted		0.89				0.87			0.90			0.88
Satd. Flow (perm)		1321				983			1006			820
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	125	8	20	32	91	20	12	9	14	91	20
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	8	0	0	8
Lane Group Flow (vph)	0	180	0	0	0	157	0	0	27	0	0	248
Confl. Peds. (#/hr)	51		86	86	200		51	200		66		
Confl. Bikes (#/hr)			3							11		
Parking (#/hr)				10	10	10	10	10	10	10		
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		27.1				27.1			38.0			38.0
Effective Green, g (s)		27.1				27.1			38.0			38.0
Actuated g/C Ratio		0.30				0.30			0.42			0.42
Clearance Time (s)		5.0				5.0			5.0			5.0
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		397				295			424			346
v/s Ratio Prot												
v/s Ratio Perm		0.14				c0.16			0.03			c0.30
v/c Ratio		0.45				0.53			0.06			0.72
Uniform Delay, d1		25.5				26.2			15.4			21.6
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		3.7				1.9			0.1			7.0
Delay (s)		29.2				28.0			15.5			28.5
Level of Service		C				C			B			C
Approach Delay (s)		29.2				28.0			15.5			23.2
Approach LOS		C				C			B			C

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	97	260	5	42	69	34
Future Volume (vph)	97	260	5	42	69	34
Ideal Flow (vphpl)	1800	1800	1800	1900	1800	1800
Total Lost time (s)		5.0		5.0		
Lane Util. Factor		0.95		1.00		
Frpb, ped/bikes		0.69		0.73		
Flpb, ped/bikes		1.00		0.93		
Frt		0.85		0.91		
Flt Protected		1.00		0.98		
Satd. Flow (prot)		853		975		
Flt Permitted		1.00		0.98		
Satd. Flow (perm)		853		975		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	283	5	46	75	37
RTOR Reduction (vph)	0	135	0	76	0	0
Lane Group Flow (vph)	0	108	0	87	0	0
Confl. Peds. (#/hr)	200	200		51		86
Confl. Bikes (#/hr)	12	12				
Parking (#/hr)						
Turn Type		Perm	Perm	Prot		
Protected Phases				5		
Permitted Phases		4	5			
Actuated Green, G (s)		38.0		9.9		
Effective Green, g (s)		38.0		9.9		
Actuated g/C Ratio		0.42		0.11		
Clearance Time (s)		5.0		5.0		
Vehicle Extension (s)		3.0		3.0		
Lane Grp Cap (vph)		360		107		
v/s Ratio Prot						
v/s Ratio Perm		0.13		0.09		
v/c Ratio		0.30		0.82		
Uniform Delay, d1		17.2		39.2		
Progression Factor		1.00		1.00		
Incremental Delay, d2		0.5		36.2		
Delay (s)		17.7		75.4		
Level of Service		B		E		
Approach Delay (s)				75.4		
Approach LOS				E		

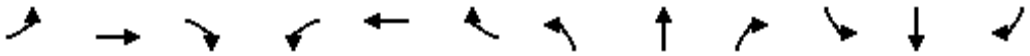
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	63	0	0	887	45	75	136	121	4	0	205
Future Volume (vph)	32	63	0	0	887	45	75	136	121	4	0	205
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.96	1.00	0.99			1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1281			2047	698	1459	2672			1330	
Flt Permitted		0.66			1.00	1.00	0.63	1.00			0.99	
Satd. Flow (perm)		854			2047	698	973	2672			1324	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	66	0	0	934	47	79	143	127	4	0	216
RTOR Reduction (vph)	0	0	0	0	0	0	0	76	0	0	0	0
Lane Group Flow (vph)	0	100	0	0	934	47	79	194	0	0	220	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)						10						
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Effective Green, g (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Actuated g/C Ratio		0.43			0.43	0.43	0.40	0.40			0.40	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		370			887	302	389	1068			529	
v/s Ratio Prot					c0.46			0.07				
v/s Ratio Perm		0.12				0.07	0.08				c0.17	
v/c Ratio		0.27			1.05	0.16	0.20	0.18			0.42	
Uniform Delay, d1		10.9			17.0	10.3	11.8	11.6			13.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		1.8			45.1	1.1	1.2	0.4			2.4	
Delay (s)		12.7			62.1	11.4	12.9	12.0			15.4	
Level of Service		B			E	B	B	B			B	
Approach Delay (s)		12.7			59.7			12.2			15.4	
Approach LOS		B			E			B			B	

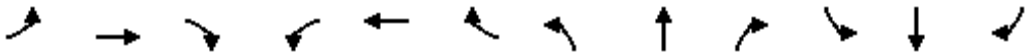
Intersection Summary			
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	238	154	12	105	108	0	171	78	201	52	0
Future Volume (vph)	177	238	154	12	105	108	0	171	78	201	52	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.96			0.93			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.94			0.94			0.96			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2426			1332			1454			1477	
Flt Permitted	0.95	1.00			0.97			1.00			0.58	
Satd. Flow (perm)	1459	2426			1298			1454			897	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	184	248	160	12	109	112	0	178	81	209	54	0
RTOR Reduction (vph)	0	86	0	0	37	0	0	22	0	0	0	0
Lane Group Flow (vph)	184	322	0	0	198	0	0	237	0	0	263	0
Confl. Peds. (#/hr)			152			154			25			
Confl. Bikes (#/hr)			30									
Parking (#/hr)		10	10									
Turn Type	Prot	NA		Perm	NA			NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases				6						4		
Actuated Green, G (s)	6.3	26.8			16.5			26.8			25.8	
Effective Green, g (s)	8.3	29.8			18.5			29.8			29.8	
Actuated g/C Ratio	0.13	0.46			0.29			0.46			0.46	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	187	1119			371			670			413	
v/s Ratio Prot	c0.13	0.13						0.16				
v/s Ratio Perm					c0.15						c0.29	
v/c Ratio	0.98	0.29			0.53			0.35			0.64	
Uniform Delay, d1	28.1	10.8			19.4			11.2			13.3	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	60.7	0.1			1.5			0.3			3.2	
Delay (s)	88.8	10.9			20.9			11.5			16.5	
Level of Service	F	B			C			B			B	
Approach Delay (s)		35.1			20.9			11.5			16.5	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	64.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
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)	168	204	81	50	525	93	44	338	73	38	320	215
Future Volume (vph)	168	204	81	50	525	93	44	338	73	38	320	215
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.91			0.96			0.95			0.89	
Flpb, ped/bikes		0.96			0.98			0.99			0.99	
Frt		0.97			0.98			0.98			0.94	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		2267			2480			2642			2210	
Flt Permitted		0.61			0.89			0.87			0.90	
Satd. Flow (perm)		1400			2223			2309			2003	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	177	215	85	53	553	98	46	356	77	40	337	226
RTOR Reduction (vph)	0	15	0	0	15	0	0	23	0	0	9	0
Lane Group Flow (vph)	0	462	0	0	689	0	0	456	0	0	594	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			20			6			3			23
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		653			1037			1077			901	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.31			0.20			c0.30	
v/c Ratio		1.01dl			0.66			0.42			0.66	
Uniform Delay, d1		12.7			12.4			10.6			12.9	
Progression Factor		1.00			1.00			1.00			1.45	
Incremental Delay, d2		6.3			3.4			1.2			3.1	
Delay (s)		19.1			15.7			11.9			21.9	
Level of Service		B			B			B			C	
Approach Delay (s)		19.1			15.7			11.9			21.9	
Approach LOS		B			B			B			C	

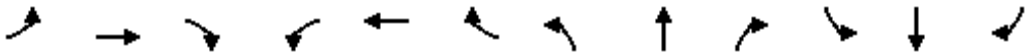
Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	470	619	48	0	0	0	0	510	177	12	533	0
Future Volume (vph)	470	619	48	0	0	0	0	510	177	12	533	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1000	1000	1000	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0	2.0		2.0	
Lane Util. Factor	*0.50	*0.50						*0.50	0.91		0.95	
Frpb, ped/bikes	1.00	0.98						0.99	0.71		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						0.99	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	750	1178						840	470		2690	
Flt Permitted	0.95	1.00						1.00	1.00		0.93	
Satd. Flow (perm)	750	1178						840	470		2505	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	505	666	52	0	0	0	0	548	190	13	573	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	2	8	0	0	0
Lane Group Flow (vph)	505	711	0	0	0	0	0	565	163	0	586	0
Confl. Peds. (#/hr)			400						400	400		
Confl. Bikes (#/hr)			1						17			
Parking (#/hr)	10	10	10								10	
Turn Type	Split	NA						NA	Perm	Perm	NA	
Protected Phases	2	2						4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	27.0	27.0						26.0	26.0		26.0	
Effective Green, g (s)	28.5	28.5						27.5	27.5		27.5	
Actuated g/C Ratio	0.48	0.48						0.46	0.46		0.46	
Clearance Time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Grp Cap (vph)	356	559						385	215		1148	
v/s Ratio Prot	c0.67	0.60						c0.67				
v/s Ratio Perm									0.35		0.23	
v/c Ratio	1.42	1.27						1.47	0.76		0.51	
Uniform Delay, d1	15.8	15.8						16.2	13.5		11.5	
Progression Factor	0.88	0.87						0.77	0.71		1.00	
Incremental Delay, d2	189.9	123.4						222.6	20.1		1.6	
Delay (s)	203.7	137.1						235.1	29.7		13.1	
Level of Service	F	F						F	C		B	
Approach Delay (s)		164.6			0.0			187.5			13.1	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	136.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

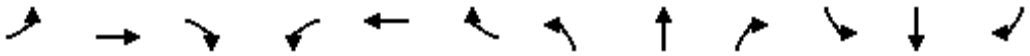
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	448	695	0	0	0	0	0	2285	489	0	0	0
Future Volume (vph)	448	695	0	0	0	0	0	2285	489	0	0	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	*0.50						0.91	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.77			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1572	1237						3982	1004			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1572	1237						3982	1004			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	462	716	0	0	0	0	0	2356	504	0	0	0
RTOR Reduction (vph)	17	0	0	0	0	0	0	0	81	0	0	0
Lane Group Flow (vph)	445	716	0	0	0	0	0	2356	423	0	0	0
Confl. Peds. (#/hr)									297			
Confl. Bikes (#/hr)									10			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	26.3	26.3						24.3	24.3			
Effective Green, g (s)	27.8	27.8						25.8	25.8			
Actuated g/C Ratio	0.46	0.46						0.43	0.43			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	728	573						1712	431			
v/s Ratio Prot		c0.58						c0.59				
v/s Ratio Perm	0.28								0.42			
v/c Ratio	0.61	1.25						1.38	0.98			
Uniform Delay, d1	12.1	16.1						17.1	16.9			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	3.8	126.3						173.0	39.0			
Delay (s)	15.9	142.4						190.1	55.9			
Level of Service	B	F						F	E			
Approach Delay (s)		92.8			0.0			166.5			0.0	
Approach LOS		F			A			F			A	

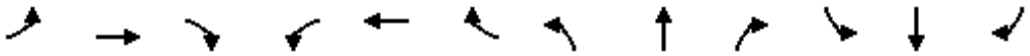
Intersection Summary			
HCM 2000 Control Delay	145.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



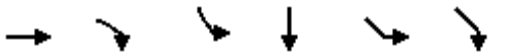
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1622	118	380	2098	318	0	0	0
Future Volume (vph)	0	0	0	0	1622	118	380	2098	318	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.99		1.00	1.00	0.60			
Flpb, ped/bikes					1.00		0.81	1.00	1.00			
Frt					0.99		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4313		1240	4424	831			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4313		1240	4424	831			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	0	1655	120	388	2141	324	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	59	0	124	0	0	0
Lane Group Flow (vph)	0	0	0	0	1775	0	329	2141	200	0	0	0
Confl. Peds. (#/hr)						131	270		307			
Confl. Bikes (#/hr)						10			30			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1689		568	2027	373			
v/s Ratio Prot					c0.41			c0.48				
v/s Ratio Perm							0.27		0.24			
v/c Ratio					1.05		0.58	1.06	0.54			
Uniform Delay, d1					18.2		12.0	16.2	12.0			
Progression Factor					1.00		0.99	0.87	1.30			
Incremental Delay, d2					36.7		0.4	26.7	0.5			
Delay (s)					54.9		12.2	40.9	16.1			
Level of Service					D		B	D	B			
Approach Delay (s)		0.0			54.9			34.2			0.0	
Approach LOS		A			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
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)	0	0	0	0	1731	323	365	2046	0	0	0	0
Future Volume (vph)	0	0	0	0	1731	323	365	2046	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0	7.5	1.4	1.4				
Lane Util. Factor					0.81	0.81	0.81	0.81				
Frpb, ped/bikes					0.99	0.68	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	0.71	0.99				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					4384	642	607	3571				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					4384	642	607	3571				
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	0	0	0	1748	326	369	2067	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	25	68	68	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1780	268	264	2036	0	0	0	0
Confl. Peds. (#/hr)						382	370					
Confl. Bikes (#/hr)						30						
Turn Type					NA	Perm	Perm	NA				
Protected Phases					6			8				
Permitted Phases						6	8					
Actuated Green, G (s)					23.5	23.5	21.6	21.6				
Effective Green, g (s)					26.0	25.5	25.6	25.6				
Actuated g/C Ratio					0.43	0.42	0.43	0.43				
Clearance Time (s)					9.5	9.5	5.4	5.4				
Lane Grp Cap (vph)					1899	272	258	1523				
v/s Ratio Prot					0.41							
v/s Ratio Perm						c0.42	0.44	0.57				
v/c Ratio					0.94	0.98	1.02	1.34				
Uniform Delay, d1					16.2	17.1	17.2	17.2				
Progression Factor					1.00	1.00	1.09	0.90				
Incremental Delay, d2					10.4	50.7	35.3	152.9				
Delay (s)					26.6	67.7	54.0	168.4				
Level of Service					C	E	D	F				
Approach Delay (s)		0.0			32.4			152.8			0.0	
Approach LOS		A			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	97.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	742	264	99	535	136	42
Future Volume (vph)	742	264	99	535	136	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	1.00	0.94	0.86
Frpb, ped/bikes	0.95		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	0.99	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5522		1459	1305	4109	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5522		1459	1305	4109	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	789	281	105	569	145	45
RTOR Reduction (vph)	72	0	71	0	0	0
Lane Group Flow (vph)	998	0	34	569	150	40
Confl. Peds. (#/hr)		143	776			
Confl. Bikes (#/hr)		10				
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	23.5		26.8	26.8	19.5	19.5
Effective Green, g (s)	25.5		28.8	28.8	23.5	23.5
Actuated g/C Ratio	0.28		0.32	0.32	0.26	0.26
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1564		466	417	1072	292
v/s Ratio Prot	c0.18		0.02	c0.44	c0.04	
v/s Ratio Perm						0.04
v/c Ratio	0.64		0.07	1.36	0.14	0.14
Uniform Delay, d1	28.2		21.3	30.6	25.5	25.5
Progression Factor	0.49		1.39	0.76	1.00	1.00
Incremental Delay, d2	0.2		0.1	168.3	0.3	1.0
Delay (s)	13.9		29.7	191.5	25.8	26.5
Level of Service	B		C	F	C	C
Approach Delay (s)	13.9			166.3	25.9	
Approach LOS	B			F	C	

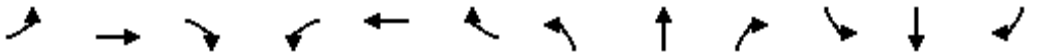
Intersection Summary			
HCM 2000 Control Delay	68.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	172	792	1141	695	951	288
Future Volume (vph)	172	792	1141	695	951	288
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.81		0.81	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.99	0.98	0.97
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.94	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1050		4849	2151	1038	1126
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1050		4849	2151	1038	1126
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	176	808	1164	709	970	294
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	158	0	1990	1155	524	280
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					10	10
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	450		2079	1034	533	579
v/s Ratio Prot				c0.54		
v/s Ratio Perm	0.15		0.41		0.50	0.25
v/c Ratio	0.35		1.42dl	1.12	0.98	0.48
Uniform Delay, d1	17.3		24.9	23.4	21.5	14.1
Progression Factor	1.00		1.00	1.66	1.87	2.08
Incremental Delay, d2	2.1		11.9	56.6	16.0	0.7
Delay (s)	19.4		36.8	95.4	56.2	30.1
Level of Service	B		D	F	E	C
Approach Delay (s)			35.6	75.3		
Approach LOS			D	E		

Intersection Summary			
HCM 2000 Control Delay	54.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	116.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	697	1429	0	0	0	0	0	1284	460
Future Volume (vph)	0	0	0	697	1429	0	0	0	0	0	1284	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.96	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.98	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4933						4694	694
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4933						4694	694
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	711	1458	0	0	0	0	0	1310	469
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	419	1750	0	0	0	0	0	1465	314
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						26.0	26.0
Effective Green, g (s)				33.5	33.5						28.0	28.0
Actuated g/C Ratio				0.37	0.37						0.31	0.31
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				439	1836						1460	215
v/s Ratio Prot				c0.35	0.35						0.31	
v/s Ratio Perm												c0.45
v/c Ratio				0.95	0.95						1.00	1.46
Uniform Delay, d1				27.5	27.5						31.0	31.0
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				32.9	12.5						24.4	231.0
Delay (s)				60.5	40.0						55.4	262.0
Level of Service				E	D						E	F
Approach Delay (s)		0.0			44.0			0.0			91.9	
Approach LOS		A			D			A			F	

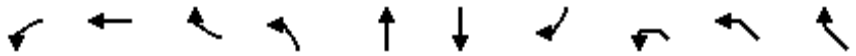
Intersection Summary			
HCM 2000 Control Delay	65.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	459	568	45	338	362	24	255	278	617
Future Volume (vph)	16	459	568	45	338	362	24	255	278	617
Ideal Flow (vphpl)	1000	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.99		0.84		0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00		1.00	1.00
Frt		1.00	0.99		0.92		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	0.99
Satd. Flow (prot)		1313	1914		2136		1163		1327	2528
Flt Permitted		0.95	1.00		1.00		1.00		0.15	0.53
Satd. Flow (perm)		1313	1914		2136		1163		207	1367
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	494	611	48	363	389	26	274	299	663
RTOR Reduction (vph)	0	0	8	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	457	705	0	755	0	6	0	358	878
Confl. Peds. (#/hr)	25			60		200				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Split	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases	2	2	2		8			7	7	4
Permitted Phases							8	4	4	
Actuated Green, G (s)		22.5	22.5		23.0		23.0		42.0	42.0
Effective Green, g (s)		22.5	25.0		24.5		23.0		43.5	43.5
Actuated g/C Ratio		0.25	0.28		0.27		0.26		0.48	0.48
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		328	531		581		297		305	873
v/s Ratio Prot		0.35	c0.37		c0.35				c0.21	0.18
v/s Ratio Perm							0.01		0.35	0.30
v/c Ratio		1.39	1.33		1.42dr		0.02		1.17	1.01
Uniform Delay, d1		33.8	32.5		32.8		25.1		31.1	23.2
Progression Factor		1.00	1.00		1.00		1.00		1.01	1.02
Incremental Delay, d2		194.7	160.2		147.1		0.1		81.6	10.5
Delay (s)		228.4	192.7		179.8		25.2		113.1	34.2
Level of Service		F	F		F		C		F	C
Approach Delay (s)			206.6		175.3					57.0
Approach LOS			F		F					E

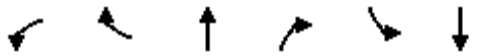
Intersection Summary			
HCM 2000 Control Delay	140.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



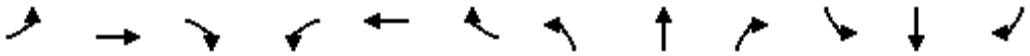
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	272	1171	161	52	302	537	219	341	722	265
Future Volume (vph)	272	1171	161	52	302	537	219	341	722	265
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.96			0.99	0.87
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5749			2857	2464			3418	978
Flt Permitted		0.99			0.66	1.00			0.95	1.00
Satd. Flow (perm)		5749			1899	2464			3418	978
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	296	1259	173	56	325	577	235	371	776	285
RTOR Reduction (vph)	0	22	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1706	0	0	381	808	0	0	1176	256
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			10				10			10
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10				10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1852			590	766			1025	293
v/s Ratio Prot						c0.33				
v/s Ratio Perm		0.30			0.20				0.34	0.26
v/c Ratio		0.92			0.65	1.05			1.15	0.87
Uniform Delay, d1		29.4			26.7	31.0			31.5	29.9
Progression Factor		1.48			0.05	1.00			1.00	1.00
Incremental Delay, d2		6.4			0.5	47.9			77.9	28.4
Delay (s)		49.9			2.0	78.9			109.4	58.2
Level of Service		D			A	E			F	E
Approach Delay (s)		49.9			2.0	78.9			100.3	
Approach LOS		D			A	E			F	

Intersection Summary			
HCM 2000 Control Delay	67.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



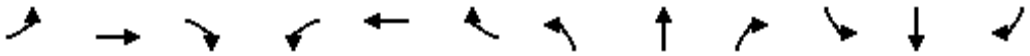
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	146	1866	4	89	187
Future Volume (vph)	8	146	1866	4	89	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3077		1529	3079
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1540	1378	3077		86	3079
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	160	2051	4	98	205
RTOR Reduction (vph)	0	5	0	0	0	0
Lane Group Flow (vph)	9	155	2055	0	98	205
Confl. Peds. (#/hr)	87			209	209	
Confl. Bikes (#/hr)				21		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2092		58	2093
v/s Ratio Prot	0.01		0.67			0.07
v/s Ratio Perm		c0.11			c1.14	
v/c Ratio	0.03	0.48	0.98		1.69	0.10
Uniform Delay, d1	32.6	36.5	17.0		17.6	6.0
Progression Factor	1.00	1.00	1.00		2.92	0.30
Incremental Delay, d2	0.1	5.1	15.9		366.2	0.1
Delay (s)	32.7	41.6	32.9		417.5	1.9
Level of Service	C	D	C		F	A
Approach Delay (s)	41.2		32.9			136.3
Approach LOS	D		C			F

Intersection Summary			
HCM 2000 Control Delay	45.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	111.5%	ICU Level of Service	H
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)	44	73	72	69	65	215	20	1477	89	17	207	15
Future Volume (vph)	44	73	72	69	65	215	20	1477	89	17	207	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1587	1353		1446		1540	3031		1540	3041	
Flt Permitted		0.75	1.00		0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1218	1353		1329		1540	3031		1540	3041	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	77	76	73	68	226	21	1555	94	18	218	16
RTOR Reduction (vph)	0	0	52	0	58	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	123	24	0	309	0	21	1644	0	18	228	0
Confl. Peds. (#/hr)	15		5	5		15			64			14
Confl. Bikes (#/hr)			2			1			16			14
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		390	434		426		227	1076		254	1140	
v/s Ratio Prot							0.01	c0.54		0.01	c0.08	
v/s Ratio Perm		0.10	0.02		c0.23							
v/c Ratio		0.32	0.06		0.73		0.09	1.53		0.07	0.20	
Uniform Delay, d1		25.6	23.5		30.1		36.8	32.2		35.3	21.1	
Progression Factor		1.00	1.00		1.00		1.55	0.72		1.00	1.00	
Incremental Delay, d2		2.1	0.2		10.3		0.1	238.2		0.5	0.4	
Delay (s)		27.8	23.7		40.4		57.1	261.3		35.8	21.5	
Level of Service		C	C		D		E	F		D	C	
Approach Delay (s)		26.2			40.4			258.8			22.5	
Approach LOS		C			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	184.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



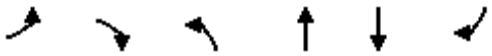
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	177	11	278	12	104	9	1315	85	36	295	4
Future Volume (vph)	65	177	11	278	12	104	9	1315	85	36	295	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.96		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1587			1494		1540	3031		1540	3071	
Flt Permitted		0.85			0.56		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1364			867		1540	3031		1540	3071	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	71	195	12	305	13	114	10	1445	93	40	324	4
RTOR Reduction (vph)	0	1	0	0	13	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	277	0	0	419	0	10	1534	0	40	327	0
Confl. Peds. (#/hr)	16		9	9		16			50			20
Confl. Bikes (#/hr)						1			22			13
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		446			283		231	1118		229	1133	
v/s Ratio Prot							0.01	c0.51		0.03	c0.11	
v/s Ratio Perm		0.20			c0.48							
v/c Ratio		0.62			1.48		0.04	1.37		0.17	0.29	
Uniform Delay, d1		28.4			33.6		36.4	31.6		37.2	22.3	
Progression Factor		1.00			1.00		1.15	0.66		0.71	0.74	
Incremental Delay, d2		6.4			234.7		0.2	170.5		1.6	0.6	
Delay (s)		34.8			268.3		42.2	191.2		28.1	17.2	
Level of Service		C			F		D	F		C	B	
Approach Delay (s)		34.8			268.3			190.3			18.4	
Approach LOS		C			F			F			B	

Intersection Summary			
HCM 2000 Control Delay	162.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
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)	19	12	10	3	1	87	7	142	4	184	350	16
Future Volume (vph)	19	12	10	3	1	87	7	142	4	184	350	16
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		0.99			1.00	1.00	0.87	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1347			1395	1226	1201	1443		1377	1426	
Flt Permitted		1.00			1.00	1.00	0.53	1.00		0.95	1.00	
Satd. Flow (perm)		1378			1447	1226	670	1443		1377	1426	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	13	11	3	1	94	8	153	4	198	376	17
RTOR Reduction (vph)	0	10	0	0	0	51	0	2	0	0	1	0
Lane Group Flow (vph)	0	34	0	0	4	43	8	155	0	198	392	0
Confl. Peds. (#/hr)	28		3	3		28	213		19			213
Confl. Bikes (#/hr)			1						18			10
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		2.6			2.6	20.0	8.5	8.5		17.4	30.9	
Effective Green, g (s)		2.6			2.6	20.0	8.5	8.5		17.4	30.9	
Actuated g/C Ratio		0.06			0.06	0.46	0.20	0.20		0.40	0.71	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		82			86	704	130	281		550	1012	
v/s Ratio Prot						0.02		c0.11		0.14	c0.27	
v/s Ratio Perm		c0.02			0.00	0.01	0.01					
v/c Ratio		0.41			0.05	0.06	0.06	0.55		0.36	0.39	
Uniform Delay, d1		19.7			19.3	6.5	14.3	15.8		9.1	2.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.3			0.2	0.0	0.2	2.3		0.4	0.2	
Delay (s)		23.0			19.5	6.6	14.5	18.1		9.6	2.8	
Level of Service		C			B	A	B	B		A	A	
Approach Delay (s)		23.0			7.1			18.0			5.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

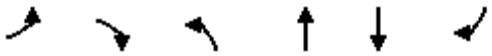
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	2	229	161	143	134	11
Future Volume (vph)	2	229	161	143	134	11
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	2	273	192	170	160	13

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	2	273	249	113	107	66
Volume Left (vph)	2	0	192	0	0	0
Volume Right (vph)	0	273	0	0	0	13
Hadj (s)	0.53	-0.67	0.42	0.03	0.03	-0.10
Departure Headway (s)	6.4	5.2	5.9	5.5	5.8	5.6
Degree Utilization, x	0.00	0.39	0.41	0.17	0.17	0.10
Capacity (veh/h)	527	654	589	623	588	602
Control Delay (s)	8.2	10.4	11.7	8.5	8.8	8.1
Approach Delay (s)	10.3		10.7		8.5	
Approach LOS	B		B		A	

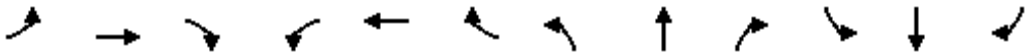
Intersection Summary			
Delay	10.1		
Level of Service	B		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	14	105	315	574	105
Future Volume (Veh/h)	14	14	105	315	574	105
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	16	16	124	371	675	124
Pedestrians	25			1	1	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1196	426	824			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1196	426	824			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	97	84			
cM capacity (veh/h)	148	566	787			

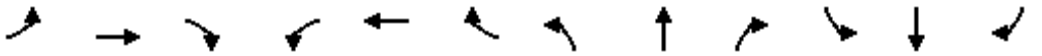
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	32	248	247	450	349
Volume Left	16	124	0	0	0
Volume Right	16	0	0	0	124
cSH	234	787	1700	1700	1700
Volume to Capacity	0.14	0.16	0.15	0.26	0.21
Queue Length 95th (ft)	12	14	0	0	0
Control Delay (s)	22.8	6.1	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	22.8	3.1		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		



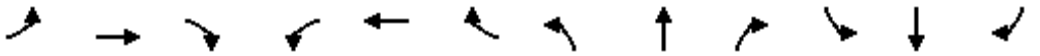
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	357	64	369	23	202	104	299	689	7	22	678	494
Future Volume (vph)	357	64	369	23	202	104	299	689	7	22	678	494
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1510	1621	1337	1523	1510		2987	3073		1540	2851	
Flt Permitted	0.40	1.00	1.00	0.71	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	642	1621	1337	1140	1510		2987	3073		1540	2851	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	392	70	405	25	222	114	329	757	8	24	745	543
RTOR Reduction (vph)	0	0	253	0	18	0	0	1	0	0	131	0
Lane Group Flow (vph)	392	70	152	25	318	0	329	764	0	24	1157	0
Confl. Peds. (#/hr)	41		14	14		41			39			8
Confl. Bikes (#/hr)			9			10			4			14
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	221	559	461	393	520		418	1161		184	1020	
v/s Ratio Prot		0.04			0.21		c0.11	0.25		0.02	c0.41	
v/s Ratio Perm	c0.61		0.11	0.02								
v/c Ratio	1.77	0.13	0.33	0.06	0.61		0.79	0.66		0.13	1.13	
Uniform Delay, d1	32.8	22.4	24.2	21.9	27.2		41.6	25.8		39.3	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.69	0.82		0.97	0.95	
Incremental Delay, d2	366.0	0.5	1.9	0.3	5.3		5.8	1.1		1.4	72.1	
Delay (s)	398.7	22.9	26.1	22.2	32.5		34.4	22.3		39.6	102.7	
Level of Service	F	C	C	C	C		C	C		D	F	
Approach Delay (s)		194.3			31.7			25.9			101.5	
Approach LOS		F			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	94.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
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)	136	482	23	151	918	83	134	170	175	160	321	186
Future Volume (vph)	136	482	23	151	918	83	134	170	175	160	321	186
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Lane Width	8	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	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
Frt	1.00	1.00	0.85		0.99		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1235	1450	1378		2540		1540	2845			3030	1134
Flt Permitted	0.95	1.00	1.00		0.79		0.38	1.00			0.69	1.00
Satd. Flow (perm)	1235	1450	1378		2017		615	2845			2117	1134
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92	0.96
Adj. Flow (vph)	142	502	25	164	956	86	146	185	190	167	349	194
RTOR Reduction (vph)	0	0	10	0	5	0	0	127	0	0	0	90
Lane Group Flow (vph)	142	502	15	0	1201	0	146	248	0	0	516	104
Confl. Peds. (#/hr)						17						3
Confl. Bikes (#/hr)						36						
Turn Type	Prot	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6			8			4		4
Actuated Green, G (s)	4.0	45.4	45.4		36.4		27.2	27.2			26.2	26.2
Effective Green, g (s)	4.0	45.4	45.4		36.4		27.2	27.2			26.2	26.2
Actuated g/C Ratio	0.05	0.56	0.56		0.45		0.33	0.33			0.32	0.32
Clearance Time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	60	806	766		899		205	948			679	364
v/s Ratio Prot	c0.11	0.35						0.09				
v/s Ratio Perm			0.01		c0.60		0.24				c0.24	0.09
v/c Ratio	2.37	0.62	0.02		1.34		0.71	0.26			0.76	0.28
Uniform Delay, d1	38.8	12.3	8.1		22.6		23.8	19.9			24.9	20.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	663.2	1.5	0.0		158.8		11.1	0.1			4.9	0.4
Delay (s)	702.0	13.8	8.1		181.4		34.9	20.0			29.8	21.1
Level of Service	F	B	A		F		C	C			C	C
Approach Delay (s)		159.7			181.4			24.2			27.4	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	115.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	118.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



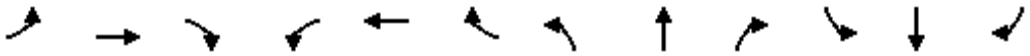
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	481	85	59	716	482	51	335	39	109	150	90
Future Volume (vph)	57	481	85	59	716	482	51	335	39	109	150	90
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		*0.80	*0.80		*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	
Frpb, ped/bikes		1.00	0.96		1.00	0.94	1.00	1.00	0.97	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	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		952	781		1122	896	1070	957	924	1070	1042	
Flt Permitted		0.15	1.00		0.15	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		146	781		164	896	1070	957	924	1070	1042	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	61	512	90	63	762	513	54	356	41	116	160	96
RTOR Reduction (vph)	0	0	46	0	0	89	0	0	28	0	17	0
Lane Group Flow (vph)	0	573	44	0	825	424	54	356	13	116	239	0
Confl. Peds. (#/hr)	28		6	6		28			4			11
Confl. Bikes (#/hr)			9			50			7			15
Parking (#/hr)		10	10					10				
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.3	34.3		34.3	53.9	14.9	32.5	32.5	19.6	37.2	
Effective Green, g (s)		34.3	34.3		34.3	53.9	14.9	32.5	32.5	19.6	37.2	
Actuated g/C Ratio		0.34	0.34		0.34	0.53	0.15	0.32	0.32	0.19	0.37	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		49	264		55	520	157	306	296	206	382	
v/s Ratio Prot						c0.16	0.05	c0.37		0.11	0.23	
v/s Ratio Perm		3.92	0.06		c5.04	0.32			0.01			
v/c Ratio		11.69	0.17		15.00	0.82	0.34	1.16	0.04	0.56	0.63	
Uniform Delay, d1		33.6	23.5		33.6	19.6	38.9	34.5	23.7	37.0	26.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		4852.1	0.3		6334.9	9.5	1.3	103.3	0.1	3.5	3.2	
Delay (s)		4885.6	23.8		6368.4	29.2	40.2	137.8	23.8	40.5	29.6	
Level of Service		F	C		F	C	D	F	C	D	C	
Approach Delay (s)		4225.7			3937.9			115.7			33.0	
Approach LOS		F			F			F			C	

Intersection Summary			
HCM 2000 Control Delay	2880.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	6.55		
Actuated Cycle Length (s)	101.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	135.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	92	67	983	35	57	256
Future Volume (vph)	92	67	983	35	57	256
Ideal Flow (vphpl)	1400	1400	1200	1200	1400	1400
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.74	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1134	1745	1515	848	1134	1194
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1134	1745	1515	848	1134	1194
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	73	1068	38	62	278
RTOR Reduction (vph)	0	62	0	5	0	0
Lane Group Flow (vph)	100	11	1068	33	62	278
Confl. Peds. (#/hr)	60	1		5		
Confl. Bikes (#/hr)		1		30		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	12.8	12.8	47.8	42.8	8.4	61.2
Effective Green, g (s)	12.8	12.8	47.8	42.8	8.4	61.2
Actuated g/C Ratio	0.15	0.15	0.57	0.51	0.10	0.73
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	172	265	862	482	113	869
v/s Ratio Prot	c0.09		c0.71	0.02	c0.05	0.23
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.58	0.04	1.24	0.07	0.55	0.32
Uniform Delay, d1	33.1	30.4	18.1	10.5	36.0	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.1	117.5	0.1	5.4	0.2
Delay (s)	38.0	30.4	135.6	10.5	41.4	4.2
Level of Service	D	C	F	B	D	A
Approach Delay (s)	34.8		131.3			11.0
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	95.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

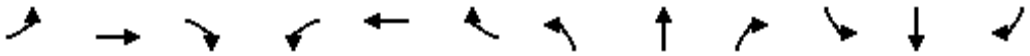
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	19	239	63	45	539	2	129	138	78	11	69	51
Future Volume (vph)	19	239	63	45	539	2	129	138	78	11	69	51
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
Hourly flow rate (vph)	21	266	70	50	599	2	143	153	87	12	77	57

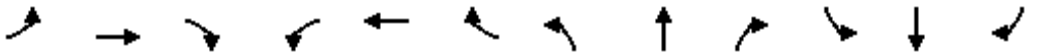
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	357	50	601	296	87	146
Volume Left (vph)	21	50	0	143	0	12
Volume Right (vph)	70	0	2	0	87	57
Hadj (s)	-0.07	0.53	0.03	0.28	-0.67	-0.18
Departure Headway (s)	7.7	8.0	7.5	8.2	7.3	8.7
Degree Utilization, x	0.77	0.11	1.26	0.68	0.18	0.35
Capacity (veh/h)	455	438	485	423	477	376
Control Delay (s)	31.8	10.9	154.2	25.6	10.7	16.3
Approach Delay (s)	31.8	143.2		22.2		16.3
Approach LOS	D	F		C		C

Intersection Summary				
Delay	75.1			
Level of Service	F			
Intersection Capacity Utilization	60.5%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	242	63	34	618	55	67	822	42	25	576	457
Future Volume (vph)	185	242	63	34	618	55	67	822	42	25	576	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97			0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1695	1731			3358		1711	3389		1711	3145	
Flt Permitted	0.19	1.00			0.87		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	334	1731			2930		1711	3389		1711	3145	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	197	257	67	36	657	59	71	874	45	27	613	486
RTOR Reduction (vph)	0	9	0	0	6	0	0	4	0	0	143	0
Lane Group Flow (vph)	197	315	0	0	746	0	71	915	0	27	956	0
Confl. Peds. (#/hr)	34		24	24		34			16			15
Confl. Bikes (#/hr)			2			6			6			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	99	514			870		289	1352		254	1191	
v/s Ratio Prot		0.18					0.04	c0.27		0.02	c0.30	
v/s Ratio Perm	c0.59				0.25							
v/c Ratio	1.99	0.61			0.86		0.25	0.68		0.11	0.80	
Uniform Delay, d1	35.1	30.2			33.1		36.0	24.7		36.8	27.7	
Progression Factor	1.00	1.00			1.00		1.00	0.91		1.46	0.88	
Incremental Delay, d2	479.4	5.4			10.6		1.3	1.8		0.3	2.4	
Delay (s)	514.6	35.6			43.8		37.4	24.3		53.9	26.7	
Level of Service	F	D			D		D	C		D	C	
Approach Delay (s)		216.7			43.8			25.3			27.4	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	59.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
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)	23	89	0	0	1313	26	463	158	438	0	0	594
Future Volume (vph)	23	89	0	0	1313	26	463	158	438	0	0	594
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			1.00		1.00	0.89				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3385			4901		1711	3051				2694
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2512			4901		1711	3051				2694
Peak-hour factor, PHF	0.92	0.98	0.98	0.98	0.98	0.92	0.98	0.92	0.98	0.92	0.92	0.92
Adj. Flow (vph)	25	91	0	0	1340	28	472	172	447	0	0	646
RTOR Reduction (vph)	0	0	0	0	2	0	0	369	0	0	0	407
Lane Group Flow (vph)	0	116	0	0	1366	0	472	250	0	0	0	239
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		52.0			52.0		31.0	20.0				31.0
Effective Green, g (s)		52.0			52.0		31.0	20.0				31.0
Actuated g/C Ratio		0.46			0.46		0.27	0.18				0.27
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		1145			2235		465	535				732
v/s Ratio Prot					c0.28		c0.28	c0.08				
v/s Ratio Perm		0.05										0.09
v/c Ratio		0.10			0.61		1.02	0.47				0.33
Uniform Delay, d1		17.7			23.4		41.5	42.2				33.2
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			1.3		45.6	2.9				1.2
Delay (s)		17.9			24.6		87.1	45.1				34.3
Level of Service		B			C		F	D				C
Approach Delay (s)		17.9			24.6			63.3			34.3	
Approach LOS		B			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	39.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

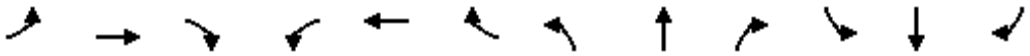
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	114	594	1166	85	0	0
Future Volume (vph)	114	594	1166	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.99	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.90	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1514	1426	3319	1801		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1514	1426	3319	1801		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	118	612	1202	88	0	0
RTOR Reduction (vph)	25	25	0	0	0	0
Lane Group Flow (vph)	350	330	1202	88	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		5				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	21.0	21.0	29.0	60.0		
Effective Green, g (s)	21.0	21.0	29.0	60.0		
Actuated g/C Ratio	0.35	0.35	0.48	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	529	499	1604	1801		
v/s Ratio Prot	0.23		c0.36	0.05		
v/s Ratio Perm		c0.23				
v/c Ratio	0.66	0.66	0.75	0.05		
Uniform Delay, d1	16.5	16.5	12.6	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	6.4	6.8	3.3	0.1		
Delay (s)	22.9	23.3	15.8	0.1		
Level of Service	C	C	B	A		
Approach Delay (s)	23.1			14.7	0.0	
Approach LOS	C			B	A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	66.7%	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)	36	12	52	69	55	24	0	854	49	0	893	34
Future Volume (vph)	36	12	52	69	55	24	0	854	49	0	893	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1200	1200	1200	1200	1200	1200
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.94			0.98			0.98			0.99	
Flpb, ped/bikes		0.97			0.96			1.00			1.00	
Frt		0.93			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1176			1271			1781			1794	
Flt Permitted		0.84			0.80			1.00			1.00	
Satd. Flow (perm)		1007			1035			1781			1794	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	39	13	56	74	59	26	0	918	53	0	960	37
RTOR Reduction (vph)	0	44	0	0	8	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	64	0	0	151	0	0	968	0	0	995	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.4			19.4			70.7			70.7	
Effective Green, g (s)		19.4			19.4			70.7			70.7	
Actuated g/C Ratio		0.19			0.19			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			200			1259			1268	
v/s Ratio Prot								0.54			c0.55	
v/s Ratio Perm		0.06			c0.15							
v/c Ratio		0.33			0.75			0.77			0.78	
Uniform Delay, d1		34.7			38.1			9.4			9.6	
Progression Factor		1.00			1.00			1.34			0.48	
Incremental Delay, d2		1.0			14.9			1.8			4.1	
Delay (s)		35.7			52.9			14.4			8.7	
Level of Service		D			D			B			A	
Approach Delay (s)		35.7			52.9			14.4			8.7	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

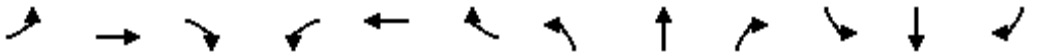
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	316	135	181	7	204	13	176	569	16	17	614	298
Future Volume (vph)	316	135	181	7	204	13	176	569	16	17	614	298
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.94	
Flpb, ped/bikes	0.98	1.00		0.94	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1188	1952		1139	1257		1215	2413		1215	2181	
Flt Permitted	0.36	1.00		0.55	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	452	1952		662	1257		1215	2413		1215	2181	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	329	141	189	7	212	14	183	593	17	18	640	310
RTOR Reduction (vph)	0	127	0	0	2	0	0	2	0	0	59	0
Lane Group Flow (vph)	329	203	0	7	225	0	183	608	0	18	891	0
Confl. Peds. (#/hr)	100		100	100		100			100			100
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.9	32.9		21.9	21.9		17.3	46.6		4.2	33.5	
Effective Green, g (s)	32.9	32.9		21.9	21.9		17.3	46.6		4.2	33.5	
Actuated g/C Ratio	0.33	0.33		0.22	0.22		0.17	0.47		0.04	0.34	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	642		144	275		210	1124		51	730	
v/s Ratio Prot	c0.10	0.10			0.18		c0.15	0.25		0.01	c0.41	
v/s Ratio Perm	c0.47			0.01								
v/c Ratio	1.73	0.32		0.05	0.82		0.87	0.54		0.35	1.22	
Uniform Delay, d1	34.1	25.1		30.8	37.1		40.3	19.1		46.6	33.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.12	1.11	
Incremental Delay, d2	350.3	0.3		0.1	16.9		30.2	1.9		2.7	107.7	
Delay (s)	384.4	25.4		31.0	54.0		70.5	20.9		54.8	144.5	
Level of Service	F	C		C	D		E	C		D	F	
Approach Delay (s)		204.6			53.3			32.4			142.9	
Approach LOS		F			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	117.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	116.3%	ICU Level of Service	H
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)	59	3	212	1	0	1	145	834	3	28	1091	149
Future Volume (vph)	59	3	212	1	0	1	145	834	3	28	1091	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95			0.97		1.00	1.00		1.00	1.00	0.36
Flpb, ped/bikes	0.94	1.00			0.99		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85			0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1454	1309			1405		1540	3071		1296	2593	422
Flt Permitted	0.76	1.00			0.93		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1158	1309			1332		1540	3071		1296	2593	422
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	63	3	228	1	0	1	156	897	3	30	1173	160
RTOR Reduction (vph)	0	149	0	0	1	0	0	0	0	0	0	72
Lane Group Flow (vph)	63	82	0	0	1	0	156	900	0	30	1173	88
Confl. Peds. (#/hr)	64		48	48		64			688			395
Confl. Bikes (#/hr)						1			171			163
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Effective Green, g (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Actuated g/C Ratio	0.35	0.35			0.35		0.19	0.38		0.10	0.30	0.30
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	401	453			461		287	1158		130	773	125
v/s Ratio Prot		c0.06					0.10	c0.29		0.02	c0.45	
v/s Ratio Perm	0.05				0.00							0.21
v/c Ratio	0.16	0.18			0.00		0.54	0.78		0.23	1.52	0.70
Uniform Delay, d1	24.9	25.1			23.5		40.5	30.2		45.5	38.6	34.3
Progression Factor	1.00	1.00			1.00		0.76	0.70		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.9			0.0		6.2	4.4		4.1	239.5	28.0
Delay (s)	25.7	25.9			23.5		37.1	25.6		49.6	278.1	62.3
Level of Service	C	C			C		D	C		D	F	E
Approach Delay (s)		25.9			23.5			27.3			247.7	
Approach LOS		C			C			C			F	

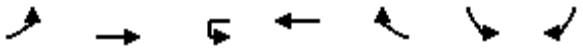
Intersection Summary			
HCM 2000 Control Delay	137.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	114	24	29	767	1	991	424
Future Volume (vph)	114	24	29	767	1	991	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.92	1.00	1.00	1.00	1.00	0.64
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	1272	1540	3079	1540	3079	885
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1540	1272	1540	3079	1540	3079	885
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	121	26	31	816	1	1054	451
RTOR Reduction (vph)	0	14	0	0	0	0	154
Lane Group Flow (vph)	121	12	31	816	1	1054	297
Confl. Peds. (#/hr)	76	76					432
Confl. Bikes (#/hr)							111
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	533	440	215	1226	140	1035	297
v/s Ratio Prot	c0.08		0.02	c0.27	0.00	c0.34	
v/s Ratio Perm		0.01					0.34
v/c Ratio	0.23	0.03	0.14	0.67	0.01	1.02	1.00
Uniform Delay, d1	25.5	23.7	41.5	27.1	45.5	36.5	36.5
Progression Factor	1.00	1.00	0.51	0.92	0.88	0.71	1.26
Incremental Delay, d2	1.0	0.1	1.1	2.2	0.0	13.6	15.7
Delay (s)	26.5	23.8	22.4	27.1	40.2	39.3	61.8
Level of Service	C	C	C	C	D	D	E
Approach Delay (s)	26.0			26.9		46.0	
Approach LOS	C			C		D	

Intersection Summary			
HCM 2000 Control Delay	38.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	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)	81	1	29	1	11	4	45	801	2	5	808	156
Future Volume (vph)	81	1	29	1	11	4	45	801	2	5	808	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.97			0.97		1.00	1.00		1.00	0.90	
Flpb, ped/bikes		0.94			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	1.00		1.00	0.98	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1377			1514		1540	3074		1296	2287	
Flt Permitted		0.78			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1114			1505		1540	3074		1296	2287	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	1	30	1	11	4	47	834	2	5	842	162
RTOR Reduction (vph)	0	12	0	0	3	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	103	0	0	13	0	47	836	0	5	991	0
Confl. Peds. (#/hr)	100		100	100		100			500			430
Confl. Bikes (#/hr)			10			10			90			111
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		384			519		210	1201		108	781	
v/s Ratio Prot							0.03	c0.27		0.00	c0.43	
v/s Ratio Perm		c0.09			0.01							
v/c Ratio		0.27			0.03		0.22	0.70		0.05	1.27	
Uniform Delay, d1		26.0			23.8		42.3	28.0		46.4	36.2	
Progression Factor		1.00			1.00		0.88	0.79		1.77	0.62	
Incremental Delay, d2		1.7			0.1		1.5	2.1		0.2	123.2	
Delay (s)		27.7			23.9		38.8	24.3		82.1	145.6	
Level of Service		C			C		D	C		F	F	
Approach Delay (s)		27.7			23.9			25.1			145.3	
Approach LOS		C			C			C			F	

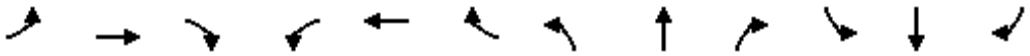
Intersection Summary			
HCM 2000 Control Delay	85.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	124	792	5	759	45	30	266
Future Volume (vph)	124	792	5	759	45	30	266
Ideal Flow (vphpl)	1500	1500	1450	1450	1450	1900	1900
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97		1.00	0.46
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1215	2431	1175	2260		1540	638
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1215	2431	1175	2260		1540	638
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	128	816	5	782	46	31	274
RTOR Reduction (vph)	0	0	0	4	0	0	179
Lane Group Flow (vph)	128	816	5	824	0	31	95
Confl. Peds. (#/hr)					1700	1700	1700
Confl. Bikes (#/hr)					10		30
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	170	990	89	747		534	221
v/s Ratio Prot	0.11	c0.34	0.00	c0.36		0.02	
v/s Ratio Perm							c0.15
v/c Ratio	0.75	0.82	0.06	1.10		0.06	0.43
Uniform Delay, d1	45.5	29.1	47.1	36.8		23.9	27.6
Progression Factor	0.75	1.32	0.66	0.52		1.00	1.00
Incremental Delay, d2	10.9	3.1	0.1	48.6		0.2	6.0
Delay (s)	45.0	41.5	31.3	67.9		24.1	33.6
Level of Service	D	D	C	E		C	C
Approach Delay (s)		42.0		67.7		32.6	
Approach LOS		D		E		C	

Intersection Summary			
HCM 2000 Control Delay	50.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

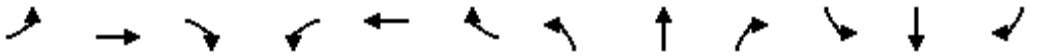
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	762	670	99	374	614	48	12	1360	250	0	0	0
Future Volume (vph)	762	670	99	374	614	48	12	1360	250	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.93		1.00	0.96			1.00	0.47			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.98		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	3656	2366		2515	2464			4670	547			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	3656	2366		2515	2464			4670	547			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	794	698	103	390	640	50	12	1417	260	0	0	0
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	151	0	0	0
Lane Group Flow (vph)	794	790	0	390	690	0	0	1430	109	0	0	0
Confl. Peds. (#/hr)			1700			1700	1700		1700			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.9	37.2		13.2	33.0			39.2	39.2			
Effective Green, g (s)	18.9	37.2		13.2	33.0			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.30			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	628	800		301	739			1664	194			
v/s Ratio Prot	c0.22	c0.33		c0.16	0.28							
v/s Ratio Perm								0.31	0.20			
v/c Ratio	1.26	0.99		1.30	0.93			0.86	0.56			
Uniform Delay, d1	45.5	36.2		48.4	37.4			32.8	28.5			
Progression Factor	1.33	1.44		1.52	1.03			1.46	3.36			
Incremental Delay, d2	120.2	7.2		140.1	7.0			2.3	1.8			
Delay (s)	180.9	59.2		213.6	45.6			50.3	97.4			
Level of Service	F	E		F	D			D	F			
Approach Delay (s)		119.8			106.3			57.5			0.0	
Approach LOS		F			F			E			A	

Intersection Summary			
HCM 2000 Control Delay	92.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



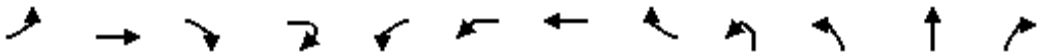
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	1358	60	36	563	24	69	160	134	126	719	437
Future Volume (vph)	128	1358	60	36	563	24	69	160	134	126	719	437
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	*0.80		1.00	*0.90			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.98		1.00	0.96			1.00	0.46	1.00	0.94	0.46
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.96	1.00	0.63	1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.98	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3179		1296	2352			1290	528	817	2302	480
Flt Permitted	0.95	1.00		0.95	1.00			0.44	1.00	0.57	1.00	1.00
Satd. Flow (perm)	1296	3179		1296	2352			573	528	487	2302	480
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	129	1372	61	36	569	24	70	162	135	127	726	441
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	84	0	7	147
Lane Group Flow (vph)	129	1429	0	36	590	0	0	232	51	127	807	206
Confl. Peds. (#/hr)			1700			1700	1700		1700	1700		1700
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	39.6		8.9	32.5			41.6	41.6	42.6	42.6	42.6
Effective Green, g (s)	14.4	39.6		8.9	32.5			41.6	41.6	42.6	42.6	42.6
Actuated g/C Ratio	0.13	0.36		0.08	0.30			0.38	0.38	0.39	0.39	0.39
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1144		104	694			216	199	188	891	185
v/s Ratio Prot	0.10	c0.45		0.03	c0.25						0.35	
v/s Ratio Perm								0.40	0.10	0.26		c0.43
v/c Ratio	0.76	1.25		0.35	0.85			1.07	0.26	0.68	0.91	1.11
Uniform Delay, d1	46.2	35.2		47.8	36.5			34.2	23.6	28.0	31.8	33.7
Progression Factor	0.59	0.99		0.83	0.75			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	112.9		0.8	4.1			82.3	0.7	9.2	12.5	99.8
Delay (s)	29.2	147.7		40.6	31.5			116.5	24.2	37.2	44.3	133.5
Level of Service	C	F		D	C			F	C	D	D	F
Approach Delay (s)		137.9			32.0			82.6			68.0	
Approach LOS		F			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	91.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	137.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1524	151	0	1104	77	25
Future Volume (vph)	1524	151	0	1104	77	25
Ideal Flow (vphpl)	1800	1800	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2871			3079	1540	1378
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2871			3079	1540	1378
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1571	156	0	1138	79	26
RTOR Reduction (vph)	7	0	0	0	0	15
Lane Group Flow (vph)	1720	0	0	1138	79	11
Confl. Peds. (#/hr)		25				
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1620			1738	512	458
v/s Ratio Prot	c0.60			0.37	c0.05	
v/s Ratio Perm						0.01
v/c Ratio	1.06			0.65	0.15	0.02
Uniform Delay, d1	23.9			16.5	25.8	24.7
Progression Factor	1.00			0.73	1.00	1.00
Incremental Delay, d2	40.8			1.0	0.6	0.1
Delay (s)	64.7			13.0	26.5	24.8
Level of Service	E			B	C	C
Approach Delay (s)	64.7			13.0	26.0	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

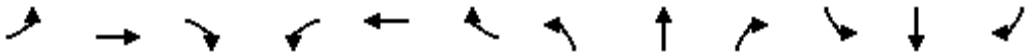


Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	42	108	7	4	17	68	106	41	13	2	8	24
Future Volume (vph)	42	108	7	4	17	68	106	41	13	2	8	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.97					0.98				0.93	
Flpb, ped/bikes		0.98					0.96				0.89	
Frt		0.99					0.98				0.93	
Flt Protected		0.99					0.98				0.98	
Satd. Flow (prot)		1431					1180				994	
Flt Permitted		0.88					0.82				0.88	
Satd. Flow (perm)		1275					986				892	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	44	112	7	4	18	71	110	43	14	2	8	25
RTOR Reduction (vph)	0	0	0	0	0	0	8	0	0	0	14	0
Lane Group Flow (vph)	0	168	0	0	0	0	234	0	0	0	35	0
Confl. Peds. (#/hr)	58		84	200	84			58	235	275		133
Confl. Bikes (#/hr)			10	10				1				18
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		27.0					27.0				38.0	
Effective Green, g (s)		27.0					27.0				38.0	
Actuated g/C Ratio		0.30					0.30				0.42	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		382					295				376	
v/s Ratio Prot												
v/s Ratio Perm		0.13					c0.24				0.04	
v/c Ratio		0.44					0.79				0.09	
Uniform Delay, d1		25.4					28.9				15.6	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		3.6					13.5				0.1	
Delay (s)		29.0					42.4				15.7	
Level of Service		C					D				B	
Approach Delay (s)		29.0					42.4				15.7	
Approach LOS		C					D				B	

Intersection Summary			
HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	97	23	133	286	1	51	102	12
Future Volume (vph)	97	23	133	286	1	51	102	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1900	1800	1800
Total Lost time (s)		5.0		5.0		5.0		
Lane Util. Factor		0.95		0.95		1.00		
Frpb, ped/bikes		0.67		0.58		0.73		
Flpb, ped/bikes		0.96		1.00		0.92		
Frt		0.91		0.85		0.91		
Flt Protected		0.98		1.00		0.98		
Satd. Flow (prot)		843		713		969		
Flt Permitted		0.88		1.00		0.98		
Satd. Flow (perm)		752		713		969		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	101	24	139	298	1	53	106	12
RTOR Reduction (vph)	0	5	0	122	0	76	0	0
Lane Group Flow (vph)	0	289	0	146	0	97	0	0
Confl. Peds. (#/hr)	133		235	275		58		84
Confl. Bikes (#/hr)			26	26				2
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot		
Protected Phases		4				5		
Permitted Phases	4			4	5			
Actuated Green, G (s)		38.0		38.0		10.0		
Effective Green, g (s)		38.0		38.0		10.0		
Actuated g/C Ratio		0.42		0.42		0.11		
Clearance Time (s)		5.0		5.0		5.0		
Vehicle Extension (s)		3.0		3.0		3.0		
Lane Grp Cap (vph)		317		301		107		
v/s Ratio Prot								
v/s Ratio Perm		c0.38		0.20		0.10		
v/c Ratio		0.91		0.49		0.91		
Uniform Delay, d1		24.4		18.9		39.6		
Progression Factor		1.00		1.00		1.00		
Incremental Delay, d2		29.2		1.2		59.3		
Delay (s)		53.6		20.1		98.9		
Level of Service		D		C		F		
Approach Delay (s)		37.7				98.9		
Approach LOS		D				F		

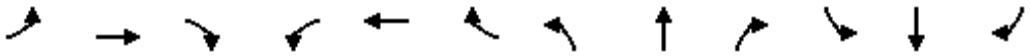
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	75	0	0	755	47	155	166	316	9	0	281
Future Volume (vph)	30	75	0	0	755	47	155	166	316	9	0	281
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1400	1400	1400	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.75	1.00	*0.80	*0.80			1.00	
Frpb, ped/bikes		1.00			1.00	0.96	1.00	0.98			1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.90			0.87	
Flt Protected		0.99			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1284			1919	698	908	1688			1332	
Flt Permitted		0.70			1.00	1.00	0.53	1.00			0.98	
Satd. Flow (perm)		912			1919	698	508	1688			1304	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	82	0	0	821	51	168	180	343	10	0	305
RTOR Reduction (vph)	0	0	0	0	0	0	0	206	0	0	0	0
Lane Group Flow (vph)	0	115	0	0	821	51	168	317	0	0	315	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)						10						
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Effective Green, g (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Actuated g/C Ratio		0.43			0.43	0.43	0.40	0.40			0.40	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		395			831	302	203	675			521	
v/s Ratio Prot					c0.43			0.19				
v/s Ratio Perm		0.13				0.07	c0.33				0.24	
v/c Ratio		0.29			0.99	0.17	0.83	0.47			0.60	
Uniform Delay, d1		11.0			16.8	10.4	16.1	13.3			14.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		1.9			28.4	1.2	30.5	2.3			5.1	
Delay (s)		12.9			45.3	11.6	46.7	15.6			19.4	
Level of Service		B			D	B	D	B			B	
Approach Delay (s)		12.9			43.3			23.2			19.4	
Approach LOS		B			D			C			B	

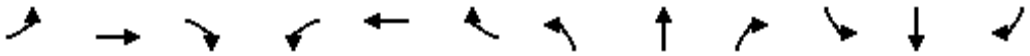
Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	275	182	21	110	129	0	114	117	245	81	2
Future Volume (vph)	188	275	182	21	110	129	0	114	117	245	81	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.92			0.98			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.94			0.93			0.93			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2406			1310			1402			1479	
Flt Permitted	0.95	1.00			0.94			1.00			0.58	
Satd. Flow (perm)	1459	2406			1241			1402			888	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	299	198	23	120	140	0	124	127	266	88	2
RTOR Reduction (vph)	0	112	0	0	40	0	0	46	0	0	0	0
Lane Group Flow (vph)	204	385	0	0	243	0	0	205	0	0	356	0
Confl. Peds. (#/hr)			152			154			25			
Confl. Bikes (#/hr)			30									
Parking (#/hr)		10	10									
Turn Type	Prot	NA		Perm	NA			NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases				6						4		
Actuated Green, G (s)	6.4	29.4			19.0			34.5			33.5	
Effective Green, g (s)	8.4	32.4			21.0			37.5			37.5	
Actuated g/C Ratio	0.11	0.43			0.28			0.50			0.50	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	163	1040			347			701			444	
v/s Ratio Prot	c0.14	0.16						0.15				
v/s Ratio Perm					c0.20						c0.40	
v/c Ratio	1.25	0.37			0.70			0.29			0.80	
Uniform Delay, d1	33.2	14.4			24.1			10.9			15.6	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	153.7	0.2			6.3			0.2			10.0	
Delay (s)	186.9	14.6			30.4			11.2			25.6	
Level of Service	F	B			C			B			C	
Approach Delay (s)		64.7			30.4			11.2			25.6	
Approach LOS		E			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	74.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

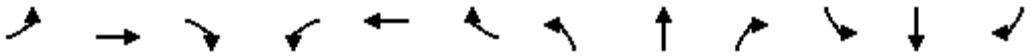


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	294	97	43	565	93	26	307	31	62	364	211
Future Volume (vph)	203	294	97	43	565	93	26	307	31	62	364	211
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.97			0.98			0.97			0.88	
Flpb, ped/bikes		0.99			1.00			0.99			0.98	
Frt		0.98			0.98			0.99			0.95	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		2469			2576			2735			2180	
Flt Permitted		0.60			0.90			0.90			0.88	
Satd. Flow (perm)		1498			2318			2468			1938	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	205	297	98	43	571	94	26	310	31	63	368	213
RTOR Reduction (vph)	0	1	0	0	5	0	0	12	0	0	36	0
Lane Group Flow (vph)	0	599	0	0	703	0	0	355	0	0	608	0
Confl. Peds. (#/hr)	182		134	134		182	777		592	592		777
Confl. Bikes (#/hr)			27			15			20			41
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		699			1081			1151			872	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.30			0.14			c0.31	
v/c Ratio		1.19dl			0.65			0.31			0.70	
Uniform Delay, d1		14.2			12.3			10.0			13.2	
Progression Factor		1.00			1.00			1.00			1.54	
Incremental Delay, d2		12.8			3.0			0.7			3.5	
Delay (s)		27.1			15.3			10.7			23.9	
Level of Service		C			B			B			C	
Approach Delay (s)		27.1			15.3			10.7			23.9	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

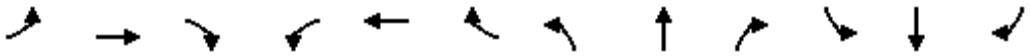
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	450	645	60	0	0	0	0	524	167	17	631	0
Future Volume (vph)	450	645	60	0	0	0	0	524	167	17	631	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1000	1000	1000	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0	2.0		2.0	
Lane Util. Factor	*0.50	*0.50						*0.50	0.91		0.95	
Frpb, ped/bikes	1.00	0.99						0.99	0.64		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	750	1189						840	424		2686	
Flt Permitted	0.95	1.00						1.00	1.00		0.92	
Satd. Flow (perm)	750	1189						840	424		2486	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	459	658	61	0	0	0	0	535	170	17	644	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	2	39	0	0	0
Lane Group Flow (vph)	459	710	0	0	0	0	0	550	114	0	661	0
Confl. Peds. (#/hr)			146						759	759		
Confl. Bikes (#/hr)			7						34			
Parking (#/hr)	10	10	10								10	
Turn Type	Split	NA						NA	Perm	Perm	NA	
Protected Phases	2	2						4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	27.0	27.0						26.0	26.0		26.0	
Effective Green, g (s)	28.5	28.5						27.5	27.5		27.5	
Actuated g/C Ratio	0.48	0.48						0.46	0.46		0.46	
Clearance Time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Grp Cap (vph)	356	564						385	194		1139	
v/s Ratio Prot	c0.61	0.60						c0.65				
v/s Ratio Perm									0.27		0.27	
v/c Ratio	1.29	1.26						1.43	0.59		0.58	
Uniform Delay, d1	15.8	15.8						16.2	12.0		12.0	
Progression Factor	0.98	0.98						0.79	0.59		1.00	
Incremental Delay, d2	132.2	117.9						205.7	11.2		2.2	
Delay (s)	147.6	133.4						218.6	18.2		14.2	
Level of Service	F	F						F	B		B	
Approach Delay (s)		138.9			0.0			175.1			14.2	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	116.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

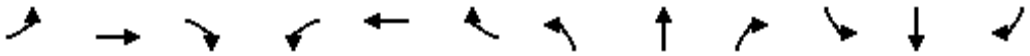
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	559	0	0	0	0	0	2280	599	0	0	0
Future Volume (vph)	300	559	0	0	0	0	0	2280	599	0	0	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1700	1700	1700	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	*0.50						*0.90	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.76			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1572	1237						3719	932			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1572	1237						3719	932			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	588	0	0	0	0	0	2400	631	0	0	0
RTOR Reduction (vph)	17	0	0	0	0	0	0	0	119	0	0	0
Lane Group Flow (vph)	299	588	0	0	0	0	0	2400	512	0	0	0
Confl. Peds. (#/hr)									306			
Confl. Bikes (#/hr)									30			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	26.3	26.3						24.3	24.3			
Effective Green, g (s)	27.8	27.8						25.8	25.8			
Actuated g/C Ratio	0.46	0.46						0.43	0.43			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	728	573						1599	400			
v/s Ratio Prot		c0.48						c0.65				
v/s Ratio Perm	0.19								0.55			
v/c Ratio	0.41	1.03						1.50	1.28			
Uniform Delay, d1	10.7	16.1						17.1	17.1			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	1.7	44.4						228.7	144.5			
Delay (s)	12.4	60.5						245.8	161.6			
Level of Service	B	E						F	F			
Approach Delay (s)		43.7			0.0			228.3			0.0	
Approach LOS		D			A			F			A	

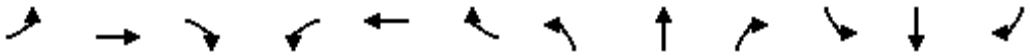
Intersection Summary			
HCM 2000 Control Delay	185.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



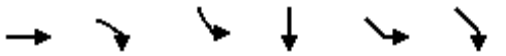
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1124	81	381	1951	245	0	0	0
Future Volume (vph)	0	0	0	0	1124	81	381	1951	245	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.98		1.00	1.00	0.71			
Flpb, ped/bikes					1.00		0.92	1.00	1.00			
Frt					0.99		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4253		1423	4424	984			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4253		1423	4424	984			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	0	1159	84	393	2011	253	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	59	0	103	0	0	0
Lane Group Flow (vph)	0	0	0	0	1242	0	334	2011	150	0	0	0
Confl. Peds. (#/hr)						453	105		196			
Confl. Bikes (#/hr)						25			56			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1665		652	2027	442			
v/s Ratio Prot					c0.29			c0.45				
v/s Ratio Perm							0.23		0.15			
v/c Ratio					0.75		0.51	0.99	0.34			
Uniform Delay, d1					15.7		11.5	16.1	10.7			
Progression Factor					1.00		1.04	0.86	1.36			
Incremental Delay, d2					3.1		0.3	4.5	0.2			
Delay (s)					18.8		12.2	18.4	14.8			
Level of Service					B		B	B	B			
Approach Delay (s)		0.0			18.8			17.1			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1068	208	312	2022	0	0	0	0
Future Volume (vph)	0	0	0	0	1068	208	312	2022	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0	7.5	1.4	1.4				
Lane Util. Factor					0.81	0.81	0.81	0.81				
Frpb, ped/bikes					0.99	0.63	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	0.76	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					4377	590	650	3577				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					4377	590	650	3577				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	1112	217	325	2106	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	25	68	68	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1134	170	224	2071	0	0	0	0
Confl. Peds. (#/hr)						722	306					
Confl. Bikes (#/hr)						43						
Turn Type					NA	Perm	Perm	NA				
Protected Phases					6			8				
Permitted Phases						6	8					
Actuated Green, G (s)					23.5	23.5	21.6	21.6				
Effective Green, g (s)					26.0	25.5	25.6	25.6				
Actuated g/C Ratio					0.43	0.42	0.43	0.43				
Clearance Time (s)					9.5	9.5	5.4	5.4				
Lane Grp Cap (vph)					1896	250	277	1526				
v/s Ratio Prot					0.26							
v/s Ratio Perm						c0.29	0.35	0.58				
v/c Ratio					0.60	0.68	0.81	1.36				
Uniform Delay, d1					13.0	13.9	15.1	17.2				
Progression Factor					1.00	1.00	1.05	0.92				
Incremental Delay, d2					1.4	13.9	12.2	163.0				
Delay (s)					14.4	27.8	28.0	178.9				
Level of Service					B	C	C	F				
Approach Delay (s)		0.0			16.4			160.8			0.0	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	109.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	776	306	102	661	114	60
Future Volume (vph)	776	306	102	661	114	60
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	1.00	0.94	0.86
Frpb, ped/bikes	0.92		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	0.98	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	5288		1459	1305	4060	1122
Flt Permitted	1.00		0.95	1.00	0.96	1.00
Satd. Flow (perm)	5288		1459	1305	4060	1122
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	784	309	103	668	115	61
RTOR Reduction (vph)	80	0	70	0	0	0
Lane Group Flow (vph)	1013	0	33	668	135	41
Confl. Peds. (#/hr)		251	970			
Confl. Bikes (#/hr)		10				
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	23.5		26.8	26.8	19.5	19.5
Effective Green, g (s)	25.5		28.8	28.8	23.5	23.5
Actuated g/C Ratio	0.28		0.32	0.32	0.26	0.26
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1498		466	417	1060	292
v/s Ratio Prot	c0.19		0.02	c0.51	0.03	
v/s Ratio Perm						c0.04
v/c Ratio	0.68		0.07	1.60	0.13	0.14
Uniform Delay, d1	28.6		21.3	30.6	25.4	25.5
Progression Factor	0.41		2.45	0.89	1.00	1.00
Incremental Delay, d2	0.2		0.2	279.3	0.2	1.0
Delay (s)	12.0		52.4	306.7	25.7	26.5
Level of Service	B		D	F	C	C
Approach Delay (s)	12.0			272.7	25.9	
Approach LOS	B			F	C	

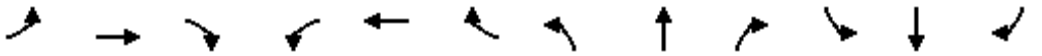
Intersection Summary			
HCM 2000 Control Delay	111.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	149	1008	807	606	462	136
Future Volume (vph)	149	1008	807	606	462	136
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.81		0.81	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	0.98	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.97	0.85	0.85
Flt Protected	0.95		0.97	1.00	1.00	1.00
Satd. Flow (prot)	1050		4815	2228	1038	1141
Flt Permitted	0.95		0.97	1.00	1.00	1.00
Satd. Flow (perm)	1050		4815	2228	1038	1141
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	154	1039	832	625	476	140
RTOR Reduction (vph)	0	0	0	0	0	40
Lane Group Flow (vph)	139	0	1886	763	338	100
Confl. Bikes (#/hr)					10	10
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	450		2065	1071	533	586
v/s Ratio Prot				c0.34		
v/s Ratio Perm	0.13		0.39		0.33	0.09
v/c Ratio	0.31		1.81dl	0.71	0.63	0.17
Uniform Delay, d1	16.9		24.1	18.4	15.7	11.6
Progression Factor	1.00		1.00	1.70	1.92	2.74
Incremental Delay, d2	1.8		7.7	2.7	3.8	0.4
Delay (s)	18.7		31.8	34.1	34.0	32.3
Level of Service	B		C	C	C	C
Approach Delay (s)			30.9	33.9		
Approach LOS			C	C		

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	500	1173	0	0	0	0	0	668	475
Future Volume (vph)	0	0	0	500	1173	0	0	0	0	0	668	475
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.91	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.96	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4942						4326	694
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4942						4326	694
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	526	1235	0	0	0	0	0	703	500
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	342	1419	0	0	0	0	0	953	250
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						26.0	26.0
Effective Green, g (s)				33.5	33.5						28.0	28.0
Actuated g/C Ratio				0.37	0.37						0.31	0.31
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				439	1839						1345	215
v/s Ratio Prot				c0.29	0.29						0.22	
v/s Ratio Perm												c0.36
v/c Ratio				0.78	0.77						0.71	1.16
Uniform Delay, d1				25.0	24.9						27.4	31.0
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				12.8	3.2						3.2	112.3
Delay (s)				37.8	28.1						30.6	143.3
Level of Service				D	C						C	F
Approach Delay (s)		0.0			30.0			0.0			54.0	
Approach LOS		A			C			A			D	

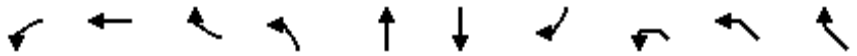
Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	374	683	63	221	322	64	191	274	563
Future Volume (vph)	28	374	683	63	221	322	64	191	274	563
Ideal Flow (vphpl)	1000	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.99		0.89		0.91		1.00	1.00
Flpb, ped/bikes		0.96	1.00		1.00		1.00		0.99	1.00
Frt		1.00	0.99		0.91		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	0.99
Satd. Flow (prot)		1264	1904		2244		1078		1316	2525
Flt Permitted		0.95	1.00		1.00		1.00		0.23	0.60
Satd. Flow (perm)		1264	1904		2244		1078		324	1528
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	30	402	734	68	238	346	69	205	295	605
RTOR Reduction (vph)	0	0	9	0	1	0	46	0	0	0
Lane Group Flow (vph)	0	392	833	0	590	0	16	0	332	773
Confl. Peds. (#/hr)	14			88		53	43	53	43	
Confl. Bikes (#/hr)				6		17	17	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Perm	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases		2	2		8			7	7	4
Permitted Phases	2						8	4	4	
Actuated Green, G (s)		22.5	22.5		23.0		23.0		42.0	42.0
Effective Green, g (s)		22.5	25.0		24.5		23.0		43.5	43.5
Actuated g/C Ratio		0.25	0.28		0.27		0.26		0.48	0.48
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		316	528		610		275		338	921
v/s Ratio Prot			c0.44		0.26				c0.18	0.15
v/s Ratio Perm		0.31					0.01		c0.29	0.25
v/c Ratio		1.24	1.58		1.20dr		0.06		0.98	0.84
Uniform Delay, d1		33.8	32.5		32.4		25.3		28.1	20.2
Progression Factor		1.00	1.00		1.00		1.00		0.98	0.98
Incremental Delay, d2		132.3	268.6		29.3		0.4		11.1	0.9
Delay (s)		166.0	301.1		61.7		25.7		38.6	20.7
Level of Service		F	F		E		C		D	C
Approach Delay (s)			258.2		58.2					26.1
Approach LOS			F		E					C

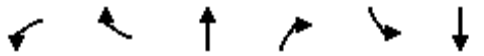
Intersection Summary			
HCM 2000 Control Delay	128.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	88	794	99	52	227	661	205	404	755	261
Future Volume (vph)	88	794	99	52	227	661	205	404	755	261
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.98			1.00	0.94			0.99	0.81
Flpb, ped/bikes		1.00			0.99	1.00			0.99	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		1.00			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5787			2841	2429			4063	909
Flt Permitted		1.00			0.62	1.00			0.95	1.00
Satd. Flow (perm)		5787			1788	2429			4063	909
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	827	103	54	236	689	214	421	786	272
RTOR Reduction (vph)	0	22	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1000	0	0	290	898	0	0	1234	245
Confl. Peds. (#/hr)	3		157	212			212	3		157
Confl. Bikes (#/hr)			10				10			10
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10				10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1864			556	755			1218	272
v/s Ratio Prot						c0.37				
v/s Ratio Perm		0.17			0.16				0.30	0.27
v/c Ratio		0.54			0.52	1.19			1.01	0.90
Uniform Delay, d1		25.0			25.5	31.0			31.5	30.2
Progression Factor		1.75			0.20	1.00			1.00	1.00
Incremental Delay, d2		0.7			1.3	98.3			29.1	34.1
Delay (s)		44.4			6.4	129.3			60.6	64.3
Level of Service		D			A	F			E	E
Approach Delay (s)		44.4			6.4	129.3			61.2	
Approach LOS		D			A	F			E	

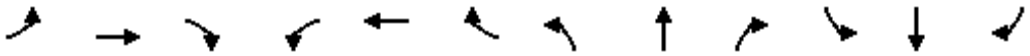
Intersection Summary			
HCM 2000 Control Delay	68.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	25	1626	5	67	356
Future Volume (vph)	2	25	1626	5	67	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.97	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3073		1500	3079
Flt Permitted	0.95	1.00	1.00		0.06	1.00
Satd. Flow (perm)	1540	1378	3073		102	3079
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2	28	1827	6	75	400
RTOR Reduction (vph)	0	2	0	0	0	0
Lane Group Flow (vph)	2	26	1833	0	75	400
Confl. Peds. (#/hr)	146			518	518	
Confl. Bikes (#/hr)				13		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2089		69	2093
v/s Ratio Prot	0.00		0.60			0.13
v/s Ratio Perm		c0.02			c0.73	
v/c Ratio	0.01	0.08	0.88		1.09	0.19
Uniform Delay, d1	32.4	33.0	14.0		17.6	6.5
Progression Factor	1.00	1.00	1.00		3.10	0.62
Incremental Delay, d2	0.0	0.5	5.6		58.7	0.0
Delay (s)	32.4	33.5	19.6		113.3	4.0
Level of Service	C	C	B		F	A
Approach Delay (s)	33.4		19.6			21.3
Approach LOS	C		B			C

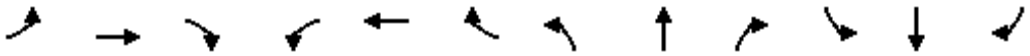
Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	119	84	51	55	151	23	1409	127	140	206	31
Future Volume (vph)	61	119	84	51	55	151	23	1409	127	140	206	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.95		0.97		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		0.99	1.00		0.99		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.99		1.00	0.98	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1580	1311		1421		1540	2946		1540	2985	
Flt Permitted		0.80	1.00		0.90		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1281	1311		1296		1540	2946		1540	2985	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	63	123	87	53	57	156	24	1453	131	144	212	32
RTOR Reduction (vph)	0	0	59	0	51	0	0	6	0	0	12	0
Lane Group Flow (vph)	0	186	28	0	215	0	24	1578	0	144	232	0
Confl. Peds. (#/hr)	48		40	40		48			255			77
Confl. Bikes (#/hr)									8			23
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		411	420		416		227	1045		254	1119	
v/s Ratio Prot							0.02	c0.54		c0.09	0.08	
v/s Ratio Perm		0.15	0.02		c0.17							
v/c Ratio		0.45	0.07		0.52		0.11	1.51		0.57	0.21	
Uniform Delay, d1		27.0	23.6		27.6		36.9	32.2		38.5	21.2	
Progression Factor		1.00	1.00		1.00		1.47	0.73		1.00	1.00	
Incremental Delay, d2		3.6	0.3		4.5		0.1	229.8		8.9	0.4	
Delay (s)		30.5	23.9		32.2		54.2	253.2		47.3	21.6	
Level of Service		C	C		C		D	F		D	C	
Approach Delay (s)		28.4			32.2			250.3			31.1	
Approach LOS		C			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	169.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



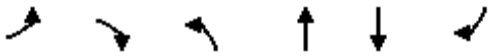
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	184	19	289	43	181	73	1217	108	60	242	17
Future Volume (vph)	65	184	19	289	43	181	73	1217	108	60	242	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.95		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1582			1484		1540	3010		1540	3026	
Flt Permitted		0.82			0.60		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1318			919		1540	3010		1540	3026	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	70	198	20	311	46	195	78	1309	116	65	260	18
RTOR Reduction (vph)	0	3	0	0	20	0	0	6	0	0	5	0
Lane Group Flow (vph)	0	285	0	0	532	0	78	1419	0	65	273	0
Confl. Peds. (#/hr)	16		6	6		16			73			67
Confl. Bikes (#/hr)			1						12			11
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		430			300		231	1110		229	1116	
v/s Ratio Prot							0.05	c0.47		0.04	c0.09	
v/s Ratio Perm		0.22			c0.58							
v/c Ratio		0.66			1.77		0.34	1.28		0.28	0.24	
Uniform Delay, d1		28.9			33.6		38.1	31.6		37.8	21.9	
Progression Factor		1.00			1.00		1.14	0.71		0.73	0.76	
Incremental Delay, d2		7.8			362.0		0.4	125.8		3.0	0.5	
Delay (s)		36.8			395.6		43.7	148.1		30.7	17.1	
Level of Service		D			F		D	F		C	B	
Approach Delay (s)		36.8			395.6			142.6			19.6	
Approach LOS		D			F			F			B	

Intersection Summary			
HCM 2000 Control Delay	167.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	131.8%	ICU Level of Service	H
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)	33	15	23	1	6	101	44	313	12	226	364	27
Future Volume (vph)	33	15	23	1	6	101	44	313	12	226	364	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.98	1.00	1.00		1.00	0.98	
Flpb, ped/bikes		0.97			1.00	1.00	0.86	1.00		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1461			1609	1351	1320	1609		1459	1489	
Flt Permitted		0.85			0.95	1.00	0.51	1.00		0.95	1.00	
Satd. Flow (perm)		1266			1536	1351	702	1609		1459	1489	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	38	17	26	1	7	115	50	356	14	257	414	31
RTOR Reduction (vph)	0	24	0	0	0	72	0	2	0	0	2	0
Lane Group Flow (vph)	0	57	0	0	8	43	50	368	0	257	443	0
Confl. Peds. (#/hr)	62		6	6		62	205		28			205
Confl. Bikes (#/hr)						1			23			16
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		5.0			5.0	20.5	18.8	18.8		15.5	39.3	
Effective Green, g (s)		5.0			5.0	20.5	18.8	18.8		15.5	39.3	
Actuated g/C Ratio		0.09			0.09	0.38	0.35	0.35		0.29	0.72	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		116			141	634	243	557		416	1077	
v/s Ratio Prot						0.02		c0.23		c0.18	0.30	
v/s Ratio Perm		c0.05			0.01	0.01	0.07					
v/c Ratio		0.49			0.06	0.07	0.21	0.66		0.62	0.41	
Uniform Delay, d1		23.4			22.5	10.8	12.5	15.0		16.8	2.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.3			0.2	0.0	0.4	2.9		2.7	0.3	
Delay (s)		26.7			22.7	10.8	12.9	18.0		19.6	3.2	
Level of Service		C			C	B	B	B		B	A	
Approach Delay (s)		26.7			11.6			17.4			9.2	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

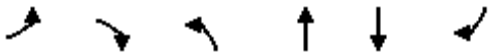
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	18	233	279	111	116	139
Future Volume (vph)	18	233	279	111	116	139
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	23	291	349	139	145	174

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	23	291	395	93	97	222
Volume Left (vph)	23	0	349	0	0	0
Volume Right (vph)	0	291	0	0	0	174
Hadj (s)	0.53	-0.67	0.48	0.03	0.03	-0.51
Departure Headway (s)	7.1	5.9	6.4	6.0	6.2	5.7
Degree Utilization, x	0.05	0.48	0.70	0.15	0.17	0.35
Capacity (veh/h)	471	572	546	579	546	603
Control Delay (s)	9.3	13.0	22.0	8.8	9.3	10.5
Approach Delay (s)	12.7		19.5		10.2	
Approach LOS	B		C		B	

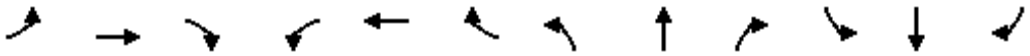
Intersection Summary			
Delay	14.9		
Level of Service	B		
Intersection Capacity Utilization	42.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	14	105	413	581	105
Future Volume (Veh/h)	14	14	105	413	581	105
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	16	16	118	464	653	118
Pedestrians	33			4		
Lane Width (ft)	11.0			11.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	3			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1213	422	804			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1213	422	804			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	97	85			
cM capacity (veh/h)	145	563	795			

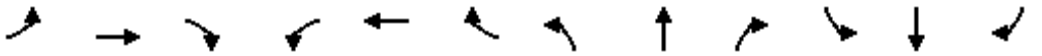
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	32	273	309	435	336
Volume Left	16	118	0	0	0
Volume Right	16	0	0	0	118
cSH	230	795	1700	1700	1700
Volume to Capacity	0.14	0.15	0.18	0.26	0.20
Queue Length 95th (ft)	12	13	0	0	0
Control Delay (s)	23.1	5.4	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	23.1	2.5		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	399	85	374	24	247	128	346	784	19	23	634	575
Future Volume (vph)	399	85	374	24	247	128	346	784	19	23	634	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.98		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1515	1621	1327	1521	1510		2987	3063		1540	2785	
Flt Permitted	0.32	1.00	1.00	0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	504	1621	1327	1116	1510		2987	3063		1540	2785	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	92	407	26	268	139	376	852	21	25	689	625
RTOR Reduction (vph)	0	0	258	0	19	0	0	2	0	0	139	0
Lane Group Flow (vph)	434	92	149	26	388	0	376	871	0	25	1175	0
Confl. Peds. (#/hr)	41		16	16		41			58			14
Confl. Bikes (#/hr)			17			9			10			15
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	173	559	457	385	520		418	1157		184	997	
v/s Ratio Prot		0.06			0.26		c0.13	0.28		0.02	c0.42	
v/s Ratio Perm	c0.86		0.11	0.02								
v/c Ratio	2.51	0.16	0.33	0.07	0.75		0.90	0.75		0.14	1.18	
Uniform Delay, d1	32.8	22.7	24.2	22.0	28.9		42.3	27.0		39.4	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.86	0.89		1.03	1.03	
Incremental Delay, d2	695.8	0.6	1.9	0.3	9.4		3.2	0.4		1.4	90.1	
Delay (s)	728.5	23.4	26.1	22.3	38.3		39.6	24.4		41.8	123.0	
Level of Service	F	C	C	C	D		D	C		D	F	
Approach Delay (s)		352.6			37.3			29.0			121.5	
Approach LOS		F			D			C			F	

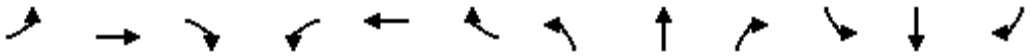
Intersection Summary			
HCM 2000 Control Delay	137.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	127.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	523	23	151	1067	109	134	170	175	167	321	199
Future Volume (vph)	144	523	23	151	1067	109	134	170	175	167	321	199
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.98	1.00
Satd. Flow (prot)	1377	1450	1378	1540	1365	1106	1540	2845			3028	1135
Flt Permitted	0.95	1.00	1.00	0.42	1.00	1.00	0.38	1.00			0.68	1.00
Satd. Flow (perm)	1377	1450	1378	681	1365	1106	609	2845			2104	1135
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	153	556	25	164	1135	116	146	185	190	178	349	212
RTOR Reduction (vph)	0	0	10	0	0	43	0	124	0	0	0	79
Lane Group Flow (vph)	153	556	15	164	1135	73	146	251	0	0	527	133
Confl. Peds. (#/hr)						36						2
Confl. Bikes (#/hr)						19						
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	4.0	45.4	45.4	36.4	36.4	36.4	28.7	28.7			27.7	27.7
Effective Green, g (s)	4.0	45.4	45.4	36.4	36.4	36.4	28.7	28.7			27.7	27.7
Actuated g/C Ratio	0.05	0.55	0.55	0.44	0.44	0.44	0.35	0.35			0.33	0.33
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	66	792	752	298	597	484	210	982			701	378
v/s Ratio Prot	c0.11	0.38			c0.83			0.09				
v/s Ratio Perm			0.01	0.24		0.07	0.24				c0.25	0.12
v/c Ratio	2.32	0.70	0.02	0.55	1.90	0.15	0.70	0.26			0.75	0.35
Uniform Delay, d1	39.5	13.9	8.6	17.3	23.3	14.1	23.4	19.5			24.6	20.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	637.8	2.8	0.0	2.2	411.8	0.1	9.6	0.1			4.6	0.6
Delay (s)	677.3	16.7	8.7	19.5	435.1	14.2	33.0	19.7			29.2	21.5
Level of Service	F	B	A	B	F	B	C	B			C	C
Approach Delay (s)		154.1			352.5			23.4			27.0	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	188.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



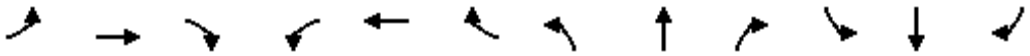
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	531	99	62	795	559	33	443	45	124	142	85
Future Volume (vph)	50	531	99	62	795	559	33	443	45	124	142	85
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		*0.80	1.00		*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	
Frpb, ped/bikes		1.00	0.94		1.00	0.93	1.00	1.00	0.96	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	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		953	952		1122	890	1070	957	915	1070	1041	
Flt Permitted		0.17	1.00		0.11	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		158	952		129	890	1070	957	915	1070	1041	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	553	103	65	828	582	34	461	47	129	148	89
RTOR Reduction (vph)	0	0	48	0	0	47	0	0	34	0	16	0
Lane Group Flow (vph)	0	605	55	0	893	535	34	461	13	129	221	0
Confl. Peds. (#/hr)	50		13	13		50			5			10
Confl. Bikes (#/hr)			17			37			12			17
Parking (#/hr)		10	10					10				
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.0	34.0		34.0	65.0	18.4	32.0	32.0	31.0	44.6	
Effective Green, g (s)		34.0	34.0		34.0	65.0	18.4	32.0	32.0	31.0	44.6	
Actuated g/C Ratio		0.30	0.30		0.30	0.58	0.16	0.29	0.29	0.28	0.40	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		47	289		39	556	175	273	261	296	414	
v/s Ratio Prot						c0.27	0.03	c0.48		0.12	0.21	
v/s Ratio Perm		3.83	0.06		c6.90	0.33			0.01			
v/c Ratio		12.87	0.19		22.90	0.96	0.19	1.69	0.05	0.44	0.53	
Uniform Delay, d1		39.0	28.8		39.0	22.4	40.4	40.0	29.0	33.3	25.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		5383.8	0.3		9901.9	28.9	0.5	325.3	0.1	1.0	1.3	
Delay (s)		5422.8	29.1		9940.9	51.2	40.9	365.3	29.1	34.3	27.1	
Level of Service		F	C		F	D	D	F	C	C	C	
Approach Delay (s)		4638.1			6038.6			315.8			29.6	
Approach LOS		F			F			F			C	

Intersection Summary			
HCM 2000 Control Delay	4002.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	8.88		
Actuated Cycle Length (s)	112.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	152.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	108	1138	43	71	250
Future Volume (vph)	105	108	1138	43	71	250
Ideal Flow (vphpl)	1900	1900	1400	1400	1400	1400
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.75	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2369	1791	996	1134	1194
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2369	1791	996	1134	1194
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	117	1237	47	77	272
RTOR Reduction (vph)	0	101	0	5	0	0
Lane Group Flow (vph)	114	16	1237	42	77	272
Confl. Peds. (#/hr)	49	3				
Confl. Bikes (#/hr)				20		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.7	11.7	47.8	42.8	9.3	62.1
Effective Green, g (s)	11.7	11.7	47.8	42.8	9.3	62.1
Actuated g/C Ratio	0.14	0.14	0.57	0.51	0.11	0.74
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	215	330	1021	568	125	884
v/s Ratio Prot	c0.07		c0.69	0.02	c0.07	0.23
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.53	0.05	1.21	0.07	0.62	0.31
Uniform Delay, d1	33.5	31.2	18.0	10.4	35.5	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.1	104.4	0.1	8.7	0.2
Delay (s)	36.0	31.3	122.4	10.5	44.3	3.8
Level of Service	D	C	F	B	D	A
Approach Delay (s)	33.6		118.3			12.8
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	88.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	83.8	Sum of lost time (s)	20.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

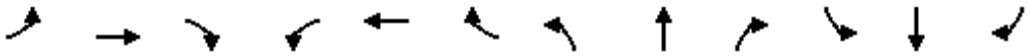
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	416	110	75	558	18	153	154	70	19	136	38
Future Volume (vph)	35	416	110	75	558	18	153	154	70	19	136	38
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
Hourly flow rate (vph)	38	447	118	81	600	19	165	166	75	20	146	41

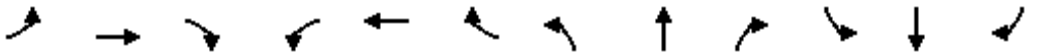
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	603	81	619	331	75	207
Volume Left (vph)	38	81	0	165	0	20
Volume Right (vph)	118	0	19	0	75	41
Hadj (s)	-0.07	0.53	0.01	0.28	-0.67	-0.07
Departure Headway (s)	8.5	8.9	8.4	9.0	8.1	9.6
Degree Utilization, x	1.43	0.20	1.45	0.83	0.17	0.55
Capacity (veh/h)	428	398	440	395	439	360
Control Delay (s)	229.3	13.0	234.9	41.7	11.5	23.7
Approach Delay (s)	229.3	209.2		36.1		23.7
Approach LOS	F	F		E		C

Intersection Summary				
Delay	158.8			
Level of Service	F			
Intersection Capacity Utilization	97.1%	ICU Level of Service	F	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	290	479	54	25	645	65	66	744	41	31	556	451
Future Volume (vph)	290	479	54	25	645	65	66	744	41	31	556	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98			0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1702	1764			3359		1711	3379		1711	3139	
Flt Permitted	0.16	1.00			0.64		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	294	1764			2158		1711	3379		1711	3139	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	312	515	58	27	694	70	71	800	44	33	598	485
RTOR Reduction (vph)	0	4	0	0	7	0	0	4	0	0	147	0
Lane Group Flow (vph)	312	569	0	0	784	0	71	840	0	33	936	0
Confl. Peds. (#/hr)	21		34	34		21			43			21
Confl. Bikes (#/hr)			5			1			14			15
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	87	523			640		289	1348		254	1189	
v/s Ratio Prot		0.32					0.04	c0.25		0.02	c0.30	
v/s Ratio Perm	c1.06				0.36							
v/c Ratio	3.59	1.09			1.22		0.25	0.62		0.13	0.79	
Uniform Delay, d1	35.1	35.1			35.1		36.0	24.0		36.9	27.5	
Progression Factor	1.00	1.00			1.00		1.10	1.12		1.43	0.89	
Incremental Delay, d2	1191.8	65.2			114.7		1.4	1.5		0.4	2.1	
Delay (s)	1227.0	100.4			149.9		40.9	28.3		53.3	26.7	
Level of Service	F	F			F		D	C		D	C	
Approach Delay (s)		497.5			149.9			29.3			27.5	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	166.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	116.5%	ICU Level of Service	H
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)	23	98	0	0	1368	26	548	158	906	0	0	594
Future Volume (vph)	23	98	0	0	1368	26	548	158	906	0	0	594
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			1.00		1.00	0.87				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3388			4902		1711	2987				2694
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2495			4902		1711	2987				2694
Peak-hour factor, PHF	0.92	0.96	0.96	0.96	0.96	0.92	0.96	0.92	0.96	0.92	0.92	0.92
Adj. Flow (vph)	25	102	0	0	1425	28	571	172	944	0	0	646
RTOR Reduction (vph)	0	0	0	0	2	0	0	759	0	0	0	403
Lane Group Flow (vph)	0	127	0	0	1451	0	571	357	0	0	0	243
Confl. Peds. (#/hr)							1					
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		52.0			52.0		31.0	20.0				31.0
Effective Green, g (s)		52.0			52.0		31.0	20.0				31.0
Actuated g/C Ratio		0.46			0.46		0.27	0.18				0.27
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		1138			2236		465	524				732
v/s Ratio Prot					c0.30		c0.33	c0.12				
v/s Ratio Perm		0.05										0.09
v/c Ratio		0.11			0.65		1.23	0.92dr				0.33
Uniform Delay, d1		17.8			24.0		41.5	44.0				33.2
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			1.5		120.4	7.0				1.2
Delay (s)		18.0			25.4		161.9	51.0				34.4
Level of Service		B			C		F	D				C
Approach Delay (s)		18.0			25.4			88.5			34.4	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	53.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		

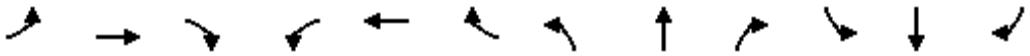
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	121	644	1166	85	0	0
Future Volume (vph)	121	644	1166	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.98	0.97	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.90	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1501	1409	3319	1801		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1501	1409	3319	1801		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	123	657	1190	87	0	0
RTOR Reduction (vph)	26	26	0	0	0	0
Lane Group Flow (vph)	373	355	1190	87	0	0
Confl. Peds. (#/hr)		4	5			
Confl. Bikes (#/hr)		24				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	21.0	21.0	29.0	60.0		
Effective Green, g (s)	21.0	21.0	29.0	60.0		
Actuated g/C Ratio	0.35	0.35	0.48	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	525	493	1604	1801		
v/s Ratio Prot	0.25		c0.36	0.05		
v/s Ratio Perm		c0.25				
v/c Ratio	0.71	0.72	0.74	0.05		
Uniform Delay, d1	16.9	16.9	12.5	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	7.9	8.8	3.1	0.1		
Delay (s)	24.8	25.7	15.6	0.1		
Level of Service	C	C	B	A		
Approach Delay (s)	25.3			14.6	0.0	
Approach LOS	C			B	A	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

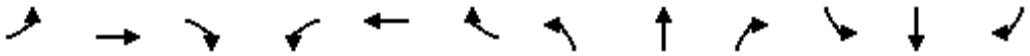
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	25	43	72	59	29	0	886	46	0	786	38
Future Volume (vph)	46	25	43	72	59	29	0	886	46	0	786	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1200	1200	1200	1200	1200	1200
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.95			0.98			0.99			0.99	
Flpb, ped/bikes		0.97			0.96			1.00			1.00	
Frt		0.95			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1217			1268			1785			1787	
Flt Permitted		0.81			0.79			1.00			1.00	
Satd. Flow (perm)		1000			1028			1785			1787	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	47	26	44	73	60	30	0	904	47	0	802	39
RTOR Reduction (vph)	0	25	0	0	10	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	92	0	0	153	0	0	948	0	0	838	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.5			19.5			70.6			70.6	
Effective Green, g (s)		19.5			19.5			70.6			70.6	
Actuated g/C Ratio		0.20			0.20			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			200			1260			1261	
v/s Ratio Prot								c0.53			0.47	
v/s Ratio Perm		0.09			c0.15							
v/c Ratio		0.47			0.77			0.75			0.66	
Uniform Delay, d1		35.7			38.1			9.2			8.1	
Progression Factor		1.00			1.00			0.60			0.36	
Incremental Delay, d2		1.8			16.0			0.4			2.0	
Delay (s)		37.5			54.1			5.9			4.9	
Level of Service		D			D			A			A	
Approach Delay (s)		37.5			54.1			5.9			4.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	75.6%	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)	331	159	178	8	222	16	199	643	5	25	502	289
Future Volume (vph)	331	159	178	8	222	16	199	643	5	25	502	289
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.94	
Flpb, ped/bikes	0.98	1.00		0.94	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1192	1976		1141	1255		1215	2426		1215	2152	
Flt Permitted	0.34	1.00		0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	428	1976		648	1255		1215	2426		1215	2152	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	348	167	187	8	234	17	209	677	5	26	528	304
RTOR Reduction (vph)	0	123	0	0	3	0	0	1	0	0	82	0
Lane Group Flow (vph)	348	231	0	8	248	0	209	681	0	26	750	0
Confl. Peds. (#/hr)	100		100	100		100			100			100
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	34.3	34.3		23.3	23.3		15.9	45.6		3.8	33.5	
Effective Green, g (s)	34.3	34.3		23.3	23.3		15.9	45.6		3.8	33.5	
Actuated g/C Ratio	0.34	0.34		0.23	0.23		0.16	0.46		0.04	0.34	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	677		150	292		193	1106		46	720	
v/s Ratio Prot	c0.10	0.12			0.20		c0.17	0.28		0.02	c0.35	
v/s Ratio Perm	c0.52			0.01								
v/c Ratio	1.83	0.34		0.05	0.85		1.08	0.62		0.57	1.04	
Uniform Delay, d1	33.5	24.4		29.8	36.7		42.0	20.6		47.3	33.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.28	1.27	
Incremental Delay, d2	394.0	0.3		0.1	19.9		88.6	2.6		11.6	40.8	
Delay (s)	427.6	24.7		29.9	56.6		130.7	23.2		72.2	83.2	
Level of Service	F	C		C	E		F	C		E	F	
Approach Delay (s)		224.4			55.8			48.4			82.9	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	105.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	114.8%	ICU Level of Service	H
Analysis Period (min)	15		

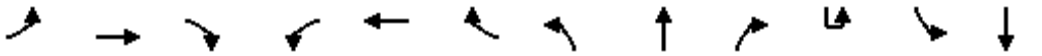
c Critical Lane Group

Intersection LOS Calculations

Baseline Plus Project

Maximum Residential Scenario

FEHR PEERS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	113	4	168	0	5	3	124	1140	2	10	16	1080
Future Volume (vph)	113	4	168	0	5	3	124	1140	2	10	16	1080
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5			5.9	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95			1.00	0.95
Frpb, ped/bikes	1.00	0.97			0.99		1.00	1.00			1.00	1.00
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.85			0.95		1.00	1.00			1.00	1.00
Flt Protected	0.95	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (prot)	1501	1341			1517		1540	2846			1540	3079
Flt Permitted	0.75	1.00			1.00		0.95	1.00			0.95	1.00
Satd. Flow (perm)	1189	1341			1517		1540	2846			1540	3079
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	4	177	0	5	3	131	1200	2	11	17	1137
RTOR Reduction (vph)	0	116	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	119	65	0	0	6	0	131	1202	0	0	28	1137
Confl. Peds. (#/hr)	29		22	22		29			125			
Confl. Bikes (#/hr)									145			
Parking (#/hr)								10	10			
Turn Type	Perm	NA			NA		Prot	NA		Prot	Prot	NA
Protected Phases		4			8		5	2		1	1	6
Permitted Phases	4			8								
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5			15.1	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5			15.1	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34			0.14	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5			5.9	5.2
Lane Grp Cap (vph)	411	464			525		231	970			211	1030
v/s Ratio Prot		0.05			0.00		0.09	c0.42			0.02	c0.37
v/s Ratio Perm	c0.10											
v/c Ratio	0.29	0.14			0.01		0.57	1.24			0.13	1.10
Uniform Delay, d1	26.1	24.7			23.6		43.4	36.2			41.7	36.6
Progression Factor	1.00	1.00			1.00		0.90	0.81			1.00	1.00
Incremental Delay, d2	1.8	0.6			0.0		4.3	111.6			1.3	61.0
Delay (s)	27.9	25.3			23.6		43.3	141.1			43.0	97.6
Level of Service	C	C			C		D	F			D	F
Approach Delay (s)		26.4			23.6			131.5				92.9
Approach LOS		C			C			F				F

Intersection Summary			
HCM 2000 Control Delay	103.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	55
Future Volume (vph)	55
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.2
Lane Util. Factor	1.00
Frpb, ped/bikes	0.71
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	976
Flt Permitted	1.00
Satd. Flow (perm)	976
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	58
RTOR Reduction (vph)	39
Lane Group Flow (vph)	19
Confl. Peds. (#/hr)	88
Confl. Bikes (#/hr)	148
Parking (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	36.8
Effective Green, g (s)	36.8
Actuated g/C Ratio	0.33
Clearance Time (s)	5.2
Lane Grp Cap (vph)	326
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.06
Uniform Delay, d1	24.9
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	25.2
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	142	18	1	16	1103	3	1159	151
Future Volume (vph)	142	18	1	16	1103	3	1159	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9		6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.93		1.00	1.00	1.00	1.00	0.74
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1309	1090		1540	3079	1540	3079	1018
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1309	1090		1540	3079	1540	3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	153	19	1	17	1186	3	1246	162
RTOR Reduction (vph)	0	8	0	0	0	0	0	47
Lane Group Flow (vph)	153	11	0	18	1186	3	1246	115
Confl. Peds. (#/hr)	49	67						214
Confl. Bikes (#/hr)								137
Parking (#/hr)	10	10						
Turn Type	Prot	Perm	Prot	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	5	2	1	6	
Permitted Phases		4						6
Actuated Green, G (s)	38.1	38.1		15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1		15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35		0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9		6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	453	377		215	1226	140	1035	342
v/s Ratio Prot	c0.12			0.01	c0.39	0.00	c0.40	
v/s Ratio Perm		0.01						0.11
v/c Ratio	0.34	0.03		0.08	0.97	0.02	1.20	0.34
Uniform Delay, d1	26.6	23.7		41.2	32.4	45.5	36.5	27.3
Progression Factor	1.00	1.00		0.59	0.58	0.71	0.57	0.32
Incremental Delay, d2	2.0	0.1		0.4	11.7	0.1	95.3	1.0
Delay (s)	28.6	23.9		24.8	30.5	32.2	116.3	9.7
Level of Service	C	C		C	C	C	F	A
Approach Delay (s)	28.1				30.4		103.9	
Approach LOS	C				C		F	

Intersection Summary			
HCM 2000 Control Delay	67.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	59	3	12	3	4	2	7	12	1064	4	4	14
Future Volume (vph)	59	3	12	3	4	2	7	12	1064	4	4	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600
Total Lost time (s)		7.0			7.0			7.0	7.0			5.8
Lane Util. Factor		1.00			1.00			1.00	0.95			1.00
Frpb, ped/bikes		0.99			0.99			1.00	1.00			1.00
Flpb, ped/bikes		0.97			0.99			1.00	1.00			1.00
Frt		0.98			0.97			1.00	1.00			1.00
Flt Protected		0.96			0.98			0.95	1.00			0.95
Satd. Flow (prot)		1472			1516			1540	3075			1296
Flt Permitted		0.79			0.95			0.27	1.00			0.43
Satd. Flow (perm)		1205			1464			432	3075			593
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	61	3	12	3	4	2	7	12	1108	4	4	15
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	70	0	0	8	0	0	20	1112	0	0	19
Confl. Peds. (#/hr)	39		36	36		39				84		
Confl. Bikes (#/hr)										96		
Turn Type	Perm	NA		Perm	NA		Perm	Prot	NA		Perm	Prot
Protected Phases		4			8			5	2			1
Permitted Phases	4			8			2				6	
Actuated Green, G (s)		38.0			38.0			15.0	43.0			9.2
Effective Green, g (s)		38.0			38.0			15.0	43.0			9.2
Actuated g/C Ratio		0.35			0.35			0.14	0.39			0.08
Clearance Time (s)		7.0			7.0			7.0	7.0			5.8
Lane Grp Cap (vph)		416			505			58	1202			49
v/s Ratio Prot									c0.36			
v/s Ratio Perm		c0.06			0.01			0.05				0.03
v/c Ratio		0.17			0.02			0.34	0.93			0.39
Uniform Delay, d1		25.0			23.7			43.0	32.0			47.7
Progression Factor		1.00			1.00			0.61	0.36			1.28
Incremental Delay, d2		0.9			0.1			7.5	7.2			2.1
Delay (s)		25.9			23.7			33.7	18.7			63.0
Level of Service		C			C			C	B			E
Approach Delay (s)		25.9			23.7				19.0			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	109.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

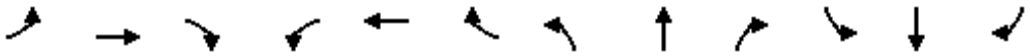
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1082	99
Future Volume (vph)	1082	99
Ideal Flow (vphpl)	1600	1600
Total Lost time (s)	5.4	
Lane Util. Factor	0.95	
Frpb, ped/bikes	0.98	
Flpb, ped/bikes	1.00	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	2504	
Flt Permitted	1.00	
Satd. Flow (perm)	2504	
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1127	103
RTOR Reduction (vph)	6	0
Lane Group Flow (vph)	1224	0
Confl. Peds. (#/hr)		103
Confl. Bikes (#/hr)		102
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	37.6	
Effective Green, g (s)	37.6	
Actuated g/C Ratio	0.34	
Clearance Time (s)	5.4	
Lane Grp Cap (vph)	855	
v/s Ratio Prot	c0.49	
v/s Ratio Perm		
v/c Ratio	1.43	
Uniform Delay, d1	36.2	
Progression Factor	0.11	
Incremental Delay, d2	194.9	
Delay (s)	198.8	
Level of Service	F	
Approach Delay (s)	196.7	
Approach LOS	F	

Intersection Summary

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	4	120	1046	4	1059	24	4	293
Future Volume (vph)	4	120	1046	4	1059	24	4	293
Ideal Flow (vphpl)	1900	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)		6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor		1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00
Frt		1.00	1.00	1.00	1.00		1.00	0.85
Flt Protected		0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)		1459	2917	1540	2680		1459	1144
Flt Permitted		0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)		1459	2917	1540	2680		1459	1144
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	4	124	1078	4	1092	25	4	302
RTOR Reduction (vph)	0	0	0	0	1	0	0	197
Lane Group Flow (vph)	0	128	1078	4	1116	0	4	105
Confl. Peds. (#/hr)						99	56	132
Confl. Bikes (#/hr)						89		
Parking (#/hr)					10	10		
Turn Type	Prot	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	5	2	1	6		4	
Permitted Phases								4
Actuated Green, G (s)		15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)		15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio		0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)		6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)		204	1188	117	886		506	397
v/s Ratio Prot		0.09	c0.37	0.00	c0.42		0.00	
v/s Ratio Perm								c0.09
v/c Ratio		0.63	0.91	0.03	1.26		0.01	0.26
Uniform Delay, d1		44.6	30.6	47.0	36.8		23.5	25.8
Progression Factor		0.63	0.78	0.42	0.23		1.00	1.00
Incremental Delay, d2		7.6	6.8	0.0	117.5		0.0	1.6
Delay (s)		35.7	30.6	19.8	126.1		23.5	27.4
Level of Service		D	C	B	F		C	C
Approach Delay (s)			31.2		125.8		27.4	
Approach LOS			C		F		C	

Intersection Summary			
HCM 2000 Control Delay	71.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		

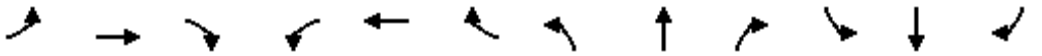
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	688	818	50	527	724	31	53	1131	433	0	0	0
Future Volume (vph)	688	818	50	527	724	31	53	1131	433	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3033		2987	3028			5547	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3033		2987	3028			5547	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	732	870	53	561	770	33	56	1203	461	0	0	0
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	218	0	0	0
Lane Group Flow (vph)	732	919	0	561	800	0	0	1259	243	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	19.8	37.2		14.4	33.3			38.0	38.0			
Effective Green, g (s)	19.8	37.2		14.4	33.3			38.0	38.0			
Actuated g/C Ratio	0.18	0.34		0.13	0.30			0.35	0.35			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	781	1025		391	916			1916	437			
v/s Ratio Prot	0.17	c0.30		c0.19	0.26							
v/s Ratio Perm								0.23	0.19			
v/c Ratio	0.94	0.90		1.43	0.87			0.66	0.56			
Uniform Delay, d1	44.5	34.6		47.8	36.4			30.5	29.2			
Progression Factor	0.92	0.92		1.10	0.31			1.29	2.28			
Incremental Delay, d2	2.5	1.3		197.0	1.0			0.6	1.1			
Delay (s)	43.6	33.1		249.5	12.4			39.9	67.8			
Level of Service	D	C		F	B			D	E			
Approach Delay (s)		37.7			109.9			47.4			0.0	
Approach LOS		D			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	62.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



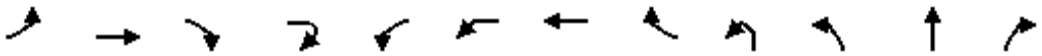
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	1333	52	51	760	27	46	54	35	87	1051	203
Future Volume (vph)	86	1333	52	51	760	27	46	54	35	87	1051	203
Ideal Flow (vphpl)	1500	1500	1500	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.99		1.00	0.98			1.00	0.71	1.00	0.99	0.58
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98	1.00	0.76	1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1215	3448		1459	2846			1467	911	1104	2764	669
Flt Permitted	0.95	1.00		0.95	1.00			0.24	1.00	0.69	1.00	1.00
Satd. Flow (perm)	1215	3448		1459	2846			357	911	800	2764	669
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	92	1433	56	55	817	29	49	58	38	94	1130	218
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	24	0	1	110
Lane Group Flow (vph)	92	1485	0	55	844	0	0	107	14	94	1151	86
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	11.5	38.0		12.0	36.9			40.1	40.1	41.1	41.1	41.1
Effective Green, g (s)	11.5	38.0		12.0	36.9			40.1	40.1	41.1	41.1	41.1
Actuated g/C Ratio	0.10	0.35		0.11	0.34			0.36	0.36	0.37	0.37	0.37
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	127	1191		159	954			130	332	298	1032	249
v/s Ratio Prot	0.08	c0.43		0.04	c0.30						c0.42	
v/s Ratio Perm								0.30	0.02	0.12		0.13
v/c Ratio	0.72	1.25		0.35	0.88			0.82	0.04	0.32	1.12	0.34
Uniform Delay, d1	47.7	36.0		45.4	34.5			31.7	22.6	24.5	34.5	24.8
Progression Factor	1.23	0.72		0.66	0.55			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	111.8		0.8	6.3			32.6	0.1	0.6	65.2	0.8
Delay (s)	60.8	137.7		30.5	25.5			64.3	22.6	25.1	99.7	25.6
Level of Service	E	F		C	C			E	C	C	F	C
Approach Delay (s)		133.3			25.8			53.4			84.7	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	89.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1719	93	0	882	111	10
Future Volume (vph)	1719	93	0	882	111	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3050			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3050			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1809	98	0	928	117	11
RTOR Reduction (vph)	3	0	0	0	0	7
Lane Group Flow (vph)	1904	0	0	928	117	4
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1721			1738	512	451
v/s Ratio Prot	c0.62			0.30	c0.08	
v/s Ratio Perm						0.00
v/c Ratio	1.11			0.53	0.23	0.01
Uniform Delay, d1	23.9			14.9	26.5	24.6
Progression Factor	1.00			2.13	1.00	1.00
Incremental Delay, d2	56.9			0.7	1.0	0.0
Delay (s)	80.8			32.4	27.5	24.6
Level of Service	F			C	C	C
Approach Delay (s)	80.8			32.4	27.3	
Approach LOS	F			C	C	

Intersection Summary			
HCM 2000 Control Delay	63.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	123	287	5	3	3	13	55	5	2	4	8	36
Future Volume (vph)	123	287	5	3	3	13	55	5	2	4	8	36
Ideal Flow (vphpl)	1900	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		1.00					1.00				0.96	
Flpb, ped/bikes		0.99					0.99				0.97	
Frt		1.00					0.99				0.90	
Flt Protected		0.99					0.99				0.99	
Satd. Flow (prot)		1490					1267				1089	
Flt Permitted		0.87					0.89				0.96	
Satd. Flow (perm)		1315					1135				1056	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	143	334	6	3	3	15	64	6	2	5	9	42
RTOR Reduction (vph)	0	0	0	0	0	0	3	0	0	0	29	0
Lane Group Flow (vph)	0	486	0	0	0	0	85	0	0	0	29	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		25.1					25.1				20.2	
Effective Green, g (s)		25.1					25.1				20.2	
Actuated g/C Ratio		0.38					0.38				0.30	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		493					425				318	
v/s Ratio Prot												
v/s Ratio Perm		c0.37					0.07				0.03	
v/c Ratio		0.99					0.20				0.09	
Uniform Delay, d1		20.7					14.1				16.8	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		36.5					0.2				0.1	
Delay (s)		57.3					14.3				16.9	
Level of Service		E					B				B	
Approach Delay (s)		57.3					14.3				16.9	
Approach LOS		E					B				B	

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	122	3	35	61	5	51	82	3
Future Volume (vph)	122	3	35	61	5	51	82	3
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.0		4.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	0.95	
Frpb, ped/bikes		0.90		0.62		1.00	0.83	
Flpb, ped/bikes		1.00		1.00		0.93	1.00	
Frt		0.96		0.85		0.96	0.85	
Flt Protected		0.96		1.00		0.96	1.00	
Satd. Flow (prot)		1218		768		1328	1028	
Flt Permitted		0.75		1.00		0.96	1.00	
Satd. Flow (perm)		947		768		1328	1028	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	142	3	41	71	6	59	95	3
RTOR Reduction (vph)	0	2	0	44	0	0	70	0
Lane Group Flow (vph)	0	191	0	20	0	85	8	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		21.2		21.2		6.6	6.6	
Effective Green, g (s)		21.2		21.2		6.6	6.6	
Actuated g/C Ratio		0.32		0.32		0.10	0.10	
Clearance Time (s)		4.0		4.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		300		243		131	101	
v/s Ratio Prot								
v/s Ratio Perm		c0.20		0.03		0.06	0.01	
v/c Ratio		0.64		0.08		0.65	0.08	
Uniform Delay, d1		19.6		16.0		29.0	27.4	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.4		0.1		10.6	0.3	
Delay (s)		23.9		16.2		39.6	27.7	
Level of Service		C		B		D	C	
Approach Delay (s)		22.0				33.9		
Approach LOS		C				C		

Intersection Summary

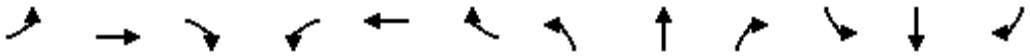
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	118	122	0	1	0	407	39	252	350	308	4
Future Volume (vph)	4	118	122	0	1	0	407	39	252	350	308	4
Ideal Flow (vphpl)	1900	1800	1800	1800	1900	1000	1000	1000	1800	1800	1800	1800
Total Lost time (s)			5.0				5.0	5.0	5.0	5.0		
Lane Util. Factor			1.00				*0.80	1.00	1.00	0.95		
Frpb, ped/bikes			1.00				1.00	0.91	1.00	0.96		
Flpb, ped/bikes			0.98				1.00	1.00	0.98	1.00		
Frt			1.00				1.00	0.85	1.00	0.93		
Flt Protected			0.98				1.00	1.00	0.95	1.00		
Satd. Flow (prot)			1246				2047	657	1435	2603		
Flt Permitted			0.56				0.94	1.00	0.70	1.00		
Satd. Flow (perm)			712				1923	657	1054	2603		
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	5	139	144	0	1	0	479	46	296	412	362	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	169	0	0
Lane Group Flow (vph)	0	0	288	0	0	0	480	46	296	605	0	0
Confl. Peds. (#/hr)		84		4		4		84	32		72	72
Confl. Bikes (#/hr)												
Parking (#/hr)		10	10									10
Turn Type	Perm	Perm	NA		Perm		NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2			6			6	8			4
Actuated Green, G (s)			18.0				18.0	18.0	32.0	32.0		
Effective Green, g (s)			18.0				18.0	18.0	32.0	32.0		
Actuated g/C Ratio			0.30				0.30	0.30	0.53	0.53		
Clearance Time (s)			5.0				5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)			213				576	197	562	1388		
v/s Ratio Prot										0.23		
v/s Ratio Perm			c0.40				0.25	0.07	c0.28			
v/c Ratio			1.35				0.83	0.23	0.53	0.44		
Uniform Delay, d1			21.0				19.6	15.8	9.1	8.5		
Progression Factor			1.00				1.00	1.00	1.00	1.00		
Incremental Delay, d2			186.1				13.3	2.8	3.5	1.0		
Delay (s)			207.1				32.9	18.6	12.6	9.5		
Level of Service			F				C	B	B	A		
Approach Delay (s)			207.1				31.6			10.4		
Approach LOS			F				C			B		

Intersection Summary			
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

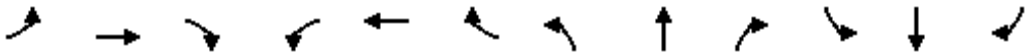
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	0	74
Future Volume (vph)	0	74
Ideal Flow (vphpl)	1800	1800
Total Lost time (s)	5.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.97	
Flpb, ped/bikes	1.00	
Frt	0.87	
Flt Protected	1.00	
Satd. Flow (prot)	1102	
Flt Permitted	0.97	
Satd. Flow (perm)	1068	
Peak-hour factor, PHF	0.85	0.85
Adj. Flow (vph)	0	87
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	92	0
Confl. Peds. (#/hr)		32
Confl. Bikes (#/hr)		1
Parking (#/hr)	10	10
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	32.0	
Effective Green, g (s)	32.0	
Actuated g/C Ratio	0.53	
Clearance Time (s)	5.0	
Lane Grp Cap (vph)	569	
v/s Ratio Prot		
v/s Ratio Perm	0.09	
v/c Ratio	0.16	
Uniform Delay, d1	7.1	
Progression Factor	1.00	
Incremental Delay, d2	0.6	
Delay (s)	7.8	
Level of Service	A	
Approach Delay (s)	7.8	
Approach LOS	A	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	611	15	0	65	35	1	372	120	309	53	0
Future Volume (vph)	246	611	15	0	65	35	1	372	120	309	53	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			0.90			0.97			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			0.95			0.97			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2678			1322			1441			1472	
Flt Permitted	0.95	1.00			1.00			1.00			0.39	
Satd. Flow (perm)	1459	2678			1322			1441			601	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	262	650	16	0	69	37	1	396	128	329	56	0
RTOR Reduction (vph)	0	2	0	0	25	0	0	12	0	0	0	0
Lane Group Flow (vph)	262	664	0	0	81	0	0	513	0	0	385	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10						10			
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	12.9	28.1			11.2			41.2			40.2	
Effective Green, g (s)	14.9	31.1			13.2			44.2			44.2	
Actuated g/C Ratio	0.19	0.39			0.16			0.55			0.55	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	270	1037			217			793			330	
v/s Ratio Prot	c0.18	c0.25			0.06							
v/s Ratio Perm								0.36			c0.64	
v/c Ratio	0.97	0.64			0.37			0.65			1.17	
Uniform Delay, d1	32.5	20.0			29.9			12.6			18.0	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	46.4	1.3			1.1			1.8			102.8	
Delay (s)	78.9	21.3			30.9			14.4			120.9	
Level of Service	E	C			C			B			F	
Approach Delay (s)		37.6			30.9			14.4			120.9	
Approach LOS		D			C			B			F	

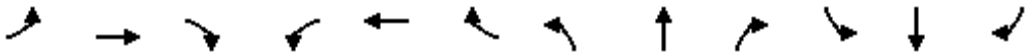
Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	254	319	59	22	260	68	15	281	24	68	407	154
Future Volume (vph)	254	319	59	22	260	68	15	281	24	68	407	154
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.98			0.98			0.99			0.95	
Flpb, ped/bikes		0.99			1.00			1.00			0.99	
Frt		0.99			0.97			0.99			0.96	
Flt Protected		0.98			1.00			1.00			0.99	
Satd. Flow (prot)		2525			2559			2808			2440	
Flt Permitted		0.66			0.90			0.92			0.87	
Satd. Flow (perm)		1697			2302			2584			2136	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	295	371	69	26	302	79	17	327	28	79	473	179
RTOR Reduction (vph)	0	13	0	0	35	0	0	10	0	0	52	0
Lane Group Flow (vph)	0	722	0	0	372	0	0	362	0	0	679	0
Confl. Peds. (#/hr)	93		138	138		93	250		186	186		250
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	5	0	0	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		791			1074			1205			961	
v/s Ratio Prot												
v/s Ratio Perm		c0.43			0.16			0.14			c0.32	
v/c Ratio		1.02dl			0.35			0.30			0.71	
Uniform Delay, d1		14.9			10.2			9.9			13.3	
Progression Factor		1.00			1.00			1.00			0.50	
Incremental Delay, d2		16.7			0.9			0.6			3.8	
Delay (s)		31.6			11.1			10.6			10.5	
Level of Service		C			B			B			B	
Approach Delay (s)		31.6			11.1			10.6			10.5	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

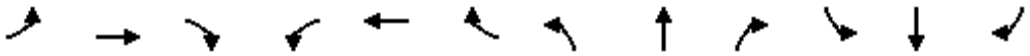
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	393	549	42	0	0	0	0	426	119	42	557	0
Future Volume (vph)	393	549	42	0	0	0	0	426	119	42	557	0
Ideal Flow (vphpl)	1400	1400	1400	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0			2.0	
Lane Util. Factor	0.97	0.91						0.95			0.95	
Frpb, ped/bikes	1.00	1.00						0.93			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			0.99	
Frt	1.00	0.99						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	2036	3049						2624			2665	
Flt Permitted	0.95	1.00						1.00			0.89	
Satd. Flow (perm)	2036	3049						2624			2390	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	418	584	45	0	0	0	0	453	127	45	593	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	43	0	0	0	0
Lane Group Flow (vph)	418	614	0	0	0	0	0	537	0	0	638	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Parking (#/hr)	10	10	10								10	
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2									4		
Actuated Green, G (s)	27.0	27.0						26.0			26.0	
Effective Green, g (s)	28.5	28.5						27.5			27.5	
Actuated g/C Ratio	0.48	0.48						0.46			0.46	
Clearance Time (s)	3.5	3.5						3.5			3.5	
Lane Grp Cap (vph)	967	1448						1202			1095	
v/s Ratio Prot		0.20						0.20				
v/s Ratio Perm	c0.21										c0.27	
v/c Ratio	0.43	0.42						0.45			0.58	
Uniform Delay, d1	10.4	10.4						11.1			12.0	
Progression Factor	0.50	0.46						1.03			1.00	
Incremental Delay, d2	1.3	0.8						1.0			2.3	
Delay (s)	6.5	5.6						12.4			14.3	
Level of Service	A	A						B			B	
Approach Delay (s)		6.0			0.0			12.4			14.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

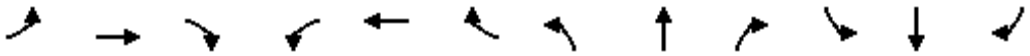
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1061	786	0	0	0	0	0	1684	269	0	0	0
Future Volume (vph)	1061	786	0	0	0	0	0	1684	269	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	0.91						0.91	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.78			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	2830	4052						3982	1015			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	2830	4052						3982	1015			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1105	819	0	0	0	0	0	1754	280	0	0	0
RTOR Reduction (vph)	16	0	0	0	0	0	0	0	75	0	0	0
Lane Group Flow (vph)	1089	819	0	0	0	0	0	1754	205	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	28.3	28.3						22.3	22.3			
Effective Green, g (s)	29.8	29.8						23.8	23.8			
Actuated g/C Ratio	0.50	0.50						0.40	0.40			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	1405	2012						1579	402			
v/s Ratio Prot		0.20						c0.44				
v/s Ratio Perm	c0.39								0.20			
v/c Ratio	0.78	0.41						1.11	0.51			
Uniform Delay, d1	12.4	9.5						18.1	13.7			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	4.2	0.6						59.5	4.6			
Delay (s)	16.6	10.1						77.6	18.3			
Level of Service	B	B						E	B			
Approach Delay (s)		13.9			0.0			69.4			0.0	
Approach LOS		B			A			E			A	

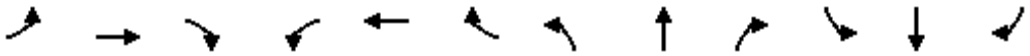
Intersection Summary			
HCM 2000 Control Delay	42.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



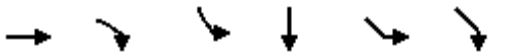
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1091	161	210	1929	186	0	0	0
Future Volume (vph)	0	0	0	0	1091	161	210	1929	186	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.98		1.00	1.00	0.48			
Flpb, ped/bikes					1.00		0.80	1.00	1.00			
Frt					0.98		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4011		1168	4191	621			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4011		1168	4191	621			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1161	171	223	2052	198	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	59	0	79	0	0	0
Lane Group Flow (vph)	0	0	0	0	1332	0	164	2052	119	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1570		535	1920	279			
v/s Ratio Prot					c0.33			c0.49				
v/s Ratio Perm							0.14		0.19			
v/c Ratio					0.85		0.31	1.07	0.43			
Uniform Delay, d1					16.6		10.2	16.2	11.2			
Progression Factor					1.00		1.20	1.09	1.40			
Incremental Delay, d2					5.9		0.4	34.4	1.2			
Delay (s)					22.5		12.6	52.0	16.9			
Level of Service					C		B	D	B			
Approach Delay (s)		0.0			22.5			45.6			0.0	
Approach LOS		A			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1032	259	207	1976	0	0	0	0
Future Volume (vph)	0	0	0	0	1032	259	207	1976	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0		-1.1	-1.1				
Lane Util. Factor					0.86		0.81	0.81				
Frpb, ped/bikes					0.94		1.00	1.00				
Flpb, ped/bikes					1.00		0.68	1.00				
Frt					0.97		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4267		583	3579				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4267		583	3579				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1098	276	220	2102	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1372	0	198	2124	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Perm	NA				
Protected Phases					6			8				
Permitted Phases							8					
Actuated Green, G (s)					22.0		23.1	23.1				
Effective Green, g (s)					24.5		29.6	29.6				
Actuated g/C Ratio					0.41		0.49	0.49				
Clearance Time (s)					9.5		5.4	5.4				
Lane Grp Cap (vph)					1742		287	1765				
v/s Ratio Prot					c0.32							
v/s Ratio Perm							0.34	0.59				
v/c Ratio					0.79		0.69	1.20				
Uniform Delay, d1					15.5		11.7	15.2				
Progression Factor					1.00		0.56	0.50				
Incremental Delay, d2					3.7		1.2	92.1				
Delay (s)					19.2		7.7	99.7				
Level of Service					B		A	F				
Approach Delay (s)		0.0			19.2			91.8			0.0	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	64.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

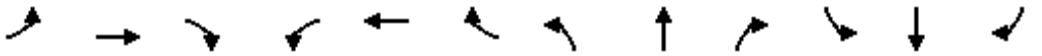


Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	508	297	85	1134	1253	109
Future Volume (vph)	508	297	85	1134	1253	109
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	0.91	0.94	0.86
Frpb, ped/bikes	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5607		1459	3982	4120	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5607		1459	3982	4120	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	558	326	93	1246	1377	120
RTOR Reduction (vph)	118	0	68	0	0	0
Lane Group Flow (vph)	766	0	25	1246	1389	108
Confl. Peds. (#/hr)		24	528			
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	20.5		21.8	21.8	27.5	27.5
Effective Green, g (s)	22.5		23.8	23.8	31.5	31.5
Actuated g/C Ratio	0.25		0.26	0.26	0.35	0.35
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1401		385	1053	1442	392
v/s Ratio Prot	c0.14		0.02	c0.31	c0.34	
v/s Ratio Perm						0.10
v/c Ratio	0.55		0.06	1.18	0.96	0.28
Uniform Delay, d1	29.3		24.8	33.1	28.7	21.0
Progression Factor	1.00		1.80	0.88	1.00	1.00
Incremental Delay, d2	1.5		0.2	89.9	16.4	1.7
Delay (s)	30.9		44.9	119.1	45.1	22.8
Level of Service	C		D	F	D	C
Approach Delay (s)	30.9			113.9	43.5	
Approach LOS	C			F	D	

Intersection Summary			
HCM 2000 Control Delay	65.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	119	659	509	871	436	150
Future Volume (vph)	119	659	509	871	436	150
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)		5.4	2.4	5.7	2.7	2.7
Lane Util. Factor		0.81	0.81	0.91	0.91	1.00
Frpb, ped/bikes		1.00	1.00	1.00	0.96	0.96
Flpb, ped/bikes		0.97	0.99	1.00	1.00	1.00
Frt		1.00	1.00	0.99	0.85	0.85
Flt Protected		0.95	0.98	1.00	1.00	1.00
Satd. Flow (prot)		1021	4815	2277	1015	1115
Flt Permitted		0.95	0.98	1.00	1.00	1.00
Satd. Flow (perm)		1021	4815	2277	1015	1115
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	125	694	536	917	459	158
RTOR Reduction (vph)	0	0	0	0	0	71
Lane Group Flow (vph)	0	410	945	963	413	87
Confl. Peds. (#/hr)	17	17				
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)		32.6	32.6	46.3	46.3	46.3
Effective Green, g (s)		32.6	35.6	46.3	49.3	49.3
Actuated g/C Ratio		0.36	0.40	0.51	0.55	0.55
Clearance Time (s)		5.4	5.4	5.7	5.7	5.7
Lane Grp Cap (vph)		369	1904	1171	555	610
v/s Ratio Prot				c0.42		
v/s Ratio Perm		c0.40	0.20		0.41	0.08
v/c Ratio		1.11	0.50	0.82	0.74	0.14
Uniform Delay, d1		28.7	20.5	18.4	15.5	10.0
Progression Factor		1.00	1.00	1.78	2.00	6.37
Incremental Delay, d2		80.4	0.9	5.5	7.3	0.4
Delay (s)		109.1	21.4	38.1	38.4	64.0
Level of Service		F	C	D	D	E
Approach Delay (s)			47.9	40.9		
Approach LOS			D	D		

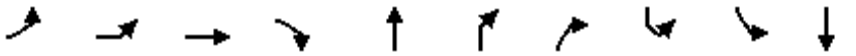
Intersection Summary			
HCM 2000 Control Delay	44.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	385	899	0	0	0	0	0	955	175
Future Volume (vph)	0	0	0	385	899	0	0	0	0	0	955	175
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.99	0.70
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4941						4910	736
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4941						4910	736
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	405	946	0	0	0	0	0	1005	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	259	1092	0	0	0	0	0	1023	166
Confl. Peds. (#/hr)												321
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				30.0	30.0						28.0	28.0
Effective Green, g (s)				31.5	31.5						30.0	30.0
Actuated g/C Ratio				0.35	0.35						0.33	0.33
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				413	1729						1636	245
v/s Ratio Prot				0.22	c0.22						0.21	
v/s Ratio Perm												c0.23
v/c Ratio				0.63	0.63						0.63	0.68
Uniform Delay, d1				24.4	24.4						25.3	25.8
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				7.0	1.8						1.8	14.1
Delay (s)				31.4	26.2						27.1	39.9
Level of Service				C	C						C	D
Approach Delay (s)		0.0			27.2			0.0			28.9	
Approach LOS		A			C			A			C	

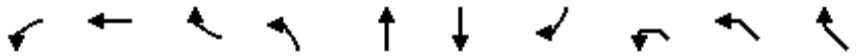
Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	92	276	542	112	288	201	69	116	242	451
Future Volume (vph)	92	276	542	112	288	201	69	116	242	451
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.98		0.95		0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00		1.00	1.00
Frt		1.00	0.98		0.94		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	0.99
Satd. Flow (prot)		2363	3342		2453		1163		1327	2532
Flt Permitted		0.95	1.00		1.00		1.00		0.30	0.70
Satd. Flow (perm)		2363	3342		2453		1163		416	1779
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	99	297	583	120	310	216	74	125	260	485
RTOR Reduction (vph)	0	0	31	0	1	0	49	0	0	0
Lane Group Flow (vph)	0	366	702	0	532	0	18	0	255	615
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Split	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases	2	2	2		8			7	7	4
Permitted Phases							8	4	4	
Actuated Green, G (s)		16.5	16.5		20.0		20.0		33.0	33.0
Effective Green, g (s)		16.5	19.0		21.5		20.0		34.5	34.5
Actuated g/C Ratio		0.22	0.25		0.29		0.27		0.46	0.46
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		519	846		703		310		318	923
v/s Ratio Prot		0.15	c0.21		0.22				c0.11	0.09
v/s Ratio Perm							0.02		c0.26	0.21
v/c Ratio		0.71	0.83		0.76		0.06		0.80	0.67
Uniform Delay, d1		27.0	26.5		24.4		20.5		21.9	15.8
Progression Factor		1.00	1.00		1.00		1.00		0.77	0.74
Incremental Delay, d2		7.8	9.2		7.4		0.4		5.6	1.0
Delay (s)		34.8	35.7		31.8		20.8		22.6	12.7
Level of Service		C	D		C		C		C	B
Approach Delay (s)			35.4		30.6					15.6
Approach LOS			D		C					B

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



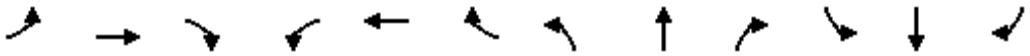
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	43	493	115	45	327	562	200	375	444	289
Future Volume (vph)	43	493	115	45	327	562	200	375	444	289
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.97			1.00	0.95			0.99	0.80
Flpb, ped/bikes		1.00			0.99	1.00			0.79	1.00
Frt		0.97			1.00	0.96			0.99	0.85
Flt Protected		1.00			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5648			2855	2445			3200	902
Flt Permitted		1.00			0.71	1.00			0.95	1.00
Satd. Flow (perm)		5648			2034	2445			3200	902
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	45	519	121	47	344	592	211	395	467	304
RTOR Reduction (vph)	0	52	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	633	0	0	391	785	0	0	898	268
Confl. Peds. (#/hr)			159	185			97		185	159
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10	10			10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		22.0			20.0	20.0			19.0	19.0
Effective Green, g (s)		24.0			23.0	23.0			22.0	22.0
Actuated g/C Ratio		0.32			0.31	0.31			0.29	0.29
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1807			623	749			938	264
v/s Ratio Prot						c0.32				
v/s Ratio Perm		0.11			0.19				0.28	c0.30
v/c Ratio		0.35			0.63	1.05			1.19dl	1.02
Uniform Delay, d1		19.5			22.3	26.0			26.0	26.5
Progression Factor		1.00			0.88	1.00			1.00	1.00
Incremental Delay, d2		0.5			3.1	46.2			20.7	59.3
Delay (s)		20.1			22.8	72.2			46.8	85.8
Level of Service		C			C	E			D	F
Approach Delay (s)		20.1			22.8	72.2			55.7	
Approach LOS		C			C	E			E	

Intersection Summary			
HCM 2000 Control Delay	47.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

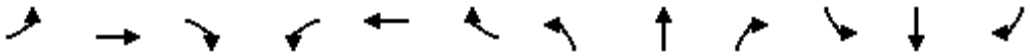
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	257	1246	1	171	467
Future Volume (vph)	5	257	1246	1	171	467
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3078		1521	3079
Flt Permitted	0.95	1.00	1.00		0.15	1.00
Satd. Flow (perm)	1540	1378	3078		234	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	286	1384	1	190	519
RTOR Reduction (vph)	0	32	0	0	0	0
Lane Group Flow (vph)	6	254	1385	0	190	519
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2093		159	2093
v/s Ratio Prot	0.00		0.45			0.17
v/s Ratio Perm		c0.18			c0.81	
v/c Ratio	0.02	0.79	0.66		1.19	0.25
Uniform Delay, d1	32.5	39.7	10.2		17.6	6.8
Progression Factor	1.00	1.00	1.00		2.51	0.48
Incremental Delay, d2	0.1	18.1	1.7		93.6	0.0
Delay (s)	32.6	57.8	11.9		137.8	3.3
Level of Service	C	E	B		F	A
Approach Delay (s)	57.2		11.9			39.3
Approach LOS	E		B			D

Intersection Summary			
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	158.3%	ICU Level of Service	H
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)	17	87	192	27	32	87	16	1132	119	59	372	38
Future Volume (vph)	17	87	192	27	32	87	16	1132	119	59	372	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1606	1342		1457		1459	2853		1540	3015	
Flt Permitted		0.94	1.00		0.94		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1530	1342		1377		1459	2853		1540	3015	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	98	216	30	36	98	18	1272	134	66	418	43
RTOR Reduction (vph)	0	0	147	0	54	0	0	8	0	0	8	0
Lane Group Flow (vph)	0	117	69	0	110	0	18	1398	0	66	454	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		491	430		442		215	1012		254	1130	
v/s Ratio Prot							0.01	c0.49		0.04	c0.15	
v/s Ratio Perm		0.08	0.05		c0.08							
v/c Ratio		0.24	0.16		0.25		0.08	1.38		0.26	0.40	
Uniform Delay, d1		25.0	24.3		25.1		36.8	32.2		36.4	23.0	
Progression Factor		1.00	1.00		1.00		1.61	0.71		1.00	1.00	
Incremental Delay, d2		1.1	0.8		1.3		0.1	172.3		2.5	1.1	
Delay (s)		26.1	25.1		26.4		59.3	195.1		38.9	24.1	
Level of Service		C	C		C		E	F		D	C	
Approach Delay (s)		25.5			26.4			193.4			25.9	
Approach LOS		C			C			F			C	

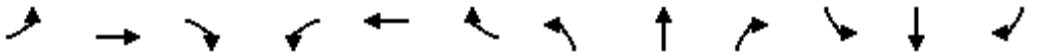
Intersection Summary			
HCM 2000 Control Delay	123.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	205	29	149	13	103	8	1224	123	44	538	15
Future Volume (vph)	20	205	29	149	13	103	8	1224	123	44	538	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	0.99		1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1345			1460		1418	2762		1540	3059	
Flt Permitted		0.96			0.58		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1296			864		1418	2762		1540	3059	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	225	32	164	14	113	9	1345	135	48	591	16
RTOR Reduction (vph)	0	5	0	0	23	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	274	0	0	268	0	9	1472	0	48	605	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		423			282		212	1019		229	1128	
v/s Ratio Prot							0.01	c0.53		0.03	c0.20	
v/s Ratio Perm		0.21			c0.31							
v/c Ratio		0.65			0.95		0.04	1.44		0.21	0.54	
Uniform Delay, d1		28.7			32.9		36.4	31.6		37.4	24.8	
Progression Factor		1.00			1.00		1.17	0.81		0.69	0.68	
Incremental Delay, d2		7.5			42.3		0.0	200.8		1.9	1.7	
Delay (s)		36.2			75.2		42.5	226.4		27.7	18.5	
Level of Service		D			E		D	F		C	B	
Approach Delay (s)		36.2			75.2			225.3			19.2	
Approach LOS		D			E			F			B	

Intersection Summary			
HCM 2000 Control Delay	140.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



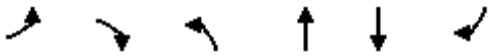
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	10	17	0	3	83	15	62	4	294	639	38
Future Volume (vph)	9	10	17	0	3	83	15	62	4	294	639	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.98			1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	0.94	1.00		1.00	1.00	
Frt		0.94			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1244			1621	1373	1220	1347		1296	1339	
Flt Permitted		0.93			1.00	1.00	0.77	1.00		0.95	1.00	
Satd. Flow (perm)		1172			1621	1373	988	1347		1296	1339	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	11	18	0	3	90	16	67	4	320	695	41
RTOR Reduction (vph)	0	17	0	0	0	38	0	4	0	0	2	0
Lane Group Flow (vph)	0	22	0	0	3	52	16	67	0	320	734	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA			NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		2.7			2.7	27.3	5.2	5.2		24.6	34.8	
Effective Green, g (s)		2.7			2.7	27.3	5.2	5.2		24.6	34.8	
Actuated g/C Ratio		0.06			0.06	0.57	0.11	0.11		0.52	0.73	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		66			92	933	108	147		671	980	
v/s Ratio Prot					0.00	0.03		0.05		0.25	c0.55	
v/s Ratio Perm		c0.02				0.01	0.02					
v/c Ratio		0.33			0.03	0.06	0.15	0.46		0.48	0.75	
Uniform Delay, d1		21.5			21.2	4.4	19.1	19.8		7.3	3.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0			0.1	0.0	0.6	2.3		0.5	3.2	
Delay (s)		24.5			21.3	4.5	19.8	22.1		7.9	6.9	
Level of Service		C			C	A	B	C		A	A	
Approach Delay (s)		24.5			5.0			21.7			7.2	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	47.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations							
Sign Control		Stop			Stop	Stop	
Traffic Volume (vph)	1	11	133	198	325	103	5
Future Volume (vph)	1	11	133	198	325	103	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	13	151	225	369	117	6

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	13	151	348	246	78	45
Volume Left (vph)	13	0	225	0	0	0
Volume Right (vph)	0	151	0	0	0	6
Hadj (s)	0.53	-0.67	0.36	0.03	0.03	-0.06
Departure Headway (s)	6.7	5.5	5.5	5.1	5.7	5.6
Degree Utilization, x	0.02	0.23	0.53	0.35	0.12	0.07
Capacity (veh/h)	500	609	645	681	604	613
Control Delay (s)	8.6	8.9	13.2	9.7	8.2	7.8
Approach Delay (s)	8.9		11.8		8.1	
Approach LOS	A		B		A	

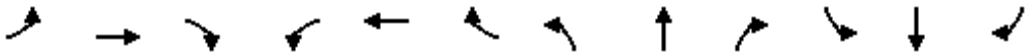
Intersection Summary			
Delay	10.7		
Level of Service	B		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	126	126	11	771	194	11
Future Volume (Veh/h)	126	126	11	771	194	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	152	152	13	929	234	13
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	746	138	259			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	746	138	259			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	56	83	99			
cM capacity (veh/h)	342	876	1291			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	304	323	619	156	91
Volume Left	152	13	0	0	0
Volume Right	152	0	0	0	13
cSH	492	1291	1700	1700	1700
Volume to Capacity	0.62	0.01	0.36	0.09	0.05
Queue Length 95th (ft)	103	1	0	0	0
Control Delay (s)	23.5	0.4	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	23.5	0.1		0.0	
Approach LOS	C				

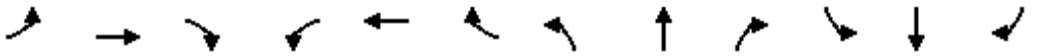
Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	517	230	209	1	121	68	403	925	43	88	319	334
Future Volume (vph)	517	230	209	1	121	68	403	925	43	88	319	334
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	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	0.95		1.00	0.99		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1525	1378	1136	1533	1518		2987	3051		1540	2782	
Flt Permitted	0.58	1.00	1.00	0.52	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	934	1378	1136	843	1518		2987	3051		1540	2782	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	550	245	222	1	129	72	429	984	46	94	339	355
RTOR Reduction (vph)	0	0	145	0	20	0	0	3	0	0	191	0
Lane Group Flow (vph)	550	245	77	1	181	0	429	1027	0	94	503	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	322	475	391	290	523		418	1153		184	995	
v/s Ratio Prot		0.18			0.12		0.14	c0.34		0.06	c0.18	
v/s Ratio Perm	c0.59		0.07	0.00								
v/c Ratio	1.71	0.52	0.20	0.00	0.35		1.03	0.89		0.51	0.51	
Uniform Delay, d1	32.8	26.1	23.0	21.5	24.4		43.0	29.2		41.2	25.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.72	0.80		0.65	0.30	
Incremental Delay, d2	331.6	4.0	1.1	0.0	1.8		37.5	5.5		7.7	1.4	
Delay (s)	364.3	30.1	24.1	21.5	26.2		68.4	28.8		34.5	8.9	
Level of Service	F	C	C	C	C		E	C		C	A	
Approach Delay (s)		209.5			26.1			40.4			11.9	
Approach LOS		F			C			D			B	

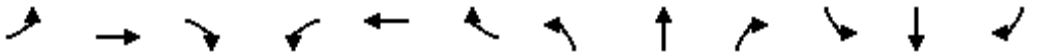
Intersection Summary			
HCM 2000 Control Delay	82.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	120.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	877	180	140	434	155	86	348	359	61	223	70
Future Volume (vph)	334	877	180	140	434	155	86	348	359	61	223	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1540	1378	1378	1540	1621	1341	1540	2845			3046	1344
Flt Permitted	0.95	1.00	1.00	0.11	1.00	1.00	0.54	1.00			0.60	1.00
Satd. Flow (perm)	1540	1378	1378	179	1621	1341	869	2845			1855	1344
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	371	974	196	152	482	172	93	378	390	68	242	78
RTOR Reduction (vph)	0	0	28	0	0	54	0	55	0	0	0	53
Lane Group Flow (vph)	371	974	168	152	482	118	93	713	0	0	310	25
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	14.1	55.4	55.4	36.3	36.3	36.3	31.6	31.6			30.6	30.6
Effective Green, g (s)	14.1	55.4	55.4	36.3	36.3	36.3	31.6	31.6			30.6	30.6
Actuated g/C Ratio	0.15	0.58	0.58	0.38	0.38	0.38	0.33	0.33			0.32	0.32
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	226	795	795	67	612	507	286	936			591	428
v/s Ratio Prot	c0.24	0.71			0.30			c0.25				
v/s Ratio Perm			0.12	c0.85		0.09	0.11				0.17	0.02
v/c Ratio	1.64	1.23	0.21	2.27	0.79	0.23	0.33	0.76			0.52	0.06
Uniform Delay, d1	41.0	20.3	9.8	29.9	26.4	20.4	24.2	28.8			26.7	22.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	307.8	112.4	0.1	615.5	6.6	0.2	0.7	3.7			0.8	0.1
Delay (s)	348.8	132.7	9.9	645.3	33.1	20.6	24.9	32.5			27.6	22.8
Level of Service	F	F	A	F	C	C	C	C			C	C
Approach Delay (s)		169.1			145.9			31.7			26.6	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	115.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	111.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



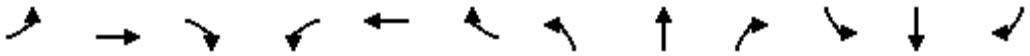
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	979	85	20	367	203	14	395	107	315	103	47
Future Volume (vph)	96	979	85	20	367	203	14	395	107	315	103	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.89		1.00	0.92	1.00	1.00	0.94	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	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1366	1042		1616	1273	1540	1621	1101	1540	1519	
Flt Permitted		0.51	1.00		0.38	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		694	1042		617	1273	1540	1621	1101	1540	1519	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	101	1031	89	21	386	214	15	416	113	332	108	49
RTOR Reduction (vph)	0	0	47	0	0	64	0	0	48	0	13	0
Lane Group Flow (vph)	0	1132	42	0	407	150	15	416	65	332	144	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.2	34.2		34.2	60.4	16.8	32.1	32.1	26.2	41.5	
Effective Green, g (s)		34.2	34.2		34.2	60.4	16.8	32.1	32.1	26.2	41.5	
Actuated g/C Ratio		0.32	0.32		0.32	0.56	0.16	0.30	0.30	0.24	0.39	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		220	331		196	774	240	484	328	375	586	
v/s Ratio Prot						0.05	0.01	c0.26		c0.22	0.09	
v/s Ratio Perm		c1.63	0.04		0.66	0.07			0.06			
v/c Ratio		5.15	0.13		2.08	0.19	0.06	0.86	0.20	0.89	0.25	
Uniform Delay, d1		36.6	26.0		36.6	11.6	38.6	35.6	28.1	39.2	22.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1875.6	0.2		501.5	0.1	0.1	14.1	0.3	21.2	0.2	
Delay (s)		1912.2	26.2		538.2	11.7	38.8	49.7	28.4	60.4	22.6	
Level of Service		F	C		F	B	D	D	C	E	C	
Approach Delay (s)		1774.7			356.8			45.0			48.3	
Approach LOS		F			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	847.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.44		
Actuated Cycle Length (s)	107.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	147.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBU	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	1	133	80	723	24	56	391
Future Volume (vph)	1	133	80	723	24	56	391
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1600	1600
Total Lost time (s)		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor		1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes		1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes		0.95	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)		1461	2424	1911	1133	1296	1092
Flt Permitted		0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)		1461	2424	1911	1133	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1	137	82	745	25	58	403
RTOR Reduction (vph)	0	0	69	0	4	0	0
Lane Group Flow (vph)	0	138	13	745	21	58	403
Confl. Peds. (#/hr)		50					
Confl. Bikes (#/hr)					31		
Turn Type	Perm	Prot	Perm	NA	custom	Prot	NA
Protected Phases		4		2 5	5	1	6
Permitted Phases	4		4		2		
Actuated Green, G (s)		13.5	13.5	47.7	42.7	7.7	60.4
Effective Green, g (s)		13.5	13.5	47.7	42.7	7.7	60.4
Actuated g/C Ratio		0.16	0.16	0.57	0.51	0.09	0.72
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		235	390	1086	644	118	786
v/s Ratio Prot				c0.39	0.01	0.04	c0.37
v/s Ratio Perm		0.09	0.01		0.01		
v/c Ratio		0.59	0.03	0.69	0.03	0.49	0.51
Uniform Delay, d1		32.6	29.7	12.8	10.3	36.2	5.2
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		3.7	0.0	1.8	0.0	3.2	0.6
Delay (s)		36.3	29.7	14.6	10.3	39.4	5.8
Level of Service		D	C	B	B	D	A
Approach Delay (s)		33.9		14.5			10.0
Approach LOS		C		B			B

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

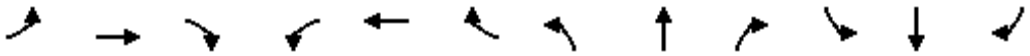
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	81	605	131	36	154	4	44	21	184	3	89	5
Future Volume (vph)	81	605	131	36	154	4	44	21	184	3	89	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	93	695	151	41	177	5	51	24	211	3	102	6

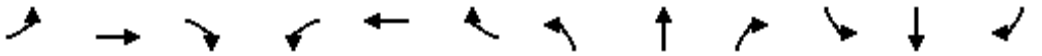
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	939	41	182	75	211	111
Volume Left (vph)	93	41	0	51	0	3
Volume Right (vph)	151	0	5	0	211	6
Hadj (s)	-0.04	0.53	0.01	0.37	-0.67	0.01
Departure Headway (s)	6.2	7.3	6.8	7.6	6.5	7.6
Degree Utilization, x	1.62	0.08	0.34	0.16	0.38	0.23
Capacity (veh/h)	570	473	510	461	535	449
Control Delay (s)	305.3	9.8	12.1	10.8	12.3	12.9
Approach Delay (s)	305.3	11.7		11.9		12.9
Approach LOS	F	B		B		B

Intersection Summary				
Delay	188.6			
Level of Service	F			
Intersection Capacity Utilization	74.6%	ICU Level of Service		D
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	326	647	38	7	187	13	147	995	102	72	344	147
Future Volume (vph)	326	647	38	7	187	13	147	995	102	72	344	147
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.96	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99			0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1732	1875			3368		1711	3345		1711	3233	
Flt Permitted	0.62	1.00			0.75		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1122	1875			2518		1711	3345		1711	3233	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	343	681	40	7	197	14	155	1047	107	76	362	155
RTOR Reduction (vph)	0	2	0	0	5	0	0	8	0	0	48	0
Lane Group Flow (vph)	343	719	0	0	213	0	155	1146	0	76	469	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	333	556			747		289	1334		254	1225	
v/s Ratio Prot		c0.38					0.09	c0.34		0.04	c0.15	
v/s Ratio Perm	0.31				0.08							
v/c Ratio	1.03	1.29			0.29		0.54	0.86		0.30	0.38	
Uniform Delay, d1	35.1	35.1			27.0		38.0	27.5		37.9	22.6	
Progression Factor	1.00	1.00			1.00		0.77	0.71		1.31	1.20	
Incremental Delay, d2	57.3	144.8			1.0		6.1	6.5		2.7	0.8	
Delay (s)	92.4	180.0			28.0		35.3	26.1		52.2	27.9	
Level of Service	F	F			C		D	C		D	C	
Approach Delay (s)		151.8			28.0			27.2			31.0	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	69.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	122.4%	ICU Level of Service	H
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)	102	140	0	0	502	40	817	828	1178	0	0	106
Future Volume (vph)	102	140	0	0	502	40	817	828	1178	0	0	106
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.99		1.00	0.91				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2820			4092		1350	3127				2694
Flt Permitted		0.61			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1760			4092		1350	3127				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	111	144	0	0	518	43	842	900	1214	0	0	115
RTOR Reduction (vph)	0	0	0	0	10	0	0	238	0	0	0	45
Lane Group Flow (vph)	0	255	0	0	551	0	842	1876	0	0	0	70
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		28.0			28.0		55.0	54.5				55.0
Effective Green, g (s)		28.0			28.0		55.0	54.5				55.0
Actuated g/C Ratio		0.31			0.31		0.61	0.61				0.61
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		547			1273		825	1893				1646
v/s Ratio Prot					0.13		c0.62	0.60				
v/s Ratio Perm		c0.14										0.03
v/c Ratio		0.47			0.43		1.02	1.04dr				0.04
Uniform Delay, d1		25.0			24.7		17.5	17.5				7.0
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		2.8			1.1		36.6	18.7				0.0
Delay (s)		27.8			25.7		54.1	36.2				7.0
Level of Service		C			C		D	D				A
Approach Delay (s)		27.8			25.7			41.3			7.0	
Approach LOS		C			C			D			A	

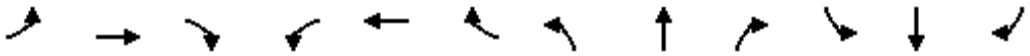
Intersection Summary			
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	136.5%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	117	1	441	981	0	0
Future Volume (vph)	117	1	441	981	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1540	1266	2987	1621		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1540	1266	2987	1621		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	1	455	1011	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	121	1	455	1011	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	45.0	45.0	5.0	60.0		
Effective Green, g (s)	45.0	45.0	5.0	60.0		
Actuated g/C Ratio	0.75	0.75	0.08	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	1155	949	248	1621		
v/s Ratio Prot	0.08		c0.15	c0.62		
v/s Ratio Perm		0.00				
v/c Ratio	0.10	0.00	1.83	0.62		
Uniform Delay, d1	2.0	1.9	27.5	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.2	0.0	390.9	1.8		
Delay (s)	2.2	1.9	418.4	1.8		
Level of Service	A	A	F	A		
Approach Delay (s)	2.2			131.1	0.0	
Approach LOS	A			F	A	

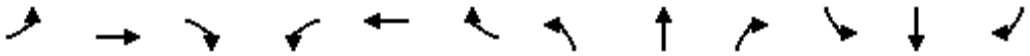
Intersection Summary			
HCM 2000 Control Delay	121.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	30	46	17	34	14	0	1150	57	0	406	30
Future Volume (vph)	43	30	46	17	34	14	0	1150	57	0	406	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.98			0.99			0.99	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.95			0.97			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1267			1328			2851			2834	
Flt Permitted		0.88			0.91			1.00			1.00	
Satd. Flow (perm)		1135			1225			2851			2834	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	44	31	47	17	35	14	0	1173	58	0	414	31
RTOR Reduction (vph)	0	28	0	0	12	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	94	0	0	54	0	0	1229	0	0	442	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		13.7			13.7			76.4			76.4	
Effective Green, g (s)		13.7			13.7			76.4			76.4	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		155			167			2178			2165	
v/s Ratio Prot								c0.43			0.16	
v/s Ratio Perm		c0.08			0.04							
v/c Ratio		0.61			0.32			0.56			0.20	
Uniform Delay, d1		40.6			39.0			4.9			3.3	
Progression Factor		1.00			1.00			1.30			0.31	
Incremental Delay, d2		6.6			1.1			0.6			0.2	
Delay (s)		47.2			40.1			6.9			1.2	
Level of Service		D			D			A			A	
Approach Delay (s)		47.2			40.1			6.9			1.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

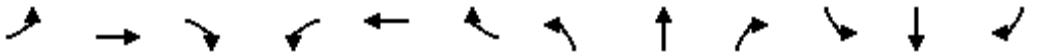
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	490	358	271	5	105	11	160	768	8	15	295	125
Future Volume (vph)	490	358	271	5	105	11	160	768	8	15	295	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1538	2684		1538	1595		1540	3074		1540	2877	
Flt Permitted	0.45	1.00		0.40	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	727	2684		648	1595		1540	3074		1540	2877	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	516	377	285	5	111	12	168	808	8	16	311	132
RTOR Reduction (vph)	0	138	0	0	4	0	0	1	0	0	50	0
Lane Group Flow (vph)	516	525	0	5	119	0	168	815	0	16	393	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	37.5	37.5		13.5	13.5		16.5	43.1		3.1	29.7	
Effective Green, g (s)	37.5	37.5		13.5	13.5		16.5	43.1		3.1	29.7	
Actuated g/C Ratio	0.38	0.38		0.14	0.14		0.16	0.43		0.03	0.30	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	424	1006		87	215		254	1324		47	854	
v/s Ratio Prot	c0.23	0.20			0.07		0.11	c0.27		0.01	c0.14	
v/s Ratio Perm	c0.23			0.01								
v/c Ratio	1.22	0.52		0.06	0.55		0.66	0.62		0.34	0.46	
Uniform Delay, d1	28.9	24.3		37.7	40.4		39.1	22.0		47.4	28.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.92	1.18	
Incremental Delay, d2	117.4	0.5		0.3	3.0		6.3	2.2		4.2	1.8	
Delay (s)	146.3	24.8		38.0	43.5		45.5	24.2		48.1	35.6	
Level of Service	F	C		D	D		D	C		D	D	
Approach Delay (s)		78.0			43.3			27.8			36.0	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	51.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	4	237	7	9	4	197	818	0	17	1110	76
Future Volume (vph)	36	4	237	7	9	4	197	818	0	17	1110	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			0.99		1.00	1.00		1.00	1.00	0.77
Flpb, ped/bikes	0.96	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85			0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1481	1335			1531		1540	3079		1296	2593	890
Flt Permitted	0.74	1.00			0.89		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1159	1335			1389		1540	3079		1296	2593	890
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	4	258	8	10	4	214	889	0	18	1207	83
RTOR Reduction (vph)	0	169	0	0	3	0	0	0	0	0	0	58
Lane Group Flow (vph)	39	93	0	0	19	0	214	889	0	18	1207	25
Confl. Peds. (#/hr)	45		24	24		45			173			77
Confl. Bikes (#/hr)			2						52			80
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Effective Green, g (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Actuated g/C Ratio	0.35	0.35			0.35		0.19	0.38		0.10	0.30	0.30
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	401	462			481		287	1161		130	773	265
v/s Ratio Prot		c0.07					0.14	c0.29		0.01	c0.47	
v/s Ratio Perm	0.03				0.01							0.03
v/c Ratio	0.10	0.20			0.04		0.75	0.77		0.14	1.56	0.09
Uniform Delay, d1	24.3	25.3			23.8		42.3	30.0		45.1	38.6	27.9
Progression Factor	1.00	1.00			1.00		0.91	0.93		1.00	1.00	1.00
Incremental Delay, d2	0.5	1.0			0.2		10.9	3.2		2.2	259.0	0.7
Delay (s)	24.8	26.3			24.0		49.3	30.9		47.3	297.6	28.6
Level of Service	C	C			C		D	C		D	F	C
Approach Delay (s)		26.1			24.0			34.5			277.1	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	149.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	98	24	32	921	5	951	379
Future Volume (vph)	98	24	32	921	5	951	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	1314	1540	3079	1540	3079	1134
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1540	1314	1540	3079	1540	3079	1134
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	105	26	34	990	5	1023	408
RTOR Reduction (vph)	0	16	0	0	0	0	144
Lane Group Flow (vph)	105	10	34	990	5	1023	264
Confl. Peds. (#/hr)	36	40					133
Confl. Bikes (#/hr)							92
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	533	455	215	1226	140	1035	381
v/s Ratio Prot	c0.07		0.02	c0.32	0.00	c0.33	
v/s Ratio Perm		0.01					0.23
v/c Ratio	0.20	0.02	0.16	0.81	0.04	0.99	0.69
Uniform Delay, d1	25.2	23.7	41.6	29.4	45.6	36.3	31.6
Progression Factor	1.00	1.00	0.51	0.88	0.79	0.69	1.03
Incremental Delay, d2	0.8	0.1	1.0	3.7	0.0	6.1	1.0
Delay (s)	26.0	23.8	22.4	29.5	36.2	31.1	33.3
Level of Service	C	C	C	C	D	C	C
Approach Delay (s)	25.6			29.3		31.8	
Approach LOS	C			C		C	

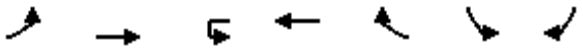
Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	105	6	16	3	5	6	10	43	890	3	2	847
Future Volume (vph)	105	6	16	3	5	6	10	43	890	3	2	847
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600
Total Lost time (s)		7.0			7.0			7.0	7.0		5.8	5.4
Lane Util. Factor		1.00			1.00			1.00	0.95		1.00	0.95
Frpb, ped/bikes		0.96			0.86			1.00	1.00		1.00	0.92
Flpb, ped/bikes		0.75			0.95			1.00	1.00		1.00	1.00
Frt		0.98			0.94			1.00	1.00		1.00	0.98
Flt Protected		0.96			0.99			0.95	1.00		0.95	1.00
Satd. Flow (prot)		1098			1231			1540	3073		1296	2317
Flt Permitted		0.75			0.96			0.95	1.00		0.95	1.00
Satd. Flow (perm)		860			1194			1540	3073		1296	2317
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	6	17	3	5	6	11	46	957	3	2	911
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	0	0	0	14
Lane Group Flow (vph)	0	131	0	0	10	0	0	57	960	0	2	1066
Confl. Peds. (#/hr)	400		400	400		400				400		
Confl. Bikes (#/hr)			30			30				30		
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0			15.0	43.0		9.2	37.6
Effective Green, g (s)		38.0			38.0			15.0	43.0		9.2	37.6
Actuated g/C Ratio		0.35			0.35			0.14	0.39		0.08	0.34
Clearance Time (s)		7.0			7.0			7.0	7.0		5.8	5.4
Lane Grp Cap (vph)		297			412			210	1201		108	791
v/s Ratio Prot								0.04	c0.31		0.00	c0.46
v/s Ratio Perm		c0.15			0.01							
v/c Ratio		0.44			0.02			0.27	0.80		0.02	1.35
Uniform Delay, d1		27.8			23.8			42.6	29.7		46.3	36.2
Progression Factor		1.00			1.00			0.75	0.60		1.97	0.61
Incremental Delay, d2		4.7			0.1			2.4	4.3		0.1	159.6
Delay (s)		32.5			23.9			34.2	22.2		91.2	181.6
Level of Service		C			C			C	C		F	F
Approach Delay (s)		32.5			23.9				22.9			181.4
Approach LOS		C			C				C			F

Intersection Summary			
HCM 2000 Control Delay	99.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	157
Future Volume (vph)	157
Ideal Flow (vphpl)	1600
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	169
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

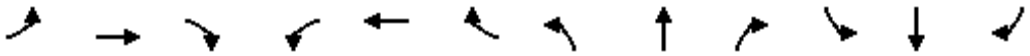
Intersection Summary



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	190	884	3	886	22	19	299
Future Volume (vph)	190	884	3	886	22	19	299
Ideal Flow (vphpl)	1900	1900	1900	1600	1600	1900	1900
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	0.68
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1540	3079	1540	2563		1540	931
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1540	3079	1540	2563		1540	931
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	911	3	913	23	20	308
RTOR Reduction (vph)	0	0	0	1	0	0	201
Lane Group Flow (vph)	196	911	3	935	0	20	107
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					10		30
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	215	1253	117	848		534	323
v/s Ratio Prot	0.13	c0.30	0.00	c0.36		0.01	
v/s Ratio Perm							c0.11
v/c Ratio	0.91	0.73	0.03	1.10		0.04	0.33
Uniform Delay, d1	46.6	27.5	47.0	36.8		23.7	26.5
Progression Factor	0.78	1.28	0.66	0.50		1.00	1.00
Incremental Delay, d2	31.1	2.4	0.0	48.0		0.1	2.7
Delay (s)	67.5	37.7	30.9	66.5		23.9	29.2
Level of Service	E	D	C	E		C	C
Approach Delay (s)		43.0		66.4		28.9	
Approach LOS		D		E		C	

Intersection Summary			
HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

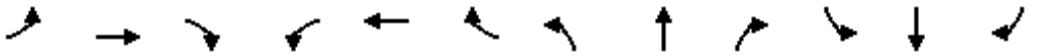
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	908	739	16	231	888	36	53	1689	369	0	0	0
Future Volume (vph)	908	739	16	231	888	36	53	1689	369	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	*0.97	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.68			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00			
Frt	1.00	1.00		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4480	3049		2987	3022			5514	942			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4480	3049		2987	3022			5514	942			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	936	762	16	238	915	37	55	1741	380	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	176	0	0	0
Lane Group Flow (vph)	936	777	0	238	952	0	0	1796	204	0	0	0
Confl. Peds. (#/hr)			400			400	400		400			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	741	1031		358	925			1964	335			
v/s Ratio Prot	c0.21	0.25		0.08	c0.32							
v/s Ratio Perm								0.33	0.22			
v/c Ratio	1.26	0.75		0.66	1.03			0.91	0.61			
Uniform Delay, d1	45.9	32.3		46.3	38.1			33.8	29.1			
Progression Factor	1.37	1.55		1.55	1.00			1.36	2.19			
Incremental Delay, d2	121.5	1.4		1.3	23.7			2.9	1.2			
Delay (s)	184.5	51.5		73.2	62.0			48.9	64.8			
Level of Service	F	D		E	E			D	E			
Approach Delay (s)		124.2			64.2			51.7			0.0	
Approach LOS		F			E			D			A	

Intersection Summary			
HCM 2000 Control Delay	79.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
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)	151	1521	59	26	907	19	61	98	104	38	606	301
Future Volume (vph)	151	1521	59	26	907	19	61	98	104	38	606	301
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.64	1.00	0.97	0.47
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.93	1.00	0.72	1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3652		1296	2553			1402	813	1044	2704	550
Flt Permitted	0.95	1.00		0.95	1.00			0.51	1.00	0.65	1.00	1.00
Satd. Flow (perm)	1296	3652		1296	2553			724	813	714	2704	550
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	154	1552	60	27	926	19	62	100	106	39	618	307
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	69	0	3	133
Lane Group Flow (vph)	154	1608	0	27	944	0	0	162	37	39	646	143
Confl. Peds. (#/hr)			761			695	1648		678	678		1648
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1427		104	833			251	282	254	963	196
v/s Ratio Prot	0.12	c0.44		0.02	c0.37						0.24	
v/s Ratio Perm								0.22	0.05	0.05		c0.26
v/c Ratio	0.91	1.13		0.26	1.13			0.65	0.13	0.15	0.67	0.73
Uniform Delay, d1	47.2	33.5		47.5	37.0			30.2	24.5	24.1	29.9	30.8
Progression Factor	0.60	1.08		0.87	0.86			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	58.2		0.1	61.4			5.6	0.2	0.3	1.8	12.7
Delay (s)	35.6	94.5		41.3	93.1			35.8	24.8	24.4	31.8	43.4
Level of Service	D	F		D	F			D	C	C	C	D
Approach Delay (s)		89.4			91.7			31.4			34.8	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	72.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	139.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1607	138	0	1282	86	8
Future Volume (vph)	1607	138	0	1282	86	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.99
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3035			3079	1540	1357
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3035			3079	1540	1357
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1674	144	0	1335	90	8
RTOR Reduction (vph)	6	0	0	0	0	5
Lane Group Flow (vph)	1812	0	0	1335	90	3
Confl. Peds. (#/hr)		37	37		1	3
Confl. Bikes (#/hr)		1				
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1713			1738	512	451
v/s Ratio Prot	c0.60			0.43	c0.06	
v/s Ratio Perm						0.00
v/c Ratio	1.06			0.77	0.18	0.01
Uniform Delay, d1	23.9			18.4	26.0	24.5
Progression Factor	1.00			0.60	1.00	1.00
Incremental Delay, d2	38.9			0.3	0.7	0.0
Delay (s)	62.9			11.4	26.8	24.6
Level of Service	E			B	C	C
Approach Delay (s)	62.9			11.4	26.6	
Approach LOS	E			B	C	

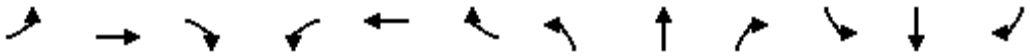
Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	43	115	7	18	29	83	18	11	8	13	85	18
Future Volume (vph)	43	115	7	18	29	83	18	11	8	13	85	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0				5.0			5.0			5.0
Lane Util. Factor		1.00				1.00			1.00			0.95
Frpb, ped/bikes		0.99				0.99			0.97			0.70
Flpb, ped/bikes		0.98				0.89			0.94			1.00
Frt		0.99				0.98			0.95			0.92
Flt Protected		0.99				0.98			0.98			0.98
Satd. Flow (prot)		1471				1114			1102			915
Flt Permitted		0.89				0.87			0.90			0.88
Satd. Flow (perm)		1322				982			1006			820
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	125	8	20	32	90	20	12	9	14	92	20
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	8	0	0	8
Lane Group Flow (vph)	0	180	0	0	0	156	0	0	27	0	0	249
Confl. Peds. (#/hr)	51		86	86	200		51	200		66		
Confl. Bikes (#/hr)			3							11		
Parking (#/hr)				10	10	10	10	10	10	10		
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		27.1				27.1			38.0			38.0
Effective Green, g (s)		27.1				27.1			38.0			38.0
Actuated g/C Ratio		0.30				0.30			0.42			0.42
Clearance Time (s)		5.0				5.0			5.0			5.0
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		398				295			424			346
v/s Ratio Prot												
v/s Ratio Perm		0.14				c0.16			0.03			c0.30
v/c Ratio		0.45				0.53			0.06			0.72
Uniform Delay, d1		25.4				26.2			15.4			21.6
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		3.7				1.8			0.1			7.2
Delay (s)		29.1				28.0			15.5			28.8
Level of Service		C				C			B			C
Approach Delay (s)		29.1				28.0			15.5			23.4
Approach LOS		C				C			B			C

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	97	260	5	42	69	34
Future Volume (vph)	97	260	5	42	69	34
Ideal Flow (vphpl)	1800	1800	1800	1900	1800	1800
Total Lost time (s)		5.0		5.0		
Lane Util. Factor		0.95		1.00		
Frpb, ped/bikes		0.69		0.73		
Flpb, ped/bikes		1.00		0.93		
Frt		0.85		0.91		
Flt Protected		1.00		0.98		
Satd. Flow (prot)		853		975		
Flt Permitted		1.00		0.98		
Satd. Flow (perm)		853		975		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	283	5	46	75	37
RTOR Reduction (vph)	0	135	0	76	0	0
Lane Group Flow (vph)	0	108	0	87	0	0
Confl. Peds. (#/hr)	200	200		51		86
Confl. Bikes (#/hr)	12	12				
Parking (#/hr)						
Turn Type		Perm	Perm	Prot		
Protected Phases				5		
Permitted Phases		4	5			
Actuated Green, G (s)		38.0		9.9		
Effective Green, g (s)		38.0		9.9		
Actuated g/C Ratio		0.42		0.11		
Clearance Time (s)		5.0		5.0		
Vehicle Extension (s)		3.0		3.0		
Lane Grp Cap (vph)		360		107		
v/s Ratio Prot						
v/s Ratio Perm		0.13		0.09		
v/c Ratio		0.30		0.82		
Uniform Delay, d1		17.2		39.2		
Progression Factor		1.00		1.00		
Incremental Delay, d2		0.5		36.2		
Delay (s)		17.7		75.4		
Level of Service		B		E		
Approach Delay (s)				75.4		
Approach LOS				E		

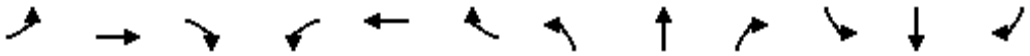
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	63	0	0	887	45	77	136	121	4	0	205
Future Volume (vph)	32	63	0	0	887	45	77	136	121	4	0	205
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.96	1.00	0.99			1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1281			2047	698	1459	2672			1330	
Flt Permitted		0.66			1.00	1.00	0.63	1.00			0.99	
Satd. Flow (perm)		854			2047	698	973	2672			1324	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	66	0	0	934	47	81	143	127	4	0	216
RTOR Reduction (vph)	0	0	0	0	0	0	0	76	0	0	0	0
Lane Group Flow (vph)	0	100	0	0	934	47	81	194	0	0	220	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)						10						
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Effective Green, g (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Actuated g/C Ratio		0.43			0.43	0.43	0.40	0.40			0.40	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		370			887	302	389	1068			529	
v/s Ratio Prot					c0.46			0.07				
v/s Ratio Perm		0.12				0.07	0.08				c0.17	
v/c Ratio		0.27			1.05	0.16	0.21	0.18			0.42	
Uniform Delay, d1		10.9			17.0	10.3	11.8	11.6			13.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		1.8			45.1	1.1	1.2	0.4			2.4	
Delay (s)		12.7			62.1	11.4	13.0	12.0			15.4	
Level of Service		B			E	B	B	B			B	
Approach Delay (s)		12.7			59.7			12.2			15.4	
Approach LOS		B			E			B			B	

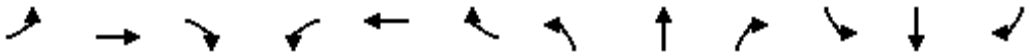
Intersection Summary			
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	238	154	12	105	108	0	171	78	202	52	0
Future Volume (vph)	177	238	154	12	105	108	0	171	78	202	52	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.93			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.94			0.94			0.96			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2425			1332			1454			1477	
Flt Permitted	0.95	1.00			0.97			1.00			0.58	
Satd. Flow (perm)	1459	2425			1297			1454			897	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	184	248	160	12	109	112	0	178	81	210	54	0
RTOR Reduction (vph)	0	86	0	0	37	0	0	22	0	0	0	0
Lane Group Flow (vph)	184	322	0	0	198	0	0	237	0	0	264	0
Confl. Peds. (#/hr)			152			154			25			
Confl. Bikes (#/hr)			30									
Parking (#/hr)		10	10									
Turn Type	Prot	NA		Perm	NA			NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases				6						4		
Actuated Green, G (s)	6.3	26.8			16.5			27.0			26.0	
Effective Green, g (s)	8.3	29.8			18.5			30.0			30.0	
Actuated g/C Ratio	0.13	0.46			0.29			0.46			0.46	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	186	1115			370			673			415	
v/s Ratio Prot	c0.13	0.13						0.16				
v/s Ratio Perm					c0.15						c0.29	
v/c Ratio	0.99	0.29			0.53			0.35			0.64	
Uniform Delay, d1	28.2	10.9			19.5			11.2			13.2	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	62.2	0.1			1.5			0.3			3.2	
Delay (s)	90.4	11.0			21.0			11.5			16.4	
Level of Service	F	B			C			B			B	
Approach Delay (s)		35.7			21.0			11.5			16.4	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	64.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
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)	168	204	81	50	525	93	44	338	73	38	322	215
Future Volume (vph)	168	204	81	50	525	93	44	338	73	38	322	215
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.91			0.96			0.95			0.89	
Flpb, ped/bikes		0.96			0.98			0.99			0.99	
Frt		0.97			0.98			0.98			0.94	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		2267			2480			2643			2211	
Flt Permitted		0.61			0.89			0.87			0.90	
Satd. Flow (perm)		1400			2223			2309			2004	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	177	215	85	53	553	98	46	356	77	40	339	226
RTOR Reduction (vph)	0	15	0	0	15	0	0	23	0	0	9	0
Lane Group Flow (vph)	0	462	0	0	689	0	0	456	0	0	596	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			20			6			3			23
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		653			1037			1077			901	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.31			0.20			c0.30	
v/c Ratio		1.01dl			0.66			0.42			0.66	
Uniform Delay, d1		12.7			12.4			10.6			12.9	
Progression Factor		1.00			1.00			1.00			1.45	
Incremental Delay, d2		6.3			3.4			1.2			3.2	
Delay (s)		19.1			15.7			11.9			21.9	
Level of Service		B			B			B			C	
Approach Delay (s)		19.1			15.7			11.9			21.9	
Approach LOS		B			B			B			C	

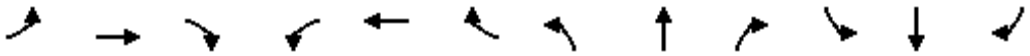
Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	460	617	48	0	0	0	0	510	177	12	535	0
Future Volume (vph)	460	617	48	0	0	0	0	510	177	12	535	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1000	1000	1000	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0	2.0		2.0	
Lane Util. Factor	*0.50	*0.50						*0.50	0.91		0.95	
Frpb, ped/bikes	1.00	0.98						0.99	0.71		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						0.99	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	750	1178						840	470		2690	
Flt Permitted	0.95	1.00						1.00	1.00		0.93	
Satd. Flow (perm)	750	1178						840	470		2505	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	495	663	52	0	0	0	0	548	190	13	575	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	2	8	0	0	0
Lane Group Flow (vph)	495	708	0	0	0	0	0	565	163	0	588	0
Confl. Peds. (#/hr)			400						400	400		
Confl. Bikes (#/hr)			1						17			
Parking (#/hr)	10	10	10								10	
Turn Type	Split	NA						NA	Perm	Perm	NA	
Protected Phases	2	2						4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	27.0	27.0						26.0	26.0		26.0	
Effective Green, g (s)	28.5	28.5						27.5	27.5		27.5	
Actuated g/C Ratio	0.48	0.48						0.46	0.46		0.46	
Clearance Time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Grp Cap (vph)	356	559						385	215		1148	
v/s Ratio Prot	c0.66	0.60						c0.67				
v/s Ratio Perm									0.35		0.23	
v/c Ratio	1.39	1.27						1.47	0.76		0.51	
Uniform Delay, d1	15.8	15.8						16.2	13.5		11.5	
Progression Factor	0.87	0.86						0.77	0.71		1.00	
Incremental Delay, d2	177.3	121.0						222.6	20.1		1.6	
Delay (s)	190.9	134.6						235.1	29.7		13.1	
Level of Service	F	F						F	C		B	
Approach Delay (s)		157.7			0.0			187.5			13.1	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	132.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

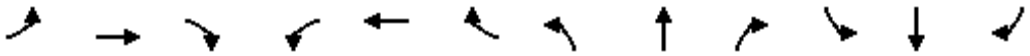
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	448	695	0	0	0	0	0	2267	477	0	0	0
Future Volume (vph)	448	695	0	0	0	0	0	2267	477	0	0	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	*0.50						0.91	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.77			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1572	1237						3982	1004			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1572	1237						3982	1004			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	462	716	0	0	0	0	0	2337	492	0	0	0
RTOR Reduction (vph)	17	0	0	0	0	0	0	0	81	0	0	0
Lane Group Flow (vph)	445	716	0	0	0	0	0	2337	411	0	0	0
Confl. Peds. (#/hr)									297			
Confl. Bikes (#/hr)									10			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	26.3	26.3						24.3	24.3			
Effective Green, g (s)	27.8	27.8						25.8	25.8			
Actuated g/C Ratio	0.46	0.46						0.43	0.43			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	728	573						1712	431			
v/s Ratio Prot		c0.58						c0.59				
v/s Ratio Perm	0.28								0.41			
v/c Ratio	0.61	1.25						1.37	0.95			
Uniform Delay, d1	12.1	16.1						17.1	16.5			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	3.8	126.3						168.1	33.2			
Delay (s)	15.9	142.4						185.2	49.7			
Level of Service	B	F						F	D			
Approach Delay (s)		92.8			0.0			161.7			0.0	
Approach LOS		F			A			F			A	

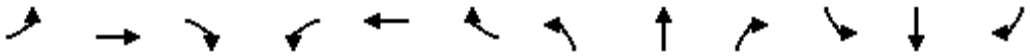
Intersection Summary			
HCM 2000 Control Delay	141.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



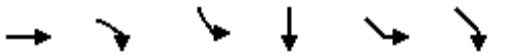
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1622	118	376	2094	308	0	0	0
Future Volume (vph)	0	0	0	0	1622	118	376	2094	308	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.99		1.00	1.00	0.60			
Flpb, ped/bikes					1.00		0.81	1.00	1.00			
Frt					0.99		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4313		1240	4424	831			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4313		1240	4424	831			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	0	1655	120	384	2137	314	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	59	0	120	0	0	0
Lane Group Flow (vph)	0	0	0	0	1775	0	325	2137	194	0	0	0
Confl. Peds. (#/hr)						131	270		307			
Confl. Bikes (#/hr)						10			30			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1689		568	2027	373			
v/s Ratio Prot					c0.41			c0.48				
v/s Ratio Perm							0.26		0.23			
v/c Ratio					1.05		0.57	1.05	0.52			
Uniform Delay, d1					18.2		11.9	16.2	11.8			
Progression Factor					1.00		0.99	0.88	1.29			
Incremental Delay, d2					36.7		0.4	25.9	0.5			
Delay (s)					54.9		12.2	40.1	15.8			
Level of Service					D		B	D	B			
Approach Delay (s)		0.0			54.9			33.6			0.0	
Approach LOS		A			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
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)	0	0	0	0	1731	323	365	2042	0	0	0	0
Future Volume (vph)	0	0	0	0	1731	323	365	2042	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0	7.5	1.4	1.4				
Lane Util. Factor					0.81	0.81	0.81	0.81				
Frpb, ped/bikes					0.99	0.68	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	0.71	0.99				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					4384	642	607	3571				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					4384	642	607	3571				
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	0	0	0	1748	326	369	2063	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	25	68	68	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1780	268	264	2032	0	0	0	0
Confl. Peds. (#/hr)						382	370					
Confl. Bikes (#/hr)						30						
Turn Type					NA	Perm	Perm	NA				
Protected Phases					6			8				
Permitted Phases						6	8					
Actuated Green, G (s)					23.5	23.5	21.6	21.6				
Effective Green, g (s)					26.0	25.5	25.6	25.6				
Actuated g/C Ratio					0.43	0.42	0.43	0.43				
Clearance Time (s)					9.5	9.5	5.4	5.4				
Lane Grp Cap (vph)					1899	272	258	1523				
v/s Ratio Prot					0.41							
v/s Ratio Perm						c0.42	0.44	0.57				
v/c Ratio					0.94	0.98	1.02	1.33				
Uniform Delay, d1					16.2	17.1	17.2	17.2				
Progression Factor					1.00	1.00	1.09	0.90				
Incremental Delay, d2					10.4	50.7	35.5	151.8				
Delay (s)					26.6	67.7	54.2	167.3				
Level of Service					C	E	D	F				
Approach Delay (s)		0.0			32.4			151.8			0.0	
Approach LOS		A			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	96.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	742	283	99	540	136	46
Future Volume (vph)	742	283	99	540	136	46
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	1.00	0.94	0.86
Frpb, ped/bikes	0.95		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	0.99	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5496		1459	1305	4109	1122
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5496		1459	1305	4109	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	789	301	105	574	145	49
RTOR Reduction (vph)	77	0	71	0	0	0
Lane Group Flow (vph)	1013	0	34	574	150	44
Confl. Peds. (#/hr)		143	776			
Confl. Bikes (#/hr)		10				
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	23.5		26.8	26.8	19.5	19.5
Effective Green, g (s)	25.5		28.8	28.8	23.5	23.5
Actuated g/C Ratio	0.28		0.32	0.32	0.26	0.26
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1557		466	417	1072	292
v/s Ratio Prot	c0.18		0.02	c0.44	0.04	
v/s Ratio Perm						c0.04
v/c Ratio	0.65		0.07	1.38	0.14	0.15
Uniform Delay, d1	28.3		21.3	30.6	25.5	25.6
Progression Factor	0.50		1.39	0.76	1.00	1.00
Incremental Delay, d2	0.2		0.1	173.4	0.3	1.1
Delay (s)	14.3		29.6	196.6	25.8	26.7
Level of Service	B		C	F	C	C
Approach Delay (s)	14.3			170.8	26.0	
Approach LOS	B			F	C	

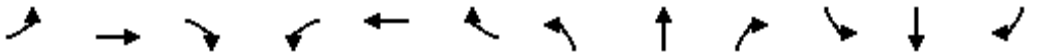
Intersection Summary			
HCM 2000 Control Delay	69.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	172	788	1141	700	951	288
Future Volume (vph)	172	788	1141	700	951	288
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.81		0.81	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.99	0.98	0.97
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.94	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1050		4849	2151	1038	1126
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1050		4849	2151	1038	1126
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	176	804	1164	714	970	294
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	158	0	1986	1160	524	280
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					10	10
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	450		2079	1034	533	579
v/s Ratio Prot				c0.54		
v/s Ratio Perm	0.15		0.41		0.50	0.25
v/c Ratio	0.35		1.41dl	1.12	0.98	0.48
Uniform Delay, d1	17.3		24.9	23.4	21.5	14.1
Progression Factor	1.00		1.00	1.67	1.87	2.08
Incremental Delay, d2	2.1		11.7	58.7	16.1	0.7
Delay (s)	19.4		36.6	97.6	56.3	30.1
Level of Service	B		D	F	E	C
Approach Delay (s)			35.3	76.6		
Approach LOS			D	E		

Intersection Summary			
HCM 2000 Control Delay	55.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	697	1429	0	0	0	0	0	1289	460
Future Volume (vph)	0	0	0	697	1429	0	0	0	0	0	1289	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.96	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.98	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4933						4702	694
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4933						4702	694
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	711	1458	0	0	0	0	0	1315	469
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	419	1750	0	0	0	0	0	1465	319
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						26.0	26.0
Effective Green, g (s)				33.5	33.5						28.0	28.0
Actuated g/C Ratio				0.37	0.37						0.31	0.31
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				439	1836						1462	215
v/s Ratio Prot				c0.35	0.35						0.31	
v/s Ratio Perm												c0.46
v/c Ratio				0.95	0.95						1.00	1.48
Uniform Delay, d1				27.5	27.5						31.0	31.0
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				32.9	12.5						24.0	240.9
Delay (s)				60.5	40.0						55.0	271.9
Level of Service				E	D						E	F
Approach Delay (s)		0.0			44.0			0.0			93.8	
Approach LOS		A			D			A			F	

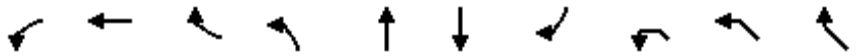
Intersection Summary			
HCM 2000 Control Delay	66.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	459	568	45	338	362	24	255	298	617
Future Volume (vph)	16	459	568	45	338	362	24	255	298	617
Ideal Flow (vphpl)	1000	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.99		0.84		0.98		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00		1.00	1.00
Frt		1.00	0.99		0.92		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	0.99
Satd. Flow (prot)		1313	1914		2136		1163		1327	2527
Flt Permitted		0.95	1.00		1.00		1.00		0.15	0.54
Satd. Flow (perm)		1313	1914		2136		1163		207	1372
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	494	611	48	363	389	26	274	320	663
RTOR Reduction (vph)	0	0	8	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	457	705	0	755	0	6	0	367	890
Confl. Peds. (#/hr)	25			60		200				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Split	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases	2	2	2		8			7	7	4
Permitted Phases							8	4	4	
Actuated Green, G (s)		22.5	22.5		23.0		23.0		42.0	42.0
Effective Green, g (s)		22.5	25.0		24.5		23.0		43.5	43.5
Actuated g/C Ratio		0.25	0.28		0.27		0.26		0.48	0.48
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		328	531		581		297		305	874
v/s Ratio Prot		0.35	c0.37		c0.35				c0.22	0.19
v/s Ratio Perm							0.01		0.36	0.31
v/c Ratio		1.39	1.33		1.42dr		0.02		1.20	1.02
Uniform Delay, d1		33.8	32.5		32.8		25.1		31.1	23.2
Progression Factor		1.00	1.00		1.00		1.00		1.00	1.00
Incremental Delay, d2		194.7	160.2		147.1		0.1		94.5	14.2
Delay (s)		228.4	192.7		179.8		25.2		125.6	37.5
Level of Service		F	F		F		C		F	D
Approach Delay (s)			206.6		175.3					63.2
Approach LOS			F		F					E

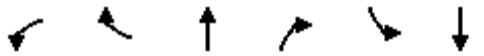
Intersection Summary			
HCM 2000 Control Delay	142.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	272	1171	161	52	302	537	219	361	722	265
Future Volume (vph)	272	1171	161	52	302	537	219	361	722	265
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.96			0.99	0.87
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5749			2857	2464			3418	978
Flt Permitted		0.99			0.66	1.00			0.95	1.00
Satd. Flow (perm)		5749			1899	2464			3418	978
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	296	1259	173	56	325	577	235	392	776	285
RTOR Reduction (vph)	0	22	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1706	0	0	381	808	0	0	1197	256
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			10				10			10
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10				10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1852			590	766			1025	293
v/s Ratio Prot						c0.33				
v/s Ratio Perm		0.30			0.20				0.35	0.26
v/c Ratio		0.92			0.65	1.05			1.17	0.87
Uniform Delay, d1		29.4			26.7	31.0			31.5	29.9
Progression Factor		1.48			0.05	1.00			1.00	1.00
Incremental Delay, d2		6.4			0.5	47.9			86.2	28.4
Delay (s)		49.9			2.0	78.9			117.7	58.2
Level of Service		D			A	E			F	E
Approach Delay (s)		49.9			2.0	78.9			107.2	
Approach LOS		D			A	E			F	

Intersection Summary			
HCM 2000 Control Delay	70.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

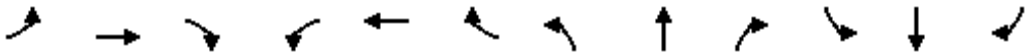


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	146	1827	4	96	190
Future Volume (vph)	8	146	1827	4	96	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3077		1528	3079
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1540	1378	3077		86	3079
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	160	2008	4	105	209
RTOR Reduction (vph)	0	6	0	0	0	0
Lane Group Flow (vph)	9	154	2012	0	105	209
Confl. Peds. (#/hr)	87			209	209	
Confl. Bikes (#/hr)				21		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2092		58	2093
v/s Ratio Prot	0.01		0.65			0.07
v/s Ratio Perm		c0.11			c1.22	
v/c Ratio	0.03	0.48	0.96		1.81	0.10
Uniform Delay, d1	32.6	36.5	16.3		17.6	6.0
Progression Factor	1.00	1.00	1.00		2.98	0.29
Incremental Delay, d2	0.1	5.1	12.5		416.2	0.1
Delay (s)	32.7	41.6	28.8		468.7	1.9
Level of Service	C	D	C		F	A
Approach Delay (s)	41.1		28.8			158.0
Approach LOS	D		C			F

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	118.0%	ICU Level of Service	H
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)	44	84	72	64	58	211	20	1442	99	18	210	15
Future Volume (vph)	44	84	72	64	58	211	20	1442	99	18	210	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.91		1.00	0.99		1.00	0.99	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1590	1353		1442		1540	3025		1540	3042	
Flt Permitted		0.78	1.00		0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1258	1353		1328		1540	3025		1540	3042	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	88	76	67	61	222	21	1518	104	19	221	16
RTOR Reduction (vph)	0	0	52	0	62	0	0	5	0	0	5	0
Lane Group Flow (vph)	0	134	24	0	288	0	21	1617	0	19	232	0
Confl. Peds. (#/hr)	15		5	5		15			64			14
Confl. Bikes (#/hr)			2			1			16			14
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		403	434		426		227	1073		254	1140	
v/s Ratio Prot							0.01	c0.53		0.01	c0.08	
v/s Ratio Perm		0.11	0.02		c0.22							
v/c Ratio		0.33	0.06		0.67		0.09	1.51		0.07	0.20	
Uniform Delay, d1		25.8	23.5		29.4		36.8	32.2		35.3	21.1	
Progression Factor		1.00	1.00		1.00		1.60	0.71		1.00	1.00	
Incremental Delay, d2		2.2	0.2		8.3		0.1	228.5		0.6	0.4	
Delay (s)		28.0	23.7		37.7		58.8	251.4		35.9	21.5	
Level of Service		C	C		D		E	F		D	C	
Approach Delay (s)		26.5			37.7			249.0			22.6	
Approach LOS		C			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	176.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



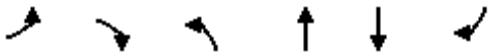
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	207	11	254	14	65	9	1334	96	39	290	4
Future Volume (vph)	65	207	11	254	14	65	9	1334	96	39	290	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.97		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1590			1507		1540	3026		1540	3071	
Flt Permitted		0.87			0.51		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1399			796		1540	3026		1540	3071	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	71	227	12	279	15	71	10	1466	105	43	319	4
RTOR Reduction (vph)	0	1	0	0	9	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	309	0	0	356	0	10	1566	0	43	322	0
Confl. Peds. (#/hr)	16		9	9		16			50			20
Confl. Bikes (#/hr)						1			22			13
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		457			260		231	1116		229	1133	
v/s Ratio Prot							0.01	c0.52		0.03	c0.10	
v/s Ratio Perm		0.22			c0.45							
v/c Ratio		0.68			1.37		0.04	1.40		0.19	0.28	
Uniform Delay, d1		29.1			33.6		36.4	31.6		37.3	22.2	
Progression Factor		1.00			1.00		1.15	0.67		0.71	0.74	
Incremental Delay, d2		7.8			189.2		0.2	184.1		1.8	0.6	
Delay (s)		36.8			222.8		42.0	205.2		28.1	17.0	
Level of Service		D			F		D	F		C	B	
Approach Delay (s)		36.8			222.8			204.1			18.3	
Approach LOS		D			F			F			B	

Intersection Summary			
HCM 2000 Control Delay	161.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
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)	19	12	10	3	1	80	7	144	4	195	372	16
Future Volume (vph)	19	12	10	3	1	80	7	144	4	195	372	16
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		0.99			1.00	1.00	0.87	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1347			1394	1226	1205	1443		1377	1427	
Flt Permitted		1.00			1.00	1.00	0.52	1.00		0.95	1.00	
Satd. Flow (perm)		1377			1447	1226	657	1443		1377	1427	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	13	11	3	1	86	8	155	4	210	400	17
RTOR Reduction (vph)	0	10	0	0	0	46	0	2	0	0	1	0
Lane Group Flow (vph)	0	34	0	0	4	40	8	157	0	210	416	0
Confl. Peds. (#/hr)	28		3	3		28	213		19			213
Confl. Bikes (#/hr)			1						18			10
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		2.6			2.6	20.5	8.6	8.6		17.9	31.5	
Effective Green, g (s)		2.6			2.6	20.5	8.6	8.6		17.9	31.5	
Actuated g/C Ratio		0.06			0.06	0.46	0.20	0.20		0.41	0.71	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		81			85	708	128	281		558	1019	
v/s Ratio Prot						0.02		c0.11		0.15	c0.29	
v/s Ratio Perm		c0.02			0.00	0.01	0.01					
v/c Ratio		0.42			0.05	0.06	0.06	0.56		0.38	0.41	
Uniform Delay, d1		20.0			19.6	6.5	14.5	16.0		9.2	2.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.4			0.2	0.0	0.2	2.5		0.4	0.3	
Delay (s)		23.4			19.8	6.5	14.7	18.6		9.6	2.8	
Level of Service		C			B	A	B	B		A	A	
Approach Delay (s)		23.4			7.1			18.4			5.1	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	44.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

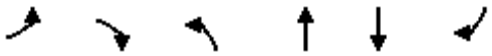
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	2	211	179	145	132	11
Future Volume (vph)	2	211	179	145	132	11
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	2	251	213	173	157	13

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	2	251	271	115	105	65
Volume Left (vph)	2	0	213	0	0	0
Volume Right (vph)	0	251	0	0	0	13
Hadj (s)	0.53	-0.67	0.43	0.03	0.03	-0.11
Departure Headway (s)	6.4	5.2	5.9	5.5	5.7	5.6
Degree Utilization, x	0.00	0.37	0.44	0.17	0.17	0.10
Capacity (veh/h)	522	647	597	632	594	608
Control Delay (s)	8.3	10.0	12.2	8.4	8.7	8.0
Approach Delay (s)	10.0		11.0		8.4	
Approach LOS	B		B		A	

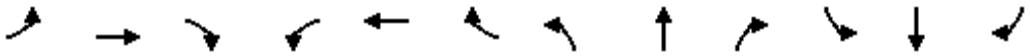
Intersection Summary			
Delay	10.2		
Level of Service	B		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	14	105	335	554	105
Future Volume (Veh/h)	14	14	105	335	554	105
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	16	16	124	394	652	124
Pedestrians	25			1	1	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1185	414	801			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1185	414	801			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	97	85			
cM capacity (veh/h)	151	576	802			

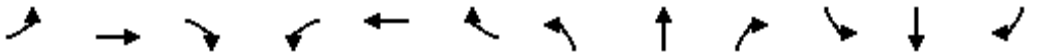
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	32	255	263	435	341
Volume Left	16	124	0	0	0
Volume Right	16	0	0	0	124
cSH	239	802	1700	1700	1700
Volume to Capacity	0.13	0.15	0.15	0.26	0.20
Queue Length 95th (ft)	11	14	0	0	0
Control Delay (s)	22.4	5.9	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	22.4	2.9		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		



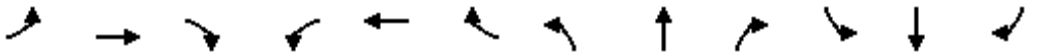
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	64	369	23	202	104	299	702	7	22	665	479
Future Volume (vph)	375	64	369	23	202	104	299	702	7	22	665	479
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1510	1621	1337	1523	1510		2987	3073		1540	2853	
Flt Permitted	0.40	1.00	1.00	0.71	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	642	1621	1337	1140	1510		2987	3073		1540	2853	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	412	70	405	25	222	114	329	771	8	24	731	526
RTOR Reduction (vph)	0	0	255	0	18	0	0	1	0	0	130	0
Lane Group Flow (vph)	412	70	150	25	318	0	329	778	0	24	1127	0
Confl. Peds. (#/hr)	41		14	14		41			39			8
Confl. Bikes (#/hr)			9			10			4			14
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	221	559	461	393	520		418	1161		184	1021	
v/s Ratio Prot		0.04			0.21		0.11	c0.25		0.02	c0.40	
v/s Ratio Perm	c0.64		0.11	0.02								
v/c Ratio	1.86	0.13	0.33	0.06	0.61		0.79	0.67		0.13	1.10	
Uniform Delay, d1	32.8	22.4	24.2	21.9	27.2		41.6	25.9		39.3	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.70	0.82		0.97	0.94	
Incremental Delay, d2	405.8	0.5	1.9	0.3	5.3		5.5	1.1		1.4	60.6	
Delay (s)	438.5	22.9	26.0	22.2	32.5		34.5	22.4		39.4	90.8	
Level of Service	F	C	C	C	C		C	C		D	F	
Approach Delay (s)		217.4			31.7			26.0			89.8	
Approach LOS		F			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	95.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	124.7%	ICU Level of Service	H
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)	136	500	23	151	903	83	134	170	175	160	321	186
Future Volume (vph)	136	500	23	151	903	83	134	170	175	160	321	186
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Lane Width	8	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	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
Frt	1.00	1.00	0.85		0.99		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1235	1450	1378		2540		1540	2845			3030	1134
Flt Permitted	0.95	1.00	1.00		0.77		0.38	1.00			0.69	1.00
Satd. Flow (perm)	1235	1450	1378		1980		615	2845			2117	1134
Peak-hour factor, PHF	0.96	0.96	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92	0.96
Adj. Flow (vph)	142	521	25	164	941	86	146	185	190	167	349	194
RTOR Reduction (vph)	0	0	10	0	5	0	0	127	0	0	0	91
Lane Group Flow (vph)	142	521	15	0	1186	0	146	248	0	0	516	103
Confl. Peds. (#/hr)						17						3
Confl. Bikes (#/hr)						36						
Turn Type	Prot	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6			8			4		4
Actuated Green, G (s)	4.0	45.4	45.4		36.4		27.2	27.2			26.2	26.2
Effective Green, g (s)	4.0	45.4	45.4		36.4		27.2	27.2			26.2	26.2
Actuated g/C Ratio	0.05	0.56	0.56		0.45		0.33	0.33			0.32	0.32
Clearance Time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	60	806	766		883		205	948			679	364
v/s Ratio Prot	c0.11	0.36						0.09				
v/s Ratio Perm			0.01		c0.60		0.24				c0.24	0.09
v/c Ratio	2.37	0.65	0.02		1.34		0.71	0.26			0.76	0.28
Uniform Delay, d1	38.8	12.5	8.1		22.6		23.8	19.9			24.9	20.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	663.2	1.8	0.0		162.0		11.1	0.1			4.9	0.4
Delay (s)	702.0	14.3	8.1		184.6		34.9	20.0			29.8	21.1
Level of Service	F	B	A		F		C	C			C	C
Approach Delay (s)		156.0			184.6			24.2			27.4	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	115.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



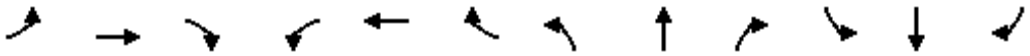
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	496	85	59	703	480	51	335	39	111	150	90
Future Volume (vph)	57	496	85	59	703	480	51	335	39	111	150	90
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		*0.80	*0.80		*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	
Frpb, ped/bikes		1.00	0.96		1.00	0.94	1.00	1.00	0.97	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	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		952	781		1122	896	1070	957	924	1070	1042	
Flt Permitted		0.15	1.00		0.15	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		146	781		164	896	1070	957	924	1070	1042	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	61	528	90	63	748	511	54	356	41	118	160	96
RTOR Reduction (vph)	0	0	46	0	0	89	0	0	28	0	17	0
Lane Group Flow (vph)	0	589	44	0	811	422	54	356	13	118	239	0
Confl. Peds. (#/hr)	28		6	6		28			4			11
Confl. Bikes (#/hr)			9			50			7			15
Parking (#/hr)		10	10					10				
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.3	34.3		34.3	53.8	14.8	32.5	32.5	19.5	37.2	
Effective Green, g (s)		34.3	34.3		34.3	53.8	14.8	32.5	32.5	19.5	37.2	
Actuated g/C Ratio		0.34	0.34		0.34	0.53	0.15	0.32	0.32	0.19	0.37	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		49	264		55	520	156	307	296	205	382	
v/s Ratio Prot						c0.16	0.05	c0.37		0.11	0.23	
v/s Ratio Perm		4.02	0.06		c4.94	0.31			0.01			
v/c Ratio		12.02	0.17		14.75	0.81	0.35	1.16	0.04	0.58	0.63	
Uniform Delay, d1		33.5	23.5		33.5	19.6	38.9	34.4	23.7	37.1	26.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		4998.9	0.3		6220.4	9.3	1.3	101.9	0.1	3.9	3.2	
Delay (s)		5032.4	23.8		6253.9	28.9	40.2	136.3	23.8	41.0	29.5	
Level of Service		F	C		F	C	D	F	C	D	C	
Approach Delay (s)		4368.5			3847.7			114.5			33.1	
Approach LOS		F			F			F			C	

Intersection Summary			
HCM 2000 Control Delay	2872.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	6.45		
Actuated Cycle Length (s)	101.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	136.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	92	67	981	35	57	258
Future Volume (vph)	92	67	981	35	57	258
Ideal Flow (vphpl)	1400	1400	1200	1200	1400	1400
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.74	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1134	1745	1515	848	1134	1194
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1134	1745	1515	848	1134	1194
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	73	1066	38	62	280
RTOR Reduction (vph)	0	62	0	5	0	0
Lane Group Flow (vph)	100	11	1066	33	62	280
Confl. Peds. (#/hr)	60	1		5		
Confl. Bikes (#/hr)		1		30		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	12.8	12.8	47.8	42.8	8.4	61.2
Effective Green, g (s)	12.8	12.8	47.8	42.8	8.4	61.2
Actuated g/C Ratio	0.15	0.15	0.57	0.51	0.10	0.73
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	172	265	862	482	113	869
v/s Ratio Prot	c0.09		c0.70	0.02	c0.05	0.23
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.58	0.04	1.24	0.07	0.55	0.32
Uniform Delay, d1	33.1	30.4	18.1	10.5	36.0	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.1	116.5	0.1	5.4	0.2
Delay (s)	38.0	30.4	134.6	10.5	41.4	4.3
Level of Service	D	C	F	B	D	A
Approach Delay (s)	34.8		130.3			11.0
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	94.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

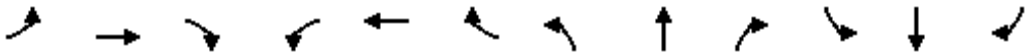
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	19	259	63	45	519	2	129	138	78	11	69	51
Future Volume (vph)	19	259	63	45	519	2	129	138	78	11	69	51
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
Hourly flow rate (vph)	21	288	70	50	577	2	143	153	87	12	77	57

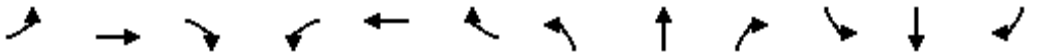
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	379	50	579	296	87	146
Volume Left (vph)	21	50	0	143	0	12
Volume Right (vph)	70	0	2	0	87	57
Hadj (s)	-0.07	0.53	0.03	0.28	-0.67	-0.18
Departure Headway (s)	7.8	8.1	7.6	8.3	7.4	8.8
Degree Utilization, x	0.82	0.11	1.23	0.68	0.18	0.36
Capacity (veh/h)	379	431	479	419	471	370
Control Delay (s)	37.0	11.0	142.4	26.3	10.8	16.6
Approach Delay (s)	37.0	132.0		22.8		16.6
Approach LOS	E	F		C		C

Intersection Summary				
Delay	70.4			
Level of Service	F			
Intersection Capacity Utilization	61.4%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	262	63	34	598	55	67	824	42	25	575	445
Future Volume (vph)	197	262	63	34	598	55	67	824	42	25	575	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97			0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1736			3356		1711	3389		1711	3149	
Flt Permitted	0.20	1.00			0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	357	1736			2853		1711	3389		1711	3149	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	210	279	67	36	636	59	71	877	45	27	612	473
RTOR Reduction (vph)	0	8	0	0	6	0	0	4	0	0	140	0
Lane Group Flow (vph)	210	338	0	0	725	0	71	918	0	27	945	0
Confl. Peds. (#/hr)	34		24	24		34			16			15
Confl. Bikes (#/hr)			2			6			6			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	106	515			847		289	1352		254	1193	
v/s Ratio Prot		0.19					0.04	c0.27		0.02	c0.30	
v/s Ratio Perm	c0.59				0.25							
v/c Ratio	1.98	0.66			0.86		0.25	0.68		0.11	0.79	
Uniform Delay, d1	35.1	30.7			33.1		36.0	24.8		36.8	27.6	
Progression Factor	1.00	1.00			1.00		1.01	0.91		1.47	0.87	
Incremental Delay, d2	473.5	6.4			10.8		1.3	1.8		0.4	2.5	
Delay (s)	508.6	37.1			43.9		37.7	24.4		54.4	26.5	
Level of Service	F	D			D		D	C		D	C	
Approach Delay (s)		215.2			43.9			25.4			27.2	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	61.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

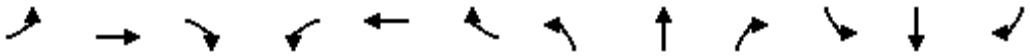


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	89	0	0	1281	26	463	158	469	0	0	594
Future Volume (vph)	23	89	0	0	1281	26	463	158	469	0	0	594
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			1.00		1.00	0.89				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3385			4900		1711	3044				2694
Flt Permitted		0.74			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2520			4900		1711	3044				2694
Peak-hour factor, PHF	0.92	0.98	0.98	0.98	0.98	0.92	0.98	0.92	0.98	0.92	0.92	0.92
Adj. Flow (vph)	25	91	0	0	1307	28	472	172	479	0	0	646
RTOR Reduction (vph)	0	0	0	0	2	0	0	395	0	0	0	409
Lane Group Flow (vph)	0	116	0	0	1333	0	472	256	0	0	0	237
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		52.0			52.0		31.0	20.0				31.0
Effective Green, g (s)		52.0			52.0		31.0	20.0				31.0
Actuated g/C Ratio		0.46			0.46		0.27	0.18				0.27
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		1149			2235		465	534				732
v/s Ratio Prot					c0.27		c0.28	c0.08				
v/s Ratio Perm		0.05										0.09
v/c Ratio		0.10			0.60		1.02	0.48				0.32
Uniform Delay, d1		17.7			23.2		41.5	42.3				33.1
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			1.2		45.6	3.1				1.2
Delay (s)		17.8			24.3		87.1	45.4				34.3
Level of Service		B			C		F	D				C
Approach Delay (s)		17.8			24.3			62.9			34.3	
Approach LOS		B			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	114	594	1134	85	0	0
Future Volume (vph)	114	594	1134	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.99	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.90	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1514	1426	3319	1801		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1514	1426	3319	1801		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	118	612	1169	88	0	0
RTOR Reduction (vph)	27	27	0	0	0	0
Lane Group Flow (vph)	348	328	1169	88	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		5				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	21.0	21.0	29.0	60.0		
Effective Green, g (s)	21.0	21.0	29.0	60.0		
Actuated g/C Ratio	0.35	0.35	0.48	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	529	499	1604	1801		
v/s Ratio Prot	0.23		c0.35	0.05		
v/s Ratio Perm		c0.23				
v/c Ratio	0.66	0.66	0.73	0.05		
Uniform Delay, d1	16.5	16.5	12.4	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	6.3	6.6	2.9	0.1		
Delay (s)	22.7	23.1	15.3	0.1		
Level of Service	C	C	B	A		
Approach Delay (s)	22.9			14.2	0.0	
Approach LOS	C			B	A	

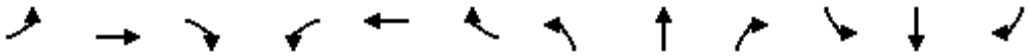
Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	12	52	69	55	24	0	856	49	0	891	34
Future Volume (vph)	36	12	52	69	55	24	0	856	49	0	891	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1200	1200	1200	1200	1200	1200
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.94			0.98			0.98			0.99	
Flpb, ped/bikes		0.97			0.96			1.00			1.00	
Frt		0.93			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1176			1271			1781			1794	
Flt Permitted		0.84			0.80			1.00			1.00	
Satd. Flow (perm)		1007			1035			1781			1794	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	39	13	56	74	59	26	0	920	53	0	958	37
RTOR Reduction (vph)	0	44	0	0	8	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	64	0	0	151	0	0	970	0	0	993	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.4			19.4			70.7			70.7	
Effective Green, g (s)		19.4			19.4			70.7			70.7	
Actuated g/C Ratio		0.19			0.19			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			200			1259			1268	
v/s Ratio Prot								0.54			c0.55	
v/s Ratio Perm		0.06			c0.15							
v/c Ratio		0.33			0.75			0.77			0.78	
Uniform Delay, d1		34.7			38.1			9.4			9.6	
Progression Factor		1.00			1.00			1.35			0.47	
Incremental Delay, d2		1.0			14.9			1.8			4.1	
Delay (s)		35.7			52.9			14.5			8.6	
Level of Service		D			D			B			A	
Approach Delay (s)		35.7			52.9			14.5			8.6	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

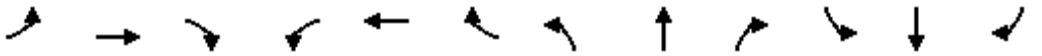
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	135	181	7	204	13	176	569	16	17	614	298
Future Volume (vph)	318	135	181	7	204	13	176	569	16	17	614	298
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.94	
Flpb, ped/bikes	0.98	1.00		0.94	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1188	1952		1139	1257		1215	2413		1215	2181	
Flt Permitted	0.36	1.00		0.55	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	452	1952		662	1257		1215	2413		1215	2181	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	331	141	189	7	212	14	183	593	17	18	640	310
RTOR Reduction (vph)	0	127	0	0	2	0	0	2	0	0	59	0
Lane Group Flow (vph)	331	203	0	7	225	0	183	608	0	18	891	0
Confl. Peds. (#/hr)	100		100	100		100			100			100
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.9	32.9		21.9	21.9		17.3	46.6		4.2	33.5	
Effective Green, g (s)	32.9	32.9		21.9	21.9		17.3	46.6		4.2	33.5	
Actuated g/C Ratio	0.33	0.33		0.22	0.22		0.17	0.47		0.04	0.34	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	642		144	275		210	1124		51	730	
v/s Ratio Prot	c0.10	0.10			0.18		c0.15	0.25		0.01	c0.41	
v/s Ratio Perm	c0.47			0.01								
v/c Ratio	1.74	0.32		0.05	0.82		0.87	0.54		0.35	1.22	
Uniform Delay, d1	34.1	25.1		30.8	37.1		40.3	19.1		46.6	33.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.12	1.11	
Incremental Delay, d2	354.9	0.3		0.1	16.9		30.2	1.9		2.7	107.7	
Delay (s)	389.0	25.4		31.0	54.0		70.5	20.9		55.0	144.6	
Level of Service	F	C		C	D		E	C		D	F	
Approach Delay (s)		207.5			53.3			32.4			142.9	
Approach LOS		F			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	118.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	116.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

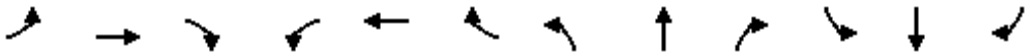


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	3	213	1	0	1	144	828	3	28	1098	149
Future Volume (vph)	59	3	213	1	0	1	144	828	3	28	1098	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95			0.97		1.00	1.00		1.00	1.00	0.36
Flpb, ped/bikes	0.94	1.00			0.99		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85			0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1454	1309			1405		1540	3071		1296	2593	422
Flt Permitted	0.76	1.00			0.93		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1158	1309			1332		1540	3071		1296	2593	422
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	63	3	229	1	0	1	155	890	3	30	1181	160
RTOR Reduction (vph)	0	150	0	0	1	0	0	0	0	0	0	72
Lane Group Flow (vph)	63	82	0	0	1	0	155	893	0	30	1181	88
Confl. Peds. (#/hr)	64		48	48		64			688			395
Confl. Bikes (#/hr)						1			171			163
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Effective Green, g (s)	38.1	38.1			38.1		20.5	41.5		11.1	32.8	32.8
Actuated g/C Ratio	0.35	0.35			0.35		0.19	0.38		0.10	0.30	0.30
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	401	453			461		287	1158		130	773	125
v/s Ratio Prot		c0.06					0.10	c0.29		0.02	c0.46	
v/s Ratio Perm	0.05				0.00							0.21
v/c Ratio	0.16	0.18			0.00		0.54	0.77		0.23	1.53	0.70
Uniform Delay, d1	24.9	25.1			23.5		40.5	30.1		45.5	38.6	34.3
Progression Factor	1.00	1.00			1.00		0.75	0.69		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.9			0.0		6.1	4.3		4.1	244.1	28.0
Delay (s)	25.7	26.0			23.5		36.5	25.1		49.6	282.7	62.3
Level of Service	C	C			C		D	C		D	F	E
Approach Delay (s)		25.9			23.5			26.8			251.9	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	140.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

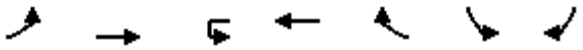
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	114	24	29	759	1	1000	424
Future Volume (vph)	114	24	29	759	1	1000	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.92	1.00	1.00	1.00	1.00	0.64
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1540	1272	1540	3079	1540	3079	885
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1540	1272	1540	3079	1540	3079	885
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	121	26	31	807	1	1064	451
RTOR Reduction (vph)	0	14	0	0	0	0	153
Lane Group Flow (vph)	121	12	31	807	1	1064	298
Confl. Peds. (#/hr)	76	76					432
Confl. Bikes (#/hr)							111
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	533	440	215	1226	140	1035	297
v/s Ratio Prot	c0.08		0.02	c0.26	0.00	c0.35	
v/s Ratio Perm		0.01					0.34
v/c Ratio	0.23	0.03	0.14	0.66	0.01	1.03	1.00
Uniform Delay, d1	25.5	23.7	41.5	27.0	45.5	36.5	36.5
Progression Factor	1.00	1.00	0.52	0.92	0.92	0.71	1.25
Incremental Delay, d2	1.0	0.1	1.1	2.1	0.0	16.9	16.8
Delay (s)	26.5	23.8	22.5	26.9	42.0	42.7	62.3
Level of Service	C	C	C	C	D	D	E
Approach Delay (s)	26.0			26.7		48.5	
Approach LOS	C			C		D	

Intersection Summary			
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	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)	81	1	29	1	11	4	45	793	2	5	817	156
Future Volume (vph)	81	1	29	1	11	4	45	793	2	5	817	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600	1600	1600
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.97			0.97		1.00	1.00		1.00	0.90	
Flpb, ped/bikes		0.94			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	1.00		1.00	0.98	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1377			1514		1540	3074		1296	2289	
Flt Permitted		0.78			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1114			1505		1540	3074		1296	2289	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	1	30	1	11	4	47	826	2	5	851	162
RTOR Reduction (vph)	0	12	0	0	3	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	103	0	0	13	0	47	828	0	5	1000	0
Confl. Peds. (#/hr)	100		100	100		100			500			430
Confl. Bikes (#/hr)			10			10			90			111
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		384			519		210	1201		108	782	
v/s Ratio Prot							0.03	c0.27		0.00	c0.44	
v/s Ratio Perm		c0.09			0.01							
v/c Ratio		0.27			0.03		0.22	0.69		0.05	1.28	
Uniform Delay, d1		26.0			23.8		42.3	27.9		46.4	36.2	
Progression Factor		1.00			1.00		0.87	0.78		1.77	0.62	
Incremental Delay, d2		1.7			0.1		1.6	2.1		0.1	126.1	
Delay (s)		27.7			23.9		38.4	23.9		82.0	148.5	
Level of Service		C			C		D	C		F	F	
Approach Delay (s)		27.7			23.9			24.7			148.2	
Approach LOS		C			C			C			F	

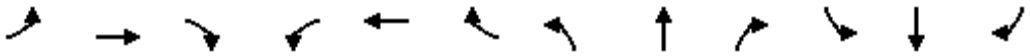
Intersection Summary			
HCM 2000 Control Delay	87.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	124	784	5	768	45	30	268
Future Volume (vph)	124	784	5	768	45	30	268
Ideal Flow (vphpl)	1500	1500	1450	1450	1450	1900	1900
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97		1.00	0.46
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1215	2431	1175	2261		1540	638
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1215	2431	1175	2261		1540	638
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	128	808	5	792	46	31	276
RTOR Reduction (vph)	0	0	0	4	0	0	180
Lane Group Flow (vph)	128	808	5	834	0	31	96
Confl. Peds. (#/hr)					1700	1700	1700
Confl. Bikes (#/hr)					10		30
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	170	990	89	748		534	221
v/s Ratio Prot	0.11	c0.33	0.00	c0.37		0.02	
v/s Ratio Perm							c0.15
v/c Ratio	0.75	0.82	0.06	1.11		0.06	0.43
Uniform Delay, d1	45.5	28.9	47.1	36.8		23.9	27.6
Progression Factor	0.75	1.33	0.66	0.52		1.00	1.00
Incremental Delay, d2	11.2	3.0	0.1	53.8		0.2	6.1
Delay (s)	45.1	41.4	31.4	73.1		24.1	33.7
Level of Service	D	D	C	E		C	C
Approach Delay (s)		41.9		72.8		32.7	
Approach LOS		D		E		C	

Intersection Summary			
HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

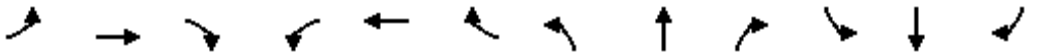
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	762	670	99	384	614	48	12	1329	242	0	0	0
Future Volume (vph)	762	670	99	384	614	48	12	1329	242	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.93		1.00	0.96			1.00	0.47			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.98		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	3656	2366		2515	2464			4669	547			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	3656	2366		2515	2464			4669	547			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	794	698	103	400	640	50	12	1384	252	0	0	0
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	151	0	0	0
Lane Group Flow (vph)	794	790	0	400	690	0	0	1397	101	0	0	0
Confl. Peds. (#/hr)			1700			1700	1700		1700			
Confl. Bikes (#/hr)			10			10			10			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	19.0	37.2		13.4	33.1			39.0	39.0			
Effective Green, g (s)	19.0	37.2		13.4	33.1			39.0	39.0			
Actuated g/C Ratio	0.17	0.34		0.12	0.30			0.35	0.35			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	631	800		306	741			1655	193			
v/s Ratio Prot	c0.22	c0.33		c0.16	0.28							
v/s Ratio Perm								0.30	0.18			
v/c Ratio	1.26	0.99		1.31	0.93			0.84	0.52			
Uniform Delay, d1	45.5	36.2		48.3	37.3			32.7	28.1			
Progression Factor	1.33	1.44		1.52	1.04			1.47	3.45			
Incremental Delay, d2	117.5	7.2		144.4	6.3			2.2	1.3			
Delay (s)	178.1	59.2		217.9	45.1			50.2	98.2			
Level of Service	F	E		F	D			D	F			
Approach Delay (s)		118.4			108.5			57.5			0.0	
Approach LOS		F			F			E			A	

Intersection Summary			
HCM 2000 Control Delay	92.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



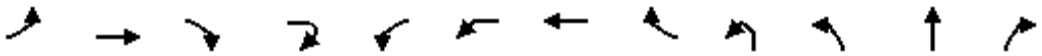
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	1358	64	36	563	24	63	160	134	126	747	437
Future Volume (vph)	128	1358	64	36	563	24	63	160	134	126	747	437
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	*0.80		1.00	*0.90			1.00	1.00	1.00	0.91	0.91
Frpb, ped/bikes	1.00	0.98		1.00	0.96			1.00	0.46	1.00	0.95	0.46
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.96	1.00	0.63	1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3173		1296	2352			1296	528	811	2324	480
Flt Permitted	0.95	1.00		0.95	1.00			0.45	1.00	0.57	1.00	1.00
Satd. Flow (perm)	1296	3173		1296	2352			595	528	490	2324	480
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	129	1372	65	36	569	24	64	162	135	127	755	441
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	84	0	7	143
Lane Group Flow (vph)	129	1433	0	36	590	0	0	226	51	127	827	219
Confl. Peds. (#/hr)			1700			1700	1700		1700	1700		1700
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	39.6		8.9	32.5			41.6	41.6	42.6	42.6	42.6
Effective Green, g (s)	14.4	39.6		8.9	32.5			41.6	41.6	42.6	42.6	42.6
Actuated g/C Ratio	0.13	0.36		0.08	0.30			0.38	0.38	0.39	0.39	0.39
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1142		104	694			225	199	189	900	185
v/s Ratio Prot	0.10	c0.45		0.03	c0.25						0.36	
v/s Ratio Perm								0.38	0.10	0.26		c0.46
v/c Ratio	0.76	1.25		0.35	0.85			1.00	0.26	0.67	0.92	1.19
Uniform Delay, d1	46.2	35.2		47.8	36.5			34.2	23.6	27.9	32.1	33.7
Progression Factor	0.59	0.99		0.83	0.76			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	115.4		0.8	4.1			61.1	0.7	9.0	14.0	124.8
Delay (s)	29.2	150.3		40.6	31.7			95.3	24.2	37.0	46.1	158.5
Level of Service	C	F		D	C			F	C	D	D	F
Approach Delay (s)		140.3			32.2			68.8			76.0	
Approach LOS		F			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	94.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	138.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1528	151	0	1098	77	25
Future Volume (vph)	1528	151	0	1098	77	25
Ideal Flow (vphpl)	1800	1800	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2871			3079	1540	1378
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2871			3079	1540	1378
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1575	156	0	1132	79	26
RTOR Reduction (vph)	7	0	0	0	0	15
Lane Group Flow (vph)	1724	0	0	1132	79	11
Confl. Peds. (#/hr)		25				
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1620			1738	512	458
v/s Ratio Prot	c0.60			0.37	c0.05	
v/s Ratio Perm						0.01
v/c Ratio	1.06			0.65	0.15	0.02
Uniform Delay, d1	23.9			16.5	25.8	24.7
Progression Factor	1.00			0.72	1.00	1.00
Incremental Delay, d2	41.7			0.9	0.6	0.1
Delay (s)	65.6			12.9	26.5	24.8
Level of Service	E			B	C	C
Approach Delay (s)	65.6			12.9	26.0	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	44.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

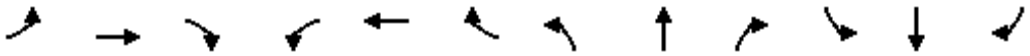


Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	42	108	7	4	17	68	105	41	13	2	8	24
Future Volume (vph)	42	108	7	4	17	68	105	41	13	2	8	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.97					0.98				0.93	
Flpb, ped/bikes		0.98					0.96				0.89	
Frt		0.99					0.98				0.93	
Flt Protected		0.99					0.98				0.98	
Satd. Flow (prot)		1431					1179				994	
Flt Permitted		0.88					0.82				0.88	
Satd. Flow (perm)		1275					985				892	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	44	112	7	4	18	71	109	43	14	2	8	25
RTOR Reduction (vph)	0	0	0	0	0	0	8	0	0	0	14	0
Lane Group Flow (vph)	0	168	0	0	0	0	233	0	0	0	35	0
Confl. Peds. (#/hr)	58		84	200	84			58	235	275		133
Confl. Bikes (#/hr)			10	10				1				18
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		27.0					27.0				38.0	
Effective Green, g (s)		27.0					27.0				38.0	
Actuated g/C Ratio		0.30					0.30				0.42	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		382					295				376	
v/s Ratio Prot												
v/s Ratio Perm		0.13					c0.24				0.04	
v/c Ratio		0.44					0.79				0.09	
Uniform Delay, d1		25.4					28.9				15.6	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		3.6					13.0				0.1	
Delay (s)		29.0					41.9				15.7	
Level of Service		C					D				B	
Approach Delay (s)		29.0					41.9				15.7	
Approach LOS		C					D				B	

Intersection Summary			
HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	98	23	133	286	1	51	102	12
Future Volume (vph)	98	23	133	286	1	51	102	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1900	1800	1800
Total Lost time (s)		5.0		5.0		5.0		
Lane Util. Factor		0.95		0.95		1.00		
Frpb, ped/bikes		0.67		0.58		0.73		
Flpb, ped/bikes		0.96		1.00		0.92		
Frt		0.91		0.85		0.91		
Flt Protected		0.98		1.00		0.98		
Satd. Flow (prot)		844		713		969		
Flt Permitted		0.88		1.00		0.98		
Satd. Flow (perm)		752		713		969		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	102	24	139	298	1	53	106	12
RTOR Reduction (vph)	0	5	0	121	0	76	0	0
Lane Group Flow (vph)	0	290	0	147	0	97	0	0
Confl. Peds. (#/hr)	133		235	275		58		84
Confl. Bikes (#/hr)			26	26				2
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot		
Protected Phases		4				5		
Permitted Phases	4			4	5			
Actuated Green, G (s)		38.0		38.0		10.0		
Effective Green, g (s)		38.0		38.0		10.0		
Actuated g/C Ratio		0.42		0.42		0.11		
Clearance Time (s)		5.0		5.0		5.0		
Vehicle Extension (s)		3.0		3.0		3.0		
Lane Grp Cap (vph)		317		301		107		
v/s Ratio Prot								
v/s Ratio Perm		c0.39		0.21		0.10		
v/c Ratio		0.92		0.49		0.91		
Uniform Delay, d1		24.5		18.9		39.6		
Progression Factor		1.00		1.00		1.00		
Incremental Delay, d2		29.7		1.2		59.3		
Delay (s)		54.2		20.2		98.9		
Level of Service		D		C		F		
Approach Delay (s)		38.0				98.9		
Approach LOS		D				F		

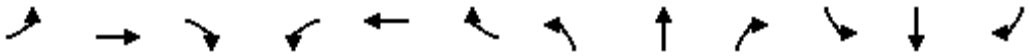
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	75	0	0	755	47	157	166	316	9	0	281
Future Volume (vph)	30	75	0	0	755	47	157	166	316	9	0	281
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1400	1400	1400	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.75	1.00	*0.80	*0.80			1.00	
Frpb, ped/bikes		1.00			1.00	0.96	1.00	0.98			1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.90			0.87	
Flt Protected		0.99			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1284			1919	698	908	1688			1332	
Flt Permitted		0.70			1.00	1.00	0.53	1.00			0.98	
Satd. Flow (perm)		912			1919	698	508	1688			1304	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	82	0	0	821	51	171	180	343	10	0	305
RTOR Reduction (vph)	0	0	0	0	0	0	0	206	0	0	0	0
Lane Group Flow (vph)	0	115	0	0	821	51	171	317	0	0	315	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)						10						
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Effective Green, g (s)		26.0			26.0	26.0	24.0	24.0			24.0	
Actuated g/C Ratio		0.43			0.43	0.43	0.40	0.40			0.40	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		395			831	302	203	675			521	
v/s Ratio Prot					c0.43			0.19				
v/s Ratio Perm		0.13				0.07	c0.34				0.24	
v/c Ratio		0.29			0.99	0.17	0.84	0.47			0.60	
Uniform Delay, d1		11.0			16.8	10.4	16.3	13.3			14.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		1.9			28.4	1.2	32.5	2.3			5.1	
Delay (s)		12.9			45.3	11.6	48.8	15.6			19.4	
Level of Service		B			D	B	D	B			B	
Approach Delay (s)		12.9			43.3			23.8			19.4	
Approach LOS		B			D			C			B	

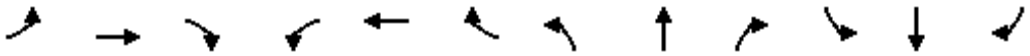
Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	275	182	21	110	129	0	114	117	246	80	2
Future Volume (vph)	188	275	182	21	110	129	0	114	117	246	80	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	3.0			2.0			2.0			2.0	
Lane Util. Factor	1.00	0.95			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.92			0.98			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.94			0.93			0.93			1.00	
Flt Protected	0.95	1.00			1.00			1.00			0.96	
Satd. Flow (prot)	1459	2406			1310			1402			1479	
Flt Permitted	0.95	1.00			0.94			1.00			0.58	
Satd. Flow (perm)	1459	2406			1241			1402			887	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	299	198	23	120	140	0	124	127	267	87	2
RTOR Reduction (vph)	0	112	0	0	40	0	0	46	0	0	0	0
Lane Group Flow (vph)	204	385	0	0	243	0	0	205	0	0	356	0
Confl. Peds. (#/hr)			152			154			25			
Confl. Bikes (#/hr)			30									
Parking (#/hr)		10	10									
Turn Type	Prot	NA		Perm	NA			NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases				6						4		
Actuated Green, G (s)	6.4	29.4			19.0			34.5			33.5	
Effective Green, g (s)	8.4	32.4			21.0			37.5			37.5	
Actuated g/C Ratio	0.11	0.43			0.28			0.50			0.50	
Clearance Time (s)	6.0	6.0			4.0			5.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	163	1040			347			701			444	
v/s Ratio Prot	c0.14	0.16						0.15				
v/s Ratio Perm					c0.20						c0.40	
v/c Ratio	1.25	0.37			0.70			0.29			0.80	
Uniform Delay, d1	33.2	14.4			24.1			10.9			15.6	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	153.7	0.2			6.3			0.2			10.0	
Delay (s)	186.9	14.6			30.4			11.2			25.6	
Level of Service	F	B			C			B			C	
Approach Delay (s)		64.7			30.4			11.2			25.6	
Approach LOS		E			C			B			C	

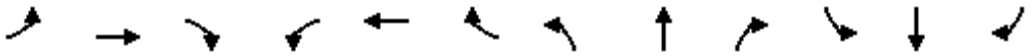
Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	74.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	294	97	43	565	93	26	307	31	62	366	211
Future Volume (vph)	203	294	97	43	565	93	26	307	31	62	366	211
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.97			0.98			0.97			0.88	
Flpb, ped/bikes		0.99			1.00			0.99			0.98	
Frt		0.98			0.98			0.99			0.95	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		2469			2576			2735			2182	
Flt Permitted		0.60			0.90			0.90			0.88	
Satd. Flow (perm)		1498			2318			2468			1940	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	205	297	98	43	571	94	26	310	31	63	370	213
RTOR Reduction (vph)	0	1	0	0	5	0	0	12	0	0	36	0
Lane Group Flow (vph)	0	599	0	0	703	0	0	355	0	0	610	0
Confl. Peds. (#/hr)	182		134	134		182	777		592	592		777
Confl. Bikes (#/hr)			27			15			20			41
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		699			1081			1151			873	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.30			0.14			c0.31	
v/c Ratio		1.19dl			0.65			0.31			0.70	
Uniform Delay, d1		14.2			12.3			10.0			13.2	
Progression Factor		1.00			1.00			1.00			1.54	
Incremental Delay, d2		12.8			3.0			0.7			3.6	
Delay (s)		27.1			15.3			10.7			24.0	
Level of Service		C			B			B			C	
Approach Delay (s)		27.1			15.3			10.7			24.0	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	105.3%	ICU Level of Service	G
Analysis Period (min)	15		

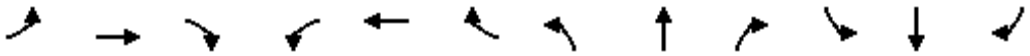
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	643	60	0	0	0	0	524	167	17	633	0
Future Volume (vph)	440	643	60	0	0	0	0	524	167	17	633	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1000	1000	1000	1800	1800	1800
Total Lost time (s)	2.0	2.0						2.0	2.0		2.0	
Lane Util. Factor	*0.50	*0.50						*0.50	0.91		0.95	
Frpb, ped/bikes	1.00	0.99						0.99	0.64		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	750	1189						840	424		2686	
Flt Permitted	0.95	1.00						1.00	1.00		0.92	
Satd. Flow (perm)	750	1189						840	424		2486	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	449	656	61	0	0	0	0	535	170	17	646	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	2	40	0	0	0
Lane Group Flow (vph)	449	708	0	0	0	0	0	550	113	0	663	0
Confl. Peds. (#/hr)			146						759	759		
Confl. Bikes (#/hr)			7						34			
Parking (#/hr)	10	10	10								10	
Turn Type	Split	NA						NA	Perm	Perm	NA	
Protected Phases	2	2						4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	27.0	27.0						26.0	26.0		26.0	
Effective Green, g (s)	28.5	28.5						27.5	27.5		27.5	
Actuated g/C Ratio	0.48	0.48						0.46	0.46		0.46	
Clearance Time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Grp Cap (vph)	356	564						385	194		1139	
v/s Ratio Prot	c0.60	0.60						c0.65				
v/s Ratio Perm									0.27		0.27	
v/c Ratio	1.26	1.26						1.43	0.58		0.58	
Uniform Delay, d1	15.8	15.8						16.2	12.0		12.0	
Progression Factor	0.97	0.97						0.79	0.58		1.00	
Incremental Delay, d2	119.7	116.3						205.7	11.0		2.2	
Delay (s)	135.1	131.7						218.6	18.1		14.2	
Level of Service	F	F						F	B		B	
Approach Delay (s)		133.0			0.0			175.1			14.2	
Approach LOS		F			A			F			B	

Intersection Summary			
HCM 2000 Control Delay	113.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

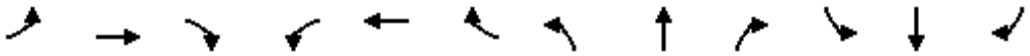
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	559	0	0	0	0	0	2262	587	0	0	0
Future Volume (vph)	300	559	0	0	0	0	0	2262	587	0	0	0
Ideal Flow (vphpl)	1000	1000	1000	1800	1800	1800	1700	1700	1700	1800	1800	1800
Total Lost time (s)	3.2	3.2						3.2	3.2			
Lane Util. Factor	0.97	*0.50						*0.90	1.00			
Frpb, ped/bikes	1.00	1.00						1.00	0.76			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1572	1237						3719	932			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1572	1237						3719	932			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	588	0	0	0	0	0	2381	618	0	0	0
RTOR Reduction (vph)	17	0	0	0	0	0	0	0	119	0	0	0
Lane Group Flow (vph)	299	588	0	0	0	0	0	2381	499	0	0	0
Confl. Peds. (#/hr)									306			
Confl. Bikes (#/hr)									30			
Parking (#/hr)		0						10				
Turn Type	Perm	NA						NA	Perm			
Protected Phases		2						8				
Permitted Phases	2								8			
Actuated Green, G (s)	26.3	26.3						24.3	24.3			
Effective Green, g (s)	27.8	27.8						25.8	25.8			
Actuated g/C Ratio	0.46	0.46						0.43	0.43			
Clearance Time (s)	4.7	4.7						4.7	4.7			
Lane Grp Cap (vph)	728	573						1599	400			
v/s Ratio Prot		c0.48						c0.64				
v/s Ratio Perm	0.19								0.54			
v/c Ratio	0.41	1.03						1.49	1.25			
Uniform Delay, d1	10.7	16.1						17.1	17.1			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	1.7	44.4						223.5	131.1			
Delay (s)	12.4	60.5						240.6	148.2			
Level of Service	B	E						F	F			
Approach Delay (s)		43.7			0.0			221.5			0.0	
Approach LOS		D			A			F			A	

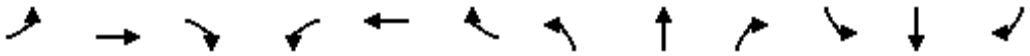
Intersection Summary			
HCM 2000 Control Delay	180.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	6.4
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



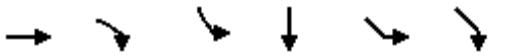
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1124	81	377	1947	235	0	0	0
Future Volume (vph)	0	0	0	0	1124	81	377	1947	235	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.5		2.5	2.5	3.0			
Lane Util. Factor					0.91		1.00	0.91	1.00			
Frpb, ped/bikes					0.98		1.00	1.00	0.71			
Flpb, ped/bikes					1.00		0.92	1.00	1.00			
Frt					0.99		1.00	1.00	0.85			
Flt Protected					1.00		0.95	1.00	1.00			
Satd. Flow (prot)					4253		1423	4424	984			
Flt Permitted					1.00		0.95	1.00	1.00			
Satd. Flow (perm)					4253		1423	4424	984			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	0	1159	84	389	2007	242	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	59	0	99	0	0	0
Lane Group Flow (vph)	0	0	0	0	1242	0	330	2007	143	0	0	0
Confl. Peds. (#/hr)						453	105		196			
Confl. Bikes (#/hr)						25			56			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)						10						
Turn Type					NA		Perm	NA	Perm			
Protected Phases					6			8				
Permitted Phases							8		8			
Actuated Green, G (s)					21.0		25.0	25.0	25.0			
Effective Green, g (s)					23.5		27.5	27.5	27.0			
Actuated g/C Ratio					0.39		0.46	0.46	0.45			
Clearance Time (s)					9.0		5.0	5.0	5.0			
Lane Grp Cap (vph)					1665		652	2027	442			
v/s Ratio Prot					c0.29			c0.45				
v/s Ratio Perm							0.23		0.15			
v/c Ratio					0.75		0.51	0.99	0.32			
Uniform Delay, d1					15.7		11.5	16.1	10.6			
Progression Factor					1.00		1.04	0.86	1.38			
Incremental Delay, d2					3.1		0.3	4.1	0.2			
Delay (s)					18.8		12.2	18.1	14.8			
Level of Service					B		B	B	B			
Approach Delay (s)		0.0			18.8			16.9			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
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)	0	0	0	0	1068	208	312	2018	0	0	0	0
Future Volume (vph)	0	0	0	0	1068	208	312	2018	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Total Lost time (s)					7.0	7.5	1.4	1.4				
Lane Util. Factor					0.81	0.81	0.81	0.81				
Frpb, ped/bikes					0.99	0.63	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	0.76	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					4377	590	650	3577				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					4377	590	650	3577				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	1112	217	325	2102	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	25	68	68	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1134	170	224	2067	0	0	0	0
Confl. Peds. (#/hr)						722	306					
Confl. Bikes (#/hr)						43						
Turn Type					NA	Perm	Perm	NA				
Protected Phases					6			8				
Permitted Phases						6	8					
Actuated Green, G (s)					23.5	23.5	21.6	21.6				
Effective Green, g (s)					26.0	25.5	25.6	25.6				
Actuated g/C Ratio					0.43	0.42	0.43	0.43				
Clearance Time (s)					9.5	9.5	5.4	5.4				
Lane Grp Cap (vph)					1896	250	277	1526				
v/s Ratio Prot					0.26							
v/s Ratio Perm						c0.29	0.35	0.58				
v/c Ratio					0.60	0.68	0.81	1.35				
Uniform Delay, d1					13.0	13.9	15.1	17.2				
Progression Factor					1.00	1.00	1.05	0.92				
Incremental Delay, d2					1.4	13.9	12.3	161.9				
Delay (s)					14.4	27.8	28.0	177.8				
Level of Service					B	C	C	F				
Approach Delay (s)		0.0			16.4			159.8			0.0	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	109.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	SBL	SBT	SEL	SER
Lane Configurations						
Traffic Volume (vph)	776	325	102	666	114	64
Future Volume (vph)	776	325	102	666	114	64
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	3.5		4.2	4.2	4.5	4.5
Lane Util. Factor	0.81		1.00	1.00	0.94	0.86
Frpb, ped/bikes	0.91		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	0.97	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	5257		1459	1305	4052	1122
Flt Permitted	1.00		0.95	1.00	0.96	1.00
Satd. Flow (perm)	5257		1459	1305	4052	1122
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	784	328	103	673	115	65
RTOR Reduction (vph)	84	0	70	0	0	0
Lane Group Flow (vph)	1028	0	33	673	138	42
Confl. Peds. (#/hr)		251	970			
Confl. Bikes (#/hr)		10				
Parking (#/hr)	10	10		10		
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases	2		7	7	4	
Permitted Phases						4
Actuated Green, G (s)	23.5		26.8	26.8	19.5	19.5
Effective Green, g (s)	25.5		28.8	28.8	23.5	23.5
Actuated g/C Ratio	0.28		0.32	0.32	0.26	0.26
Clearance Time (s)	5.5		6.2	6.2	8.5	8.5
Lane Grp Cap (vph)	1489		466	417	1058	292
v/s Ratio Prot	c0.20		0.02	c0.52	0.03	
v/s Ratio Perm						c0.04
v/c Ratio	0.87dr		0.07	1.61	0.13	0.14
Uniform Delay, d1	28.7		21.3	30.6	25.4	25.5
Progression Factor	0.43		2.42	0.89	1.00	1.00
Incremental Delay, d2	0.2		0.2	284.6	0.3	1.0
Delay (s)	12.6		51.8	311.9	25.7	26.6
Level of Service	B		D	F	C	C
Approach Delay (s)	12.6			277.4	25.9	
Approach LOS	B			F	C	

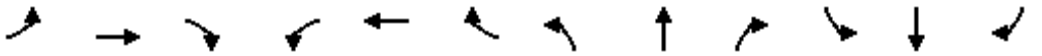
Intersection Summary			
HCM 2000 Control Delay	113.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	149	1004	807	611	462	136
Future Volume (vph)	149	1004	807	611	462	136
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.81		0.81	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	0.98	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.97	0.85	0.85
Flt Protected	0.95		0.97	1.00	1.00	1.00
Satd. Flow (prot)	1050		4815	2229	1038	1141
Flt Permitted	0.95		0.97	1.00	1.00	1.00
Satd. Flow (perm)	1050		4815	2229	1038	1141
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	154	1035	832	630	476	140
RTOR Reduction (vph)	0	0	0	0	0	40
Lane Group Flow (vph)	139	0	1882	768	338	100
Confl. Bikes (#/hr)					10	10
Bus Blockages (#/hr)	0	0	5	0	0	0
Parking (#/hr)				10		
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	450		2065	1072	533	586
v/s Ratio Prot				c0.34		
v/s Ratio Perm	0.13		0.39		0.33	0.09
v/c Ratio	0.31		1.80dl	0.72	0.63	0.17
Uniform Delay, d1	16.9		24.1	18.5	15.7	11.6
Progression Factor	1.00		1.00	1.70	1.92	2.75
Incremental Delay, d2	1.8		7.5	2.8	3.8	0.4
Delay (s)	18.7		31.6	34.3	34.0	32.4
Level of Service	B		C	C	C	C
Approach Delay (s)			30.7	34.0		
Approach LOS			C	C		

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	500	1173	0	0	0	0	0	673	475
Future Volume (vph)	0	0	0	500	1173	0	0	0	0	0	673	475
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				0.81	0.81						0.81	0.81
Frpb, ped/bikes				1.00	1.00						0.91	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						0.96	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				1181	4942						4329	694
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				1181	4942						4329	694
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	526	1235	0	0	0	0	0	708	500
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	342	1419	0	0	0	0	0	958	250
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						26.0	26.0
Effective Green, g (s)				33.5	33.5						28.0	28.0
Actuated g/C Ratio				0.37	0.37						0.31	0.31
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				439	1839						1346	215
v/s Ratio Prot				c0.29	0.29						0.22	
v/s Ratio Perm												c0.36
v/c Ratio				0.78	0.77						0.71	1.16
Uniform Delay, d1				25.0	24.9						27.4	31.0
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				12.8	3.2						3.2	112.3
Delay (s)				37.8	28.1						30.7	143.3
Level of Service				D	C						C	F
Approach Delay (s)		0.0			30.0			0.0			54.0	
Approach LOS		A			C			A			D	

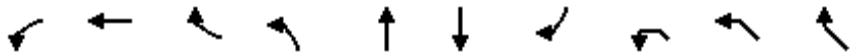
Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	374	683	63	221	322	64	191	294	563
Future Volume (vph)	28	374	683	63	221	322	64	191	294	563
Ideal Flow (vphpl)	1000	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		4.5	2.0		2.5		4.0		2.5	2.5
Lane Util. Factor		0.81	0.81		0.91		0.91		0.91	0.91
Frpb, ped/bikes		1.00	0.99		0.89		0.91		1.00	1.00
Flpb, ped/bikes		0.96	1.00		1.00		1.00		0.99	1.00
Frt		1.00	0.99		0.91		0.85		1.00	1.00
Flt Protected		0.95	1.00		1.00		1.00		0.95	0.99
Satd. Flow (prot)		1264	1904		2244		1078		1316	2523
Flt Permitted		0.95	1.00		1.00		1.00		0.23	0.59
Satd. Flow (perm)		1264	1904		2244		1078		324	1494
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	30	402	734	68	238	346	69	205	316	605
RTOR Reduction (vph)	0	0	9	0	1	0	46	0	0	0
Lane Group Flow (vph)	0	392	833	0	590	0	16	0	341	785
Confl. Peds. (#/hr)	14			88		53	43	53	43	
Confl. Bikes (#/hr)				6		17	17	10		
Bus Blockages (#/hr)	0	0	5	0	5	0	0	0	0	5
Parking (#/hr)			10							10
Turn Type	Perm	Split	NA		NA		Perm	pm+pt	pm+pt	NA
Protected Phases		2	2		8			7	7	4
Permitted Phases	2						8	4	4	
Actuated Green, G (s)		22.5	22.5		23.0		23.0		42.0	42.0
Effective Green, g (s)		22.5	25.0		24.5		23.0		43.5	43.5
Actuated g/C Ratio		0.25	0.28		0.27		0.26		0.48	0.48
Clearance Time (s)		4.5	4.5		4.0		4.0		4.0	4.0
Lane Grp Cap (vph)		316	528		610		275		338	910
v/s Ratio Prot			c0.44		0.26				c0.18	0.16
v/s Ratio Perm		0.31					0.01		c0.30	0.26
v/c Ratio		1.24	1.58		1.20dr		0.06		1.01	0.86
Uniform Delay, d1		33.8	32.5		32.4		25.3		28.3	20.6
Progression Factor		1.00	1.00		1.00		1.00		0.97	0.97
Incremental Delay, d2		132.3	268.6		29.3		0.4		16.9	1.1
Delay (s)		166.0	301.1		61.7		25.7		44.2	21.0
Level of Service		F	F		E		C		D	C
Approach Delay (s)			258.2		58.2					28.0
Approach LOS			F		E					C

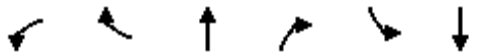
Intersection Summary			
HCM 2000 Control Delay	128.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	88	794	99	52	227	661	205	424	755	261
Future Volume (vph)	88	794	99	52	227	661	205	424	755	261
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.81			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.98			1.00	0.94			0.99	0.81
Flpb, ped/bikes		1.00			0.99	1.00			0.99	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		1.00			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5787			2841	2429			4064	909
Flt Permitted		1.00			0.62	1.00			0.95	1.00
Satd. Flow (perm)		5787			1788	2429			4064	909
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	827	103	54	236	689	214	442	786	272
RTOR Reduction (vph)	0	22	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1000	0	0	290	898	0	0	1255	245
Confl. Peds. (#/hr)	3		157	212			212	3		157
Confl. Bikes (#/hr)			10				10			10
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)		10				10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1864			556	755			1219	272
v/s Ratio Prot						c0.37				
v/s Ratio Perm		0.17			0.16				0.31	0.27
v/c Ratio		0.54			0.52	1.19			1.03	0.90
Uniform Delay, d1		25.0			25.5	31.0			31.5	30.2
Progression Factor		1.75			0.20	1.00			1.00	1.00
Incremental Delay, d2		0.7			1.3	98.3			33.6	34.1
Delay (s)		44.4			6.4	129.3			65.1	64.3
Level of Service		D			A	F			E	E
Approach Delay (s)		44.4			6.4	129.3			65.0	
Approach LOS		D			A	F			E	

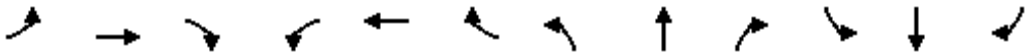
Intersection Summary			
HCM 2000 Control Delay	70.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	25	1587	5	74	359
Future Volume (vph)	2	25	1587	5	74	359
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.97	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3073		1496	3079
Flt Permitted	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	1540	1378	3073		112	3079
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2	28	1783	6	83	403
RTOR Reduction (vph)	0	2	0	0	0	0
Lane Group Flow (vph)	2	26	1789	0	83	403
Confl. Peds. (#/hr)	146			518	518	
Confl. Bikes (#/hr)				13		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2089		76	2093
v/s Ratio Prot	0.00		0.58			0.13
v/s Ratio Perm		c0.02			c0.74	
v/c Ratio	0.01	0.08	0.86		1.09	0.19
Uniform Delay, d1	32.4	33.0	13.5		17.6	6.5
Progression Factor	1.00	1.00	1.00		3.11	0.63
Incremental Delay, d2	0.0	0.5	4.8		59.2	0.0
Delay (s)	32.4	33.5	18.3		113.9	4.1
Level of Service	C	C	B		F	A
Approach Delay (s)	33.4		18.3			22.8
Approach LOS	C		B			C

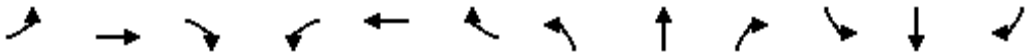
Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



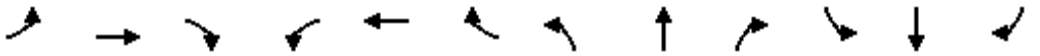
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	130	84	46	48	147	23	1374	137	141	209	31
Future Volume (vph)	61	130	84	46	48	147	23	1374	137	141	209	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.95		0.97		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		0.99	1.00		0.99		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.99		1.00	0.98	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1581	1311		1415		1540	2934		1540	2986	
Flt Permitted		0.82	1.00		0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1316	1311		1297		1540	2934		1540	2986	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	63	134	87	47	49	152	24	1416	141	145	215	32
RTOR Reduction (vph)	0	0	59	0	57	0	0	8	0	0	12	0
Lane Group Flow (vph)	0	197	28	0	191	0	24	1549	0	145	235	0
Confl. Peds. (#/hr)	48		40	40		48			255			77
Confl. Bikes (#/hr)									8			23
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		422	420		416		227	1041		254	1119	
v/s Ratio Prot							0.02	c0.53		c0.09	0.08	
v/s Ratio Perm		c0.15	0.02		0.15							
v/c Ratio		0.47	0.07		0.46		0.11	1.49		0.57	0.21	
Uniform Delay, d1		27.1	23.6		27.0		36.9	32.2		38.5	21.2	
Progression Factor		1.00	1.00		1.00		1.50	0.72		1.00	1.00	
Incremental Delay, d2		3.7	0.3		3.6		0.1	220.2		9.0	0.4	
Delay (s)		30.8	23.9		30.7		55.6	243.4		47.5	21.6	
Level of Service		C	C		C		E	F		D	C	
Approach Delay (s)		28.7			30.7			240.5			31.2	
Approach LOS		C			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	163.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	132.4%	ICU Level of Service	H
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)	65	214	19	265	45	142	73	1236	119	63	237	17
Future Volume (vph)	65	214	19	265	45	142	73	1236	119	63	237	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1586			1492		1540	3004		1540	3025	
Flt Permitted		0.84			0.56		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1354			861		1540	3004		1540	3025	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	70	230	20	285	48	153	78	1329	128	68	255	18
RTOR Reduction (vph)	0	3	0	0	17	0	0	7	0	0	5	0
Lane Group Flow (vph)	0	317	0	0	469	0	78	1450	0	68	268	0
Confl. Peds. (#/hr)	16		6	6		16			73			67
Confl. Bikes (#/hr)			1						12			11
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		442			281		231	1108		229	1116	
v/s Ratio Prot							0.05	c0.48		c0.04	0.09	
v/s Ratio Perm		0.23			c0.54							
v/c Ratio		0.72			1.67		0.34	1.31		0.30	0.24	
Uniform Delay, d1		29.6			33.6		38.1	31.6		37.9	21.8	
Progression Factor		1.00			1.00		1.13	0.71		0.72	0.75	
Incremental Delay, d2		9.6			316.6		0.4	139.5		3.2	0.5	
Delay (s)		39.2			350.2		43.3	162.1		30.4	16.8	
Level of Service		D			F		D	F		C	B	
Approach Delay (s)		39.2			350.2			156.0			19.5	
Approach LOS		D			F			F			B	

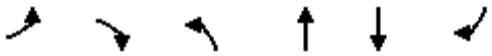
Intersection Summary			
HCM 2000 Control Delay	159.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	128.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	15	23	1	6	94	44	315	12	237	386	27
Future Volume (vph)	33	15	23	1	6	94	44	315	12	237	386	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.98	1.00	1.00		1.00	0.98	
Flpb, ped/bikes		0.97			1.00	1.00	0.86	1.00		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1460			1609	1352	1325	1609		1459	1491	
Flt Permitted		0.85			0.95	1.00	0.49	1.00		0.95	1.00	
Satd. Flow (perm)		1265			1538	1352	688	1609		1459	1491	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	38	17	26	1	7	107	50	358	14	269	439	31
RTOR Reduction (vph)	0	24	0	0	0	66	0	2	0	0	2	0
Lane Group Flow (vph)	0	57	0	0	8	41	50	370	0	269	468	0
Confl. Peds. (#/hr)	62		6	6		62	205		28			205
Confl. Bikes (#/hr)						1			23			16
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		5.0			5.0	21.2	18.7	18.7		16.2	39.9	
Effective Green, g (s)		5.0			5.0	21.2	18.7	18.7		16.2	39.9	
Actuated g/C Ratio		0.09			0.09	0.39	0.34	0.34		0.30	0.73	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		115			140	645	234	548		430	1083	
v/s Ratio Prot						0.02		c0.23		c0.18	0.31	
v/s Ratio Perm		c0.05			0.01	0.01	0.07					
v/c Ratio		0.50			0.06	0.06	0.21	0.68		0.63	0.43	
Uniform Delay, d1		23.8			22.8	10.6	12.9	15.5		16.7	3.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.4			0.2	0.0	0.5	3.3		2.8	0.3	
Delay (s)		27.1			23.0	10.6	13.3	18.8		19.6	3.3	
Level of Service		C			C	B	B	B		B	A	
Approach Delay (s)		27.1			11.5			18.1			9.2	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	54.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

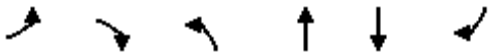
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	18	215	297	113	114	139
Future Volume (vph)	18	215	297	113	114	139
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	23	269	371	141	143	174

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	23	269	418	94	95	222
Volume Left (vph)	23	0	371	0	0	0
Volume Right (vph)	0	269	0	0	0	174
Hadj (s)	0.53	-0.67	0.48	0.03	0.03	-0.52
Departure Headway (s)	7.2	6.0	6.3	5.9	6.2	5.6
Degree Utilization, x	0.05	0.44	0.73	0.15	0.16	0.35
Capacity (veh/h)	468	566	555	587	550	610
Control Delay (s)	9.3	12.4	23.7	8.7	9.2	10.4
Approach Delay (s)	12.2		20.9		10.0	
Approach LOS	B		C		B	

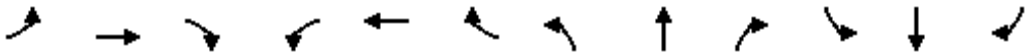
Intersection Summary				
Delay	15.6			
Level of Service	C			
Intersection Capacity Utilization	43.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	14	105	433	561	105
Future Volume (Veh/h)	14	14	105	433	561	105
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	16	16	118	487	630	118
Pedestrians	33			4		
Lane Width (ft)	11.0			11.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	3			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1202	411	781			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1202	411	781			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	97	85			
cM capacity (veh/h)	148	573	811			

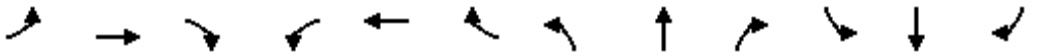
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	32	280	325	420	328
Volume Left	16	118	0	0	0
Volume Right	16	0	0	0	118
cSH	235	811	1700	1700	1700
Volume to Capacity	0.14	0.15	0.19	0.25	0.19
Queue Length 95th (ft)	12	13	0	0	0
Control Delay (s)	22.7	5.2	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	22.7	2.4		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	417	85	374	24	247	128	346	797	19	23	621	560
Future Volume (vph)	417	85	374	24	247	128	346	797	19	23	621	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.98		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1515	1621	1327	1521	1510		2987	3064		1540	2786	
Flt Permitted	0.32	1.00	1.00	0.70	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	504	1621	1327	1116	1510		2987	3064		1540	2786	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	453	92	407	26	268	139	376	866	21	25	675	609
RTOR Reduction (vph)	0	0	260	0	19	0	0	2	0	0	139	0
Lane Group Flow (vph)	453	92	147	26	388	0	376	885	0	25	1145	0
Confl. Peds. (#/hr)	41		16	16		41			58			14
Confl. Bikes (#/hr)			17			9			10			15
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	173	559	457	385	520		418	1158		184	997	
v/s Ratio Prot		0.06			0.26		0.13	c0.29		0.02	c0.41	
v/s Ratio Perm	c0.90		0.11	0.02								
v/c Ratio	2.62	0.16	0.32	0.07	0.75		0.90	0.76		0.14	1.15	
Uniform Delay, d1	32.8	22.7	24.1	22.0	28.9		42.3	27.2		39.4	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.87	0.88		1.02	1.01	
Incremental Delay, d2	744.8	0.6	1.9	0.3	9.4		3.2	0.5		1.4	78.0	
Delay (s)	777.5	23.4	26.0	22.3	38.3		39.9	24.5		41.7	110.5	
Level of Service	F	C	C	C	D		D	C		D	F	
Approach Delay (s)		383.4			37.3			29.1			109.2	
Approach LOS		F			D			C			F	

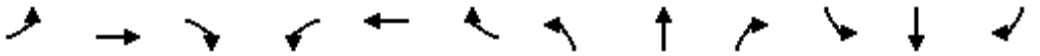
Intersection Summary			
HCM 2000 Control Delay	141.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	126.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	541	23	151	1052	109	134	170	175	167	321	199
Future Volume (vph)	144	541	23	151	1052	109	134	170	175	167	321	199
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.98	1.00
Satd. Flow (prot)	1377	1450	1378	1540	1365	1106	1540	2845			3028	1135
Flt Permitted	0.95	1.00	1.00	0.40	1.00	1.00	0.38	1.00			0.68	1.00
Satd. Flow (perm)	1377	1450	1378	651	1365	1106	609	2845			2104	1135
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Adj. Flow (vph)	153	576	25	164	1119	116	146	185	190	178	349	212
RTOR Reduction (vph)	0	0	10	0	0	43	0	124	0	0	0	80
Lane Group Flow (vph)	153	576	15	164	1119	73	146	251	0	0	527	132
Confl. Peds. (#/hr)						36						2
Confl. Bikes (#/hr)						19						
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	4.0	45.4	45.4	36.4	36.4	36.4	28.7	28.7			27.7	27.7
Effective Green, g (s)	4.0	45.4	45.4	36.4	36.4	36.4	28.7	28.7			27.7	27.7
Actuated g/C Ratio	0.05	0.55	0.55	0.44	0.44	0.44	0.35	0.35			0.33	0.33
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	66	792	752	285	597	484	210	982			701	378
v/s Ratio Prot	c0.11	0.40			c0.82			0.09				
v/s Ratio Perm			0.01	0.25		0.07	0.24				c0.25	0.12
v/c Ratio	2.32	0.73	0.02	0.58	1.87	0.15	0.70	0.26			0.75	0.35
Uniform Delay, d1	39.5	14.2	8.6	17.5	23.3	14.1	23.4	19.5			24.6	20.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	637.8	3.4	0.0	2.8	399.8	0.1	9.6	0.1			4.6	0.6
Delay (s)	677.3	17.5	8.7	20.3	423.2	14.2	33.0	19.7			29.2	21.5
Level of Service	F	B	A	C	F	B	C	B			C	C
Approach Delay (s)		151.1			342.0			23.4			27.0	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	183.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	126.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



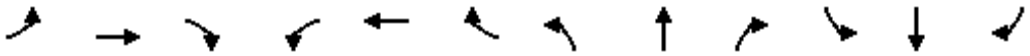
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	546	99	62	782	557	33	443	45	126	142	85
Future Volume (vph)	50	546	99	62	782	557	33	443	45	126	142	85
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		*0.80	1.00		*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	*0.80	
Frpb, ped/bikes		1.00	0.94		1.00	0.93	1.00	1.00	0.96	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	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		953	952		1122	890	1070	957	915	1070	1041	
Flt Permitted		0.17	1.00		0.11	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		158	952		129	890	1070	957	915	1070	1041	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	569	103	65	815	580	34	461	47	131	148	89
RTOR Reduction (vph)	0	0	48	0	0	47	0	0	34	0	16	0
Lane Group Flow (vph)	0	621	55	0	880	533	34	461	13	131	221	0
Confl. Peds. (#/hr)	50		13	13		50			5			10
Confl. Bikes (#/hr)			17			37			12			17
Parking (#/hr)		10	10					10				
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.0	34.0		34.0	65.0	18.4	32.0	32.0	31.0	44.6	
Effective Green, g (s)		34.0	34.0		34.0	65.0	18.4	32.0	32.0	31.0	44.6	
Actuated g/C Ratio		0.30	0.30		0.30	0.58	0.16	0.29	0.29	0.28	0.40	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		47	289		39	556	175	273	261	296	414	
v/s Ratio Prot						c0.27	0.03	c0.48		0.12	0.21	
v/s Ratio Perm		3.93	0.06		c6.80	0.33			0.01			
v/c Ratio		13.21	0.19		22.56	0.96	0.19	1.69	0.05	0.44	0.53	
Uniform Delay, d1		39.0	28.8		39.0	22.3	40.4	40.0	29.0	33.4	25.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		5536.9	0.3		9751.9	27.9	0.5	325.3	0.1	1.1	1.3	
Delay (s)		5575.9	29.1		9790.9	50.1	40.9	365.3	29.1	34.4	27.1	
Level of Service		F	C		F	D	D	F	C	C	C	
Approach Delay (s)		4786.8			5921.3			315.8			29.7	
Approach LOS		F			F			F			C	

Intersection Summary			
HCM 2000 Control Delay	3973.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	8.76		
Actuated Cycle Length (s)	112.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	152.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	108	1136	43	71	252
Future Volume (vph)	105	108	1136	43	71	252
Ideal Flow (vphpl)	1900	1900	1400	1400	1400	1400
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.75	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2369	1791	996	1134	1194
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2369	1791	996	1134	1194
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	117	1235	47	77	274
RTOR Reduction (vph)	0	101	0	5	0	0
Lane Group Flow (vph)	114	16	1235	42	77	274
Confl. Peds. (#/hr)	49	3				
Confl. Bikes (#/hr)				20		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.7	11.7	47.8	42.8	9.3	62.1
Effective Green, g (s)	11.7	11.7	47.8	42.8	9.3	62.1
Actuated g/C Ratio	0.14	0.14	0.57	0.51	0.11	0.74
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	215	330	1021	568	125	884
v/s Ratio Prot	c0.07		c0.69	0.02	c0.07	0.23
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.53	0.05	1.21	0.07	0.62	0.31
Uniform Delay, d1	33.5	31.2	18.0	10.4	35.5	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.1	103.6	0.1	8.7	0.2
Delay (s)	36.0	31.3	121.6	10.5	44.3	3.8
Level of Service	D	C	F	B	D	A
Approach Delay (s)	33.6		117.5			12.7
Approach LOS	C		F			B

Intersection Summary			
HCM 2000 Control Delay	87.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	83.8	Sum of lost time (s)	20.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

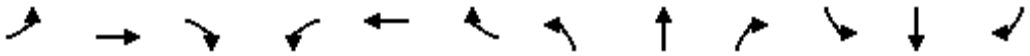
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	436	110	75	538	18	153	154	70	19	136	38
Future Volume (vph)	35	436	110	75	538	18	153	154	70	19	136	38
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
Hourly flow rate (vph)	38	469	118	81	578	19	165	166	75	20	146	41

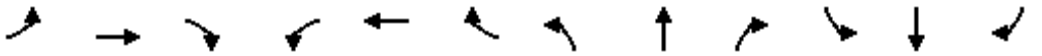
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	625	81	597	331	75	207
Volume Left (vph)	38	81	0	165	0	20
Volume Right (vph)	118	0	19	0	75	41
Hadj (s)	-0.07	0.53	0.01	0.28	-0.67	-0.07
Departure Headway (s)	8.5	8.9	8.4	9.0	8.1	9.6
Degree Utilization, x	1.48	0.20	1.39	0.83	0.17	0.55
Capacity (veh/h)	433	398	439	395	439	360
Control Delay (s)	251.5	13.0	213.3	41.7	11.5	23.7
Approach Delay (s)	251.5	189.4		36.1		23.7
Approach LOS	F	F		E		C

Intersection Summary				
Delay	159.3			
Level of Service	F			
Intersection Capacity Utilization	98.1%	ICU Level of Service	F	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	499	54	25	625	65	66	746	41	31	555	439
Future Volume (vph)	302	499	54	25	625	65	66	746	41	31	555	439
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99			0.99		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1701	1766			3357		1711	3380		1711	3143	
Flt Permitted	0.18	1.00			0.61		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	317	1766			2065		1711	3380		1711	3143	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	325	537	58	27	672	70	71	802	44	33	597	472
RTOR Reduction (vph)	0	4	0	0	8	0	0	4	0	0	143	0
Lane Group Flow (vph)	325	591	0	0	761	0	71	842	0	33	926	0
Confl. Peds. (#/hr)	21		34	34		21			43			21
Confl. Bikes (#/hr)			5			1			14			15
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	94	524			613		289	1348		254	1191	
v/s Ratio Prot		0.33					0.04	c0.25		0.02	c0.29	
v/s Ratio Perm	c1.02				0.37							
v/c Ratio	3.46	1.13			1.24		0.25	0.62		0.13	0.78	
Uniform Delay, d1	35.1	35.1			35.1		36.0	24.1		36.9	27.3	
Progression Factor	1.00	1.00			1.00		1.10	1.11		1.41	0.89	
Incremental Delay, d2	1132.2	79.3			122.3		1.3	1.5		0.4	2.2	
Delay (s)	1167.3	114.5			157.4		41.0	28.3		52.7	26.5	
Level of Service	F	F			F		D	C		D	C	
Approach Delay (s)		486.4			157.4			29.2			27.3	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	168.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	117.6%	ICU Level of Service	H
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)	23	98	0	0	1336	26	548	158	937	0	0	594
Future Volume (vph)	23	98	0	0	1336	26	548	158	937	0	0	594
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			1.00		1.00	0.87				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3388			4901		1711	2985				2694
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2511			4901		1711	2985				2694
Peak-hour factor, PHF	0.92	0.96	0.96	0.96	0.96	0.92	0.96	0.92	0.96	0.92	0.92	0.92
Adj. Flow (vph)	25	102	0	0	1392	28	571	172	976	0	0	646
RTOR Reduction (vph)	0	0	0	0	2	0	0	759	0	0	0	404
Lane Group Flow (vph)	0	127	0	0	1418	0	571	389	0	0	0	242
Confl. Peds. (#/hr)							1					
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		52.0			52.0		31.0	20.0				31.0
Effective Green, g (s)		52.0			52.0		31.0	20.0				31.0
Actuated g/C Ratio		0.46			0.46		0.27	0.18				0.27
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Lane Grp Cap (vph)		1145			2235		465	523				732
v/s Ratio Prot					c0.29		c0.33	c0.13				
v/s Ratio Perm		0.05										0.09
v/c Ratio		0.11			0.63		1.23	0.95dr				0.33
Uniform Delay, d1		17.8			23.7		41.5	44.6				33.2
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			1.4		120.4	9.2				1.2
Delay (s)		18.0			25.1		161.9	53.8				34.4
Level of Service		B			C		F	D				C
Approach Delay (s)		18.0			25.1			89.7			34.4	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	54.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		

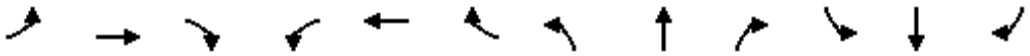
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	121	644	1134	85	0	0
Future Volume (vph)	121	644	1134	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.98	0.97	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.90	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1501	1409	3319	1801		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1501	1409	3319	1801		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	123	657	1157	87	0	0
RTOR Reduction (vph)	29	29	0	0	0	0
Lane Group Flow (vph)	370	352	1157	87	0	0
Confl. Peds. (#/hr)		4	5			
Confl. Bikes (#/hr)		24				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	21.0	21.0	29.0	60.0		
Effective Green, g (s)	21.0	21.0	29.0	60.0		
Actuated g/C Ratio	0.35	0.35	0.48	1.00		
Clearance Time (s)	5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	525	493	1604	1801		
v/s Ratio Prot	0.25		c0.35	0.05		
v/s Ratio Perm		c0.25				
v/c Ratio	0.71	0.71	0.72	0.05		
Uniform Delay, d1	16.8	16.9	12.3	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	7.8	8.6	2.8	0.1		
Delay (s)	24.6	25.5	15.1	0.1		
Level of Service	C	C	B	A		
Approach Delay (s)	25.0			14.1	0.0	
Approach LOS	C			B	A	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

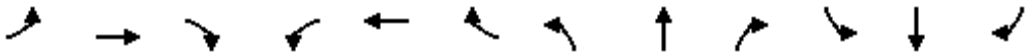
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	25	43	72	59	29	0	888	46	0	784	38
Future Volume (vph)	46	25	43	72	59	29	0	888	46	0	784	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1200	1200	1200	1200	1200	1200
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.95			0.98			0.99			0.99	
Flpb, ped/bikes		0.97			0.96			1.00			1.00	
Frt		0.95			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1217			1268			1785			1787	
Flt Permitted		0.81			0.79			1.00			1.00	
Satd. Flow (perm)		1000			1028			1785			1787	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	47	26	44	73	60	30	0	906	47	0	800	39
RTOR Reduction (vph)	0	25	0	0	10	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	92	0	0	153	0	0	950	0	0	836	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.5			19.5			70.6			70.6	
Effective Green, g (s)		19.5			19.5			70.6			70.6	
Actuated g/C Ratio		0.20			0.20			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			200			1260			1261	
v/s Ratio Prot								c0.53			0.47	
v/s Ratio Perm		0.09			c0.15							
v/c Ratio		0.47			0.77			0.75			0.66	
Uniform Delay, d1		35.7			38.1			9.2			8.1	
Progression Factor		1.00			1.00			0.60			0.36	
Incremental Delay, d2		1.8			16.0			0.4			2.0	
Delay (s)		37.5			54.1			5.9			4.9	
Level of Service		D			D			A			A	
Approach Delay (s)		37.5			54.1			5.9			4.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	75.7%	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)	333	159	178	8	222	16	199	643	5	25	502	289
Future Volume (vph)	333	159	178	8	222	16	199	643	5	25	502	289
Ideal Flow (vphpl)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.94	
Flpb, ped/bikes	0.98	1.00		0.94	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.99		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1192	1976		1141	1255		1215	2426		1215	2152	
Flt Permitted	0.34	1.00		0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	428	1976		648	1255		1215	2426		1215	2152	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	351	167	187	8	234	17	209	677	5	26	528	304
RTOR Reduction (vph)	0	123	0	0	3	0	0	1	0	0	82	0
Lane Group Flow (vph)	351	231	0	8	248	0	209	681	0	26	750	0
Confl. Peds. (#/hr)	100		100	100		100			100			100
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	34.3	34.3		23.3	23.3		15.9	45.6		3.8	33.5	
Effective Green, g (s)	34.3	34.3		23.3	23.3		15.9	45.6		3.8	33.5	
Actuated g/C Ratio	0.34	0.34		0.23	0.23		0.16	0.46		0.04	0.34	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	677		150	292		193	1106		46	720	
v/s Ratio Prot	c0.11	0.12			0.20		c0.17	0.28		0.02	c0.35	
v/s Ratio Perm	c0.53			0.01								
v/c Ratio	1.85	0.34		0.05	0.85		1.08	0.62		0.57	1.04	
Uniform Delay, d1	33.5	24.4		29.8	36.7		42.0	20.6		47.3	33.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.28	1.28	
Incremental Delay, d2	401.0	0.3		0.1	19.9		88.6	2.6		11.6	40.9	
Delay (s)	434.5	24.7		29.9	56.6		130.7	23.2		72.1	83.3	
Level of Service	F	C		C	E		F	C		E	F	
Approach Delay (s)		228.8			55.8			48.4			82.9	
Approach LOS		F			E			D			F	

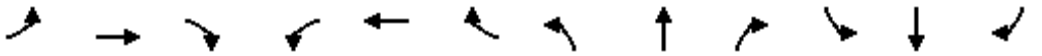
Intersection Summary			
HCM 2000 Control Delay	106.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Intersection LOS Calculations

Cumulative

FEHR PEERS

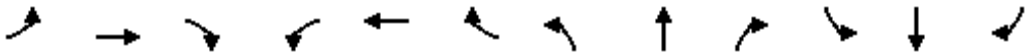


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	20	200	0	40	20	130	1150	40	100	990	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			0.99		1.00	0.99		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1360			1529		1540	2803		1540	3079	976
Flt Permitted	0.72	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1134	1360			1529		1540	2803		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	21	211	0	42	21	137	1211	42	105	1042	63
RTOR Reduction (vph)	0	138	0	0	14	0	0	2	0	0	0	42
Lane Group Flow (vph)	126	94	0	0	49	0	137	1251	0	105	1042	21
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	392	471			529		231	955		211	1030	326
v/s Ratio Prot		0.07			0.03		0.09	c0.45		0.07	c0.34	
v/s Ratio Perm	c0.11											0.02
v/c Ratio	0.32	0.20			0.09		0.59	1.31		0.50	1.01	0.06
Uniform Delay, d1	26.4	25.2			24.3		43.6	36.2		43.9	36.6	24.9
Progression Factor	1.00	1.00			1.00		0.91	0.84		1.00	1.00	1.00
Incremental Delay, d2	2.2	1.0			0.3		4.2	142.4		8.2	30.9	0.4
Delay (s)	28.6	26.2			24.6		43.8	173.0		52.1	67.5	25.3
Level of Service	C	C			C		D	F		D	E	C
Approach Delay (s)		27.0			24.6			160.3			64.0	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	103.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	210	30	20	1140	0	1040	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00		1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079		3079	1018
Flt Permitted	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079		3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	226	32	22	1226	0	1118	194
RTOR Reduction (vph)	0	9	0	0	0	0	62
Lane Group Flow (vph)	226	23	22	1226	0	1118	132
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8		37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8		37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40		0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226		1035	342
v/s Ratio Prot	c0.17		0.01	c0.40		c0.36	
v/s Ratio Perm		0.02					0.13
v/c Ratio	0.50	0.06	0.10	1.00		1.08	0.38
Uniform Delay, d1	28.4	24.0	41.3	33.1		36.5	27.8
Progression Factor	1.00	1.00	0.57	0.65		0.60	0.39
Incremental Delay, d2	3.9	0.3	0.4	16.7		45.0	1.6
Delay (s)	32.3	24.3	23.9	38.2		66.7	12.3
Level of Service	C	C	C	D		E	B
Approach Delay (s)	31.3			38.0		58.7	
Approach LOS	C			D		E	

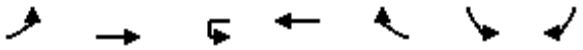
Intersection Summary			
HCM 2000 Control Delay	47.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	20	10	10	10	30	1100	10	30	980	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	0.97	
Flpb, ped/bikes		0.98			0.99		1.00	1.00		1.00	1.00	
Frt		0.97			0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1473			1486		1540	3070		1540	2942	
Flt Permitted		0.80			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1220			1395		1540	3070		1540	2942	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	62	10	21	10	10	10	31	1146	10	31	1021	125
RTOR Reduction (vph)	0	10	0	0	7	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	83	0	0	23	0	31	1155	0	31	1137	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		421			481		210	1200		128	1005	
v/s Ratio Prot							0.02	c0.38		0.02	c0.39	
v/s Ratio Perm		c0.07			0.02							
v/c Ratio		0.20			0.05		0.15	0.96		0.24	1.13	
Uniform Delay, d1		25.3			24.0		41.9	32.7		47.1	36.2	
Progression Factor		1.00			1.00		0.89	0.88		1.27	0.15	
Incremental Delay, d2		1.0			0.2		0.7	11.1		0.4	60.7	
Delay (s)		26.3			24.2		38.1	39.8		60.3	66.0	
Level of Service		C			C		D	D		E	E	
Approach Delay (s)		26.3			24.2			39.7			65.8	
Approach LOS		C			C			D			E	

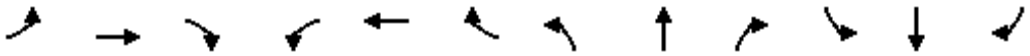
Intersection Summary			
HCM 2000 Control Delay	51.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



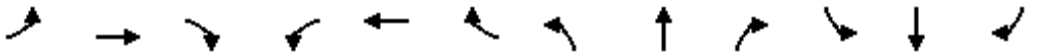
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	140	1070	0	940	30	10	490
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2		6.6		6.8	6.8
Lane Util. Factor	1.00	0.95		0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00		0.99		1.00	0.69
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		1.00		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1459	2917		2872		1459	894
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1459	2917		2872		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1103	0	969	31	10	505
RTOR Reduction (vph)	0	0	0	2	0	0	236
Lane Group Flow (vph)	144	1103	0	998	0	10	269
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8		36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8		36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41		0.33		0.35	0.35
Clearance Time (s)	6.6	5.2		6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188		950		506	310
v/s Ratio Prot	0.10	c0.38		c0.35		0.01	
v/s Ratio Perm							c0.30
v/c Ratio	0.71	0.93		1.05		0.02	0.87
Uniform Delay, d1	45.1	31.1		36.8		23.6	33.6
Progression Factor	1.46	0.78		1.82		1.00	1.00
Incremental Delay, d2	8.7	7.0		25.9		0.1	26.5
Delay (s)	74.4	31.3		93.0		23.7	60.1
Level of Service	E	C		F		C	E
Approach Delay (s)		36.3		93.0		59.4	
Approach LOS		D		F		E	

Intersection Summary			
HCM 2000 Control Delay	61.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	720	850	50	440	890	40	80	1200	510	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3034		2987	3025			5536	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3034		2987	3025			5536	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	766	904	53	468	947	43	85	1277	543	0	0	0
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	214	0	0	0
Lane Group Flow (vph)	766	953	0	468	987	0	0	1362	329	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.5	34.0			38.9	38.9			
Effective Green, g (s)	18.2	37.2		13.5	34.0			38.9	38.9			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.35	0.35			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1026		366	935			1957	448			
v/s Ratio Prot	c0.18	0.31		0.16	c0.33							
v/s Ratio Perm								0.25	c0.26			
v/c Ratio	1.07	0.93		1.28	1.06			0.70	0.73			
Uniform Delay, d1	45.9	35.1		48.2	38.0			30.5	31.0			
Progression Factor	1.09	1.13		0.72	0.91			1.27	1.87			
Incremental Delay, d2	33.3	1.9		127.4	28.1			0.6	3.3			
Delay (s)	83.3	41.6		162.1	62.5			39.2	61.3			
Level of Service	F	D		F	E			D	E			
Approach Delay (s)		60.2			94.5			45.5			0.0	
Approach LOS		E			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	64.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



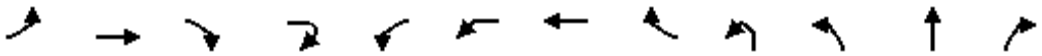
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	1520	20	60	850	60	10	130	40	80	580	250
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.71	1.00	0.98	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.77	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3709		1459	2780			1520	911	1125	1424	698
Flt Permitted	0.95	1.00		0.95	1.00			0.48	1.00	0.66	1.00	1.00
Satd. Flow (perm)	1296	3709		1459	2780			735	911	783	1424	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	247	1634	22	65	914	65	11	140	43	86	624	269
RTOR Reduction (vph)	0	1	0	0	5	0	0	0	28	0	1	113
Lane Group Flow (vph)	247	1655	0	65	974	0	0	151	15	86	650	129
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	40.0		11.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	40.0		11.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.36		0.11	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1348		157	907			255	316	279	507	248
v/s Ratio Prot	0.19	c0.45		0.04	c0.35						c0.46	
v/s Ratio Perm								0.21	0.02	0.11		0.18
v/c Ratio	1.46	1.23		0.41	1.07			0.59	0.05	0.31	1.28	0.52
Uniform Delay, d1	47.8	35.0		45.8	37.0			29.5	23.8	25.6	35.4	28.0
Progression Factor	1.28	0.81		0.54	0.47			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	210.7	103.0		0.2	35.8			3.7	0.1	0.6	141.2	1.8
Delay (s)	271.8	131.2		24.7	53.0			33.2	23.9	26.2	176.6	29.8
Level of Service	F	F		C	D			C	C	C	F	C
Approach Delay (s)		149.5			51.3			31.1			127.1	
Approach LOS		F			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	113.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	145.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1740	110	0	940	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3045			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3045			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1832	116	0	989	126	11
RTOR Reduction (vph)	4	0	0	0	0	7
Lane Group Flow (vph)	1944	0	0	989	126	4
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1719			1738	512	451
v/s Ratio Prot	c0.64			0.32	c0.08	
v/s Ratio Perm						0.00
v/c Ratio	1.13			0.57	0.25	0.01
Uniform Delay, d1	23.9			15.4	26.7	24.6
Progression Factor	1.00			2.30	1.00	1.00
Incremental Delay, d2	66.8			0.3	1.1	0.0
Delay (s)	90.7			35.7	27.8	24.6
Level of Service	F			D	C	C
Approach Delay (s)	90.7			35.7	27.6	
Approach LOS	F			D	C	

Intersection Summary			
HCM 2000 Control Delay	70.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



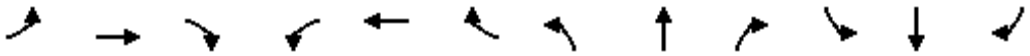
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Volume (vph)	160	330	40	60	10	20	60	10	10	10	10	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.98					0.99				0.97	
Flpb, ped/bikes		0.99					1.00				0.95	
Frt		0.98					0.99				0.92	
Flt Protected		0.99					0.99				0.99	
Satd. Flow (prot)		1445					1255				1094	
Flt Permitted		0.88					0.72				0.89	
Satd. Flow (perm)		1291					922				986	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	186	384	47	70	12	23	70	12	12	12	12	47
RTOR Reduction (vph)	0	0	0	0	0	0	5	0	0	0	27	0
Lane Group Flow (vph)	0	687	0	0	0	0	112	0	0	0	56	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		24.0					24.0				32.0	
Effective Green, g (s)		24.0					24.0				32.0	
Actuated g/C Ratio		0.32					0.32				0.43	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		413					295				420	
v/s Ratio Prot												
v/s Ratio Perm		c0.53					0.12				0.06	
v/c Ratio		1.66					0.38				0.13	
Uniform Delay, d1		25.5					19.7				13.1	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		309.1					0.8				0.1	
Delay (s)		334.6					20.5				13.2	
Level of Service		F					C				B	
Approach Delay (s)		334.6					20.5				13.2	
Approach LOS		F					C				B	

Intersection Summary			
HCM 2000 Control Delay	222.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

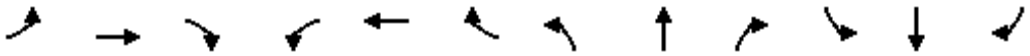
Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Volume (vph)	150	10	50	80	10	90	140	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	1.00	
Frpb, ped/bikes		0.92		0.72		1.00	0.81	
Flpb, ped/bikes		1.00		1.00		0.90	1.00	
Frt		0.96		0.85		1.00	0.85	
Flt Protected		0.97		1.00		0.95	1.00	
Satd. Flow (prot)		1245		888		1311	1058	
Flt Permitted		0.74		1.00		0.95	1.00	
Satd. Flow (perm)		957		888		1311	1058	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	174	12	58	93	12	105	163	12
RTOR Reduction (vph)	0	2	0	48	0	0	97	0
Lane Group Flow (vph)	0	251	0	36	0	117	78	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		32.0		32.0		4.0	4.0	
Effective Green, g (s)		32.0		32.0		4.0	4.0	
Actuated g/C Ratio		0.43		0.43		0.05	0.05	
Clearance Time (s)		5.0		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		408		378		69	56	
v/s Ratio Prot								
v/s Ratio Perm		c0.26		0.04		0.09	0.07	
v/c Ratio		0.62		0.09		1.70	1.40	
Uniform Delay, d1		16.7		12.8		35.5	35.5	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		2.8		0.1		367.2	258.7	
Delay (s)		19.5		13.0		402.7	294.2	
Level of Service		B		B		F	F	
Approach Delay (s)		17.9				337.7		
Approach LOS		B				F		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	140	0	10	530	50	240	350	310	10	0	80
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.88	
Flt Protected		0.98			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1267			2045	702	1459	2672			1329	
Flt Permitted		0.54			0.93	1.00	0.70	1.00			0.91	
Satd. Flow (perm)		705			1911	702	1068	2672			1221	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	147	0	11	558	53	253	368	326	11	0	84
RTOR Reduction (vph)	0	0	0	0	0	0	0	206	0	0	0	0
Lane Group Flow (vph)	0	294	0	0	569	53	253	488	0	0	95	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		329			891	327	391	979			447	
v/s Ratio Prot								0.18				
v/s Ratio Perm		c0.42			0.30	0.08	c0.24				0.08	
v/c Ratio		0.89			0.64	0.16	0.65	0.50			0.21	
Uniform Delay, d1		14.6			12.2	9.2	15.8	14.7			13.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		28.7			3.5	1.1	8.0	1.8			1.1	
Delay (s)		43.4			15.7	10.3	23.8	16.5			14.1	
Level of Service		D			B	B	C	B			B	
Approach Delay (s)		43.4			15.2			18.5			14.1	
Approach LOS		D			B			B			B	

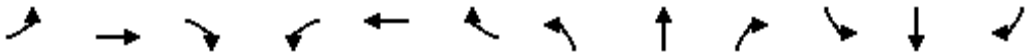
Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	450	20	0	60	0	10	410	140	420	130	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0			3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00			0.95		1.00	1.00	
Frpb, ped/bikes		1.00			1.00			0.94		1.00	1.00	
Flpb, ped/bikes		1.00			1.00			1.00		1.00	1.00	
Frt		1.00			1.00			0.96		1.00	0.99	
Flt Protected		0.98			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1224			1482			2635		1459	1518	
Flt Permitted		0.98			1.00			0.95		0.27	1.00	
Satd. Flow (perm)		1224			1482			2504		414	1518	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	362	479	21	0	64	0	11	436	149	447	138	11
RTOR Reduction (vph)	0	1	0	0	0	0	0	36	0	0	3	0
Lane Group Flow (vph)	0	861	0	0	64	0	0	560	0	447	146	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA			NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases						4	2			6		
Actuated Green, G (s)		24.0			24.0			24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0			27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29			0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0			6.0		6.0	6.0	
Lane Grp Cap (vph)		367			428			751		128	472	
v/s Ratio Prot		c0.70			c0.04						0.10	
v/s Ratio Perm								0.22		c1.08		
v/c Ratio		2.35			0.15			0.75		3.49	0.31	
Uniform Delay, d1		31.5			23.8			28.4		31.0	23.6	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		614.5			0.7			6.6		1140.9	1.7	
Delay (s)		646.0			24.5			35.0		1171.9	25.3	
Level of Service		F			C			D		F	C	
Approach Delay (s)		646.0			24.5			35.0			885.2	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	522.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	115.7%	ICU Level of Service	H
Analysis Period (min)	15		

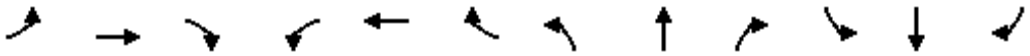
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	320	60	60	260	70	20	290	60	70	400	160
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.95			0.91			0.95			0.92	
Flpb, ped/bikes		0.89			0.97			0.99			0.98	
Frt		0.99			0.97			0.98			0.96	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		2226			2311			2657			2318	
Flt Permitted		0.66			0.81			0.91			0.87	
Satd. Flow (perm)		1490			1886			2432			2024	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	337	63	63	274	74	21	305	63	74	421	168
RTOR Reduction (vph)	0	12	0	0	18	0	0	0	0	0	20	0
Lane Group Flow (vph)	0	662	0	0	393	0	0	389	0	0	643	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		695			880			1134			910	
v/s Ratio Prot												
v/s Ratio Perm		c0.44			0.21			0.16			c0.32	
v/c Ratio		1.07dl			0.45			0.34			0.71	
Uniform Delay, d1		15.4			10.8			10.2			13.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		24.2			1.6			0.8			4.6	
Delay (s)		39.6			12.4			11.0			17.9	
Level of Service		D			B			B			B	
Approach Delay (s)		39.6			12.4			11.0			17.9	
Approach LOS		D			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		

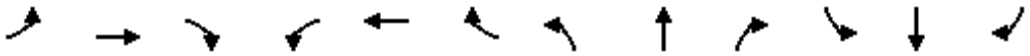
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	540	770	60	0	0	0	0	510	110	50	630	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	0.65		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		0.99	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4117						1588	823		1537	
Flt Permitted	0.95	1.00						1.00	1.00		0.93	
Satd. Flow (perm)	2830	4117						1588	823		1440	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	574	819	64	0	0	0	0	543	117	53	670	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	574	873	0	0	0	0	0	543	117	0	723	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2								4	4		
Actuated Green, G (s)	27.0	27.0						53.0	53.0		53.0	
Effective Green, g (s)	28.5	28.5						54.5	54.5		54.5	
Actuated g/C Ratio	0.32	0.32						0.61	0.61		0.61	
Clearance Time (s)	5.0	5.0						5.0	5.0		5.0	
Lane Grp Cap (vph)	896	1303						961	498		872	
v/s Ratio Prot		c0.21						0.34				
v/s Ratio Perm	0.20								0.14		c0.50	
v/c Ratio	0.64	0.67						0.57	0.23		0.83	
Uniform Delay, d1	26.4	26.7						10.6	8.2		14.1	
Progression Factor	0.77	0.77						1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.3						2.4	1.1		9.0	
Delay (s)	20.7	20.7						13.0	9.3		23.0	
Level of Service	C	C						B	A		C	
Approach Delay (s)		20.7			0.0			12.4			23.0	
Approach LOS		C			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

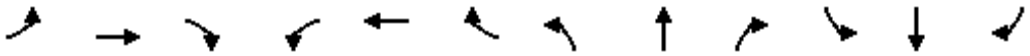


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1100	1340	0	0	0	0	0	1380	290	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.95				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.97				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		4987						3745				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		4987						3745				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1146	1396	0	0	0	0	0	1438	302	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2542	0	0	0	0	0	1740	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1690						1061				
v/s Ratio Prot								c0.46				
v/s Ratio Perm		0.51										
v/c Ratio		2.40dl						1.64				
Uniform Delay, d1		29.8						32.2				
Progression Factor		1.06						1.00				
Incremental Delay, d2		228.0						292.3				
Delay (s)		259.5						324.5				
Level of Service		F						F				
Approach Delay (s)		259.5			0.0			324.5			0.0	
Approach LOS		F			A			F			A	

Intersection Summary			
HCM 2000 Control Delay	285.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

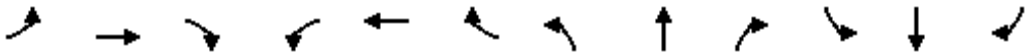
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	1240	170	170	1820	100	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.97			0.97				
Flpb, ped/bikes					1.00			1.00				
Frt					0.98			0.99				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					2662			3891				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					2662			3891				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1319	181	181	1936	106	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1488	0	0	2223	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					931			1145				
v/s Ratio Prot					c0.56			c0.57				
v/s Ratio Perm												
v/c Ratio					1.60			1.94				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.85				
Incremental Delay, d2					274.4			424.0				
Delay (s)					303.7			450.8				
Level of Service					F			F				
Approach Delay (s)		0.0			303.7			450.8			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	391.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	1160	300	200	1580	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.93			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3227			2906				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3227			2906				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1234	319	213	1681	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	51	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1502	0	0	1894	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1129			984				
v/s Ratio Prot					c0.47			c0.65				
v/s Ratio Perm												
v/c Ratio					1.33			1.92				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.38				
Incremental Delay, d2					154.7			416.5				
Delay (s)					184.0			427.8				
Level of Service					F			F				
Approach Delay (s)		0.0			184.0			427.8			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	317.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Volume (vph)	1130	330	260	100	580	1280	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00	1.00	1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.64	1.00	1.00	1.00
Frt	1.00	0.85	0.86	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5099	1212	1282	903	2605	4122	1122
Flt Permitted	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5099	1212	1282	903	2605	4122	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1242	363	286	110	637	1407	44
RTOR Reduction (vph)	0	121	78	78	0	0	0
Lane Group Flow (vph)	1242	242	208	32	637	1411	40
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0	26.0	26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350	370	260	752	1282	349
v/s Ratio Prot	c0.24				c0.24	c0.34	
v/s Ratio Perm		0.20	0.16	0.04			0.04
v/c Ratio	0.84	0.69	0.56	0.12	0.85	1.10	0.11
Uniform Delay, d1	30.1	28.4	27.2	23.6	30.1	31.0	22.1
Progression Factor	1.00	1.00	1.00	0.92	0.93	1.00	1.00
Incremental Delay, d2	6.1	10.7	6.1	1.0	11.2	57.4	0.7
Delay (s)	36.1	39.2	33.3	22.7	39.2	88.4	22.8
Level of Service	D	D	C	C	D	F	C
Approach Delay (s)	36.8				36.8	86.6	
Approach LOS	D				D	F	

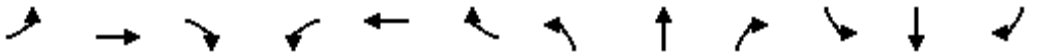
Intersection Summary			
HCM 2000 Control Delay	54.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Volume (vph)	150	770	630	270	450	160
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.93	0.85	0.85
Flt Protected	0.95		0.97	1.00	1.00	1.00
Satd. Flow (prot)	1115		3828	2270	1013	1099
Flt Permitted	0.95		0.97	1.00	1.00	1.00
Satd. Flow (perm)	1115		3828	2270	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	153	786	643	276	459	163
RTOR Reduction (vph)	0	0	0	0	0	74
Lane Group Flow (vph)	138	0	1444	506	229	89
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1641	1092	521	565
v/s Ratio Prot				0.22		
v/s Ratio Perm	0.12		0.38		c0.23	0.08
v/c Ratio	0.29		1.38dl	0.46	0.44	0.16
Uniform Delay, d1	16.8		23.6	15.6	13.7	11.5
Progression Factor	1.46		1.26	1.18	1.27	2.77
Incremental Delay, d2	0.1		0.7	1.2	2.4	0.5
Delay (s)	24.7		30.5	19.7	19.7	32.5
Level of Service	C		C	B	B	C
Approach Delay (s)			30.0	22.0		
Approach LOS			C	C		

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	400	960	0	0	0	0	0	370	200
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	408	980	0	0	0	0	0	378	204
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	408	980	0	0	0	0	0	378	204
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				c0.28	0.23						0.13	
v/s Ratio Perm												c0.24
v/c Ratio				0.75	0.63						0.38	0.69
Uniform Delay, d1				24.6	23.2						22.3	25.3
Progression Factor				1.15	1.14						1.00	1.00
Incremental Delay, d2				0.9	0.2						1.1	12.2
Delay (s)				29.2	26.6						23.4	37.6
Level of Service				C	C						C	D
Approach Delay (s)		0.0			27.4			0.0			28.3	
Approach LOS		A			C			A			C	

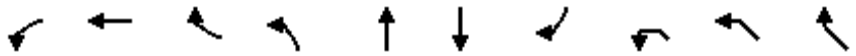
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Volume (vph)	150	450	870	180	460	320	110	270	150	1020
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.77	1.00	0.86			1.00	1.00
Flpb, ped/bikes		0.87	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2098	2518	968	1535	1164			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.35	1.00
Satd. Flow (perm)		2098	2518	968	1535	1164			1003	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	161	484	935	194	495	344	118	290	161	1097
RTOR Reduction (vph)	0	0	0	26	0	22	0	0	0	0
Lane Group Flow (vph)	0	597	983	168	495	440	0	0	451	1097
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		28.0	28.0	28.0	35.0	35.0			35.0	35.0
Effective Green, g (s)		28.0	30.5	30.0	36.5	37.0			36.5	36.5
Actuated g/C Ratio		0.37	0.41	0.40	0.49	0.49			0.49	0.49
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		783	1023	387	747	574			488	635
v/s Ratio Prot			c0.39		0.32					c0.84
v/s Ratio Perm		0.28		0.17		0.38			0.45	
v/c Ratio		0.76	0.96	0.43	0.66	0.77			1.16dl	1.73
Uniform Delay, d1		20.6	21.7	16.3	14.6	15.5			18.0	19.2
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.44	1.42
Incremental Delay, d2		6.9	20.2	3.5	4.6	9.4			3.7	328.0
Delay (s)		27.5	41.8	19.8	19.2	24.9			29.5	355.4
Level of Service		C	D	B	B	C			C	F
Approach Delay (s)			34.6		21.9					260.4
Approach LOS			C		C					F

Intersection Summary			
HCM 2000 Control Delay	113.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Volume (vph)	60	680	160	60	440	760	270	290	690	450
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.98			1.00	0.95			0.98	0.87
Flpb, ped/bikes		1.00			1.00	1.00			0.84	1.00
Frt		0.97			1.00	0.96			0.98	0.85
Flt Protected		1.00			0.99	1.00			0.96	1.00
Satd. Flow (prot)		4974			2871	2444			3353	979
Flt Permitted		1.00			0.56	1.00			0.96	1.00
Satd. Flow (perm)		4974			1611	2444			3353	979
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	65	731	172	65	473	817	290	315	742	484
RTOR Reduction (vph)	0	31	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	937	0	0	538	1096	0	0	1183	358
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		22.0			20.0	20.0			19.0	19.0
Effective Green, g (s)		24.0			23.0	23.0			22.0	22.0
Actuated g/C Ratio		0.32			0.31	0.31			0.29	0.29
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1591			494	749			983	287
v/s Ratio Prot						c0.45				
v/s Ratio Perm		0.19			0.33				0.35	c0.37
v/c Ratio		0.59			1.09	1.46			1.20	1.25
Uniform Delay, d1		21.4			26.0	26.0			26.5	26.5
Progression Factor		1.00			0.72	1.00			1.00	1.00
Incremental Delay, d2		1.6			61.0	215.8			101.3	137.0
Delay (s)		23.0			79.6	241.8			127.8	163.5
Level of Service		C			E	F			F	F
Approach Delay (s)		23.0			79.6	241.8			136.1	
Approach LOS		C			E	F			F	

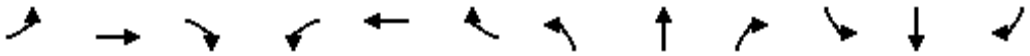
Intersection Summary			
HCM 2000 Control Delay	130.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	260	1550	10	250	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3074		1529	3079
Flt Permitted	0.95	1.00	1.00		0.08	1.00
Satd. Flow (perm)	1540	1378	3074		129	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	289	1722	11	278	744
RTOR Reduction (vph)	0	16	0	0	0	0
Lane Group Flow (vph)	11	273	1733	0	278	744
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2090		87	2093
v/s Ratio Prot	0.01		0.56			0.24
v/s Ratio Perm		c0.20			c2.16	
v/c Ratio	0.03	0.85	0.83		3.20	0.36
Uniform Delay, d1	32.6	40.4	12.9		17.6	7.4
Progression Factor	1.00	1.00	1.00		1.63	0.62
Incremental Delay, d2	0.2	23.9	4.0		1010.6	0.4
Delay (s)	32.8	64.3	16.9		1039.2	5.0
Level of Service	C	E	B		F	A
Approach Delay (s)	63.2		16.9			286.3
Approach LOS	E		B			F

Intersection Summary			
HCM 2000 Control Delay	111.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	158.3%	ICU Level of Service	H
Analysis Period (min)	15		

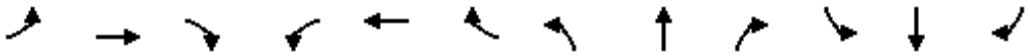
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	70	190	0	0	10	40	1430	160	90	370	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.86		1.00	0.98		1.00	0.99	
Flt Protected		0.97	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1565	1342		1376		1459	2850		1540	3012	
Flt Permitted		0.80	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1294	1342		1376		1459	2850		1540	3012	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	135	79	213	0	0	11	45	1607	180	101	416	45
RTOR Reduction (vph)	0	0	145	0	7	0	0	8	0	0	8	0
Lane Group Flow (vph)	0	214	68	0	4	0	45	1779	0	101	453	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm		NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		415	430		441		215	1011		254	1129	
v/s Ratio Prot					0.00		0.03	c0.62		0.07	c0.15	
v/s Ratio Perm		c0.17	0.05									
v/c Ratio		0.52	0.16		0.01		0.21	1.76		0.40	0.40	
Uniform Delay, d1		27.6	24.3		23.1		37.5	32.2		37.3	23.0	
Progression Factor		1.00	1.00		1.00		1.53	1.03		1.00	1.00	
Incremental Delay, d2		4.5	0.8		0.0		0.2	342.0		4.6	1.1	
Delay (s)		32.1	25.1		23.1		57.7	375.2		41.9	24.1	
Level of Service		C	C		C		E	F		D	C	
Approach Delay (s)		28.6			23.1			367.4			27.3	
Approach LOS		C			C			F			C	

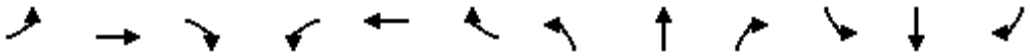
Intersection Summary			
HCM 2000 Control Delay	247.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	20	70	20	0	10	30	1590	20	20	500	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Frt		0.92			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1225			1465		1418	2826		1540	3037	
Flt Permitted		0.93			0.82		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1155			1247		1418	2826		1540	3037	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	33	22	77	22	0	11	33	1747	22	22	549	33
RTOR Reduction (vph)	0	50	0	0	22	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	82	0	0	11	0	33	1768	0	22	578	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		7.0	50.8		1.0	44.9	
Effective Green, g (s)		32.7			32.7		7.0	50.8		1.0	44.9	
Actuated g/C Ratio		0.33			0.33		0.07	0.51		0.01	0.45	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		377			407		99	1435		15	1363	
v/s Ratio Prot							0.02	c0.63		0.01	c0.19	
v/s Ratio Perm		c0.07			0.01							
v/c Ratio		0.22			0.03		0.33	1.23		1.47	0.42	
Uniform Delay, d1		24.4			22.8		44.3	24.6		49.5	18.7	
Progression Factor		1.00			1.00		1.19	0.70		0.72	0.70	
Incremental Delay, d2		1.3			0.1		0.8	105.0		396.8	0.9	
Delay (s)		25.7			23.0		53.5	122.1		432.7	14.0	
Level of Service		C			C		D	F		F	B	
Approach Delay (s)		25.7			23.0			120.9			29.2	
Approach LOS		C			C			F			C	

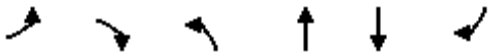
Intersection Summary			
HCM 2000 Control Delay	93.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	130	10	20	30	80	20	100	30	190	70	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.99	1.00	0.99		1.00	0.85	
Flpb, ped/bikes		1.00			1.00	1.00	0.89	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	0.89	
Flt Protected		0.99			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1352			1586	1359	1149	1298		1296	1039	
Flt Permitted		0.95			0.87	1.00	0.59	1.00		0.95	1.00	
Satd. Flow (perm)		1297			1410	1359	709	1298		1296	1039	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	141	11	22	33	87	22	109	33	207	76	207
RTOR Reduction (vph)	0	4	0	0	0	41	0	17	0	0	83	0
Lane Group Flow (vph)	0	170	0	0	55	46	22	125	0	207	200	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		9.6			9.6	25.6	8.3	8.3		16.0	29.3	
Effective Green, g (s)		9.6			9.6	25.6	8.3	8.3		16.0	29.3	
Actuated g/C Ratio		0.20			0.20	0.52	0.17	0.17		0.33	0.60	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		254			276	850	120	220		424	622	
v/s Ratio Prot						0.02		c0.10		c0.16	0.19	
v/s Ratio Perm		c0.13			0.04	0.02	0.03					
v/c Ratio		0.67			0.20	0.05	0.18	0.57		0.49	0.32	
Uniform Delay, d1		18.2			16.4	5.7	17.4	18.7		13.2	4.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.5			0.4	0.0	0.7	3.4		0.9	0.3	
Delay (s)		24.7			16.8	5.7	18.1	22.0		14.1	5.2	
Level of Service		C			B	A	B	C		B	A	
Approach Delay (s)		24.7			10.0			21.5			8.9	
Approach LOS		C			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	48.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

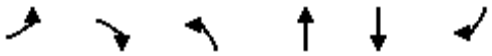
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	20	30	10	310	100	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	23	34	11	352	114	11

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	23	34	129	235	76	49
Volume Left (vph)	23	0	11	0	0	0
Volume Right (vph)	0	34	0	0	0	11
Hadj (s)	0.53	-0.67	0.08	0.03	0.03	-0.13
Departure Headway (s)	6.1	4.9	4.8	4.8	5.0	4.8
Degree Utilization, x	0.04	0.05	0.17	0.31	0.11	0.07
Capacity (veh/h)	546	673	728	737	698	722
Control Delay (s)	8.2	7.0	7.7	8.8	7.4	7.0
Approach Delay (s)	7.4		8.4		7.2	
Approach LOS	A		A		A	

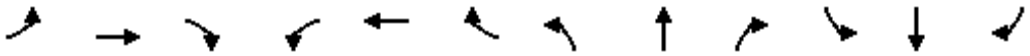
Intersection Summary			
Delay	8.0		
Level of Service	A		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	25	100	410	70	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	120	30	120	494	84	60
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	617	86	157			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	617	86	157			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	68	97	91			
cM capacity (veh/h)	381	945	1408			

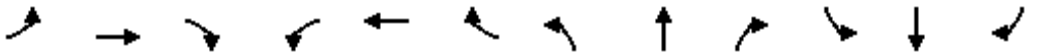
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	151	285	329	56	88
Volume Left	120	120	0	0	0
Volume Right	30	0	0	0	60
cSH	433	1408	1700	1700	1700
Volume to Capacity	0.35	0.09	0.19	0.03	0.05
Queue Length 95th (ft)	38	7	0	0	0
Control Delay (s)	17.7	3.7	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	17.7	1.7		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	220	190	30	130	140	440	1380	90	90	260	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	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	0.92		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1527	1378	1136	1533	1472		2987	3041		1540	2827	
Flt Permitted	0.47	1.00	1.00	0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	750	1378	1136	866	1472		2987	3041		1540	2827	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	170	234	202	32	138	149	468	1468	96	96	277	213
RTOR Reduction (vph)	0	0	132	0	39	0	0	5	0	0	132	0
Lane Group Flow (vph)	170	234	70	32	248	0	468	1559	0	96	358	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		12.0	45.8		4.0	37.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		12.0	45.8		4.0	37.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.12	0.46		0.04	0.38	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	258	475	391	298	507		358	1392		61	1068	
v/s Ratio Prot		0.17			0.17		0.16	c0.51		c0.06	0.13	
v/s Ratio Perm	c0.23		0.06	0.04								
v/c Ratio	0.66	0.49	0.18	0.11	0.49		1.31	1.12		1.57	0.33	
Uniform Delay, d1	27.8	25.8	22.9	22.3	25.8		44.0	27.1		48.0	22.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.80	0.88		0.59	0.19	
Incremental Delay, d2	12.5	3.6	1.0	0.7	3.4		140.2	55.1		319.3	0.8	
Delay (s)	40.2	29.5	23.9	23.0	29.2		175.5	78.9		347.4	5.0	
Level of Service	D	C	C	C	C		F	E		F	A	
Approach Delay (s)		30.6			28.6			101.1			61.1	
Approach LOS		C			C			F			E	

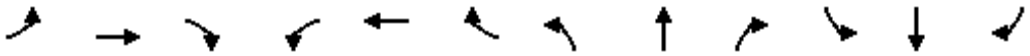
Intersection Summary			
HCM 2000 Control Delay	75.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	620	200	130	440	180	120	360	140	80	240	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1540	1378	1378	1540	1621	1331	1540	2950			3040	1341
Flt Permitted	0.95	1.00	1.00	0.30	1.00	1.00	0.54	1.00			0.99	1.00
Satd. Flow (perm)	1540	1378	1378	490	1621	1331	878	2950			3040	1341
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	378	689	217	141	489	200	130	391	152	89	261	89
RTOR Reduction (vph)	0	0	36	0	0	62	0	24	0	0	0	75
Lane Group Flow (vph)	378	689	181	141	489	138	130	519	0	0	350	14
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases	5	2			6			8		4	4	
Permitted Phases			2	6		6	8					4
Actuated Green, G (s)	28.1	69.1	69.1	36.0	36.0	36.0	39.0	39.0			22.9	22.9
Effective Green, g (s)	28.1	69.1	69.1	36.0	36.0	36.0	39.0	39.0			22.9	22.9
Actuated g/C Ratio	0.19	0.48	0.48	0.25	0.25	0.25	0.27	0.27			0.16	0.16
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	298	656	656	121	402	330	236	793			480	211
v/s Ratio Prot	c0.25	0.50			c0.30			c0.18			c0.12	
v/s Ratio Perm			0.13	0.29		0.10	0.15					0.01
v/c Ratio	1.27	1.05	0.28	1.17	1.22	0.42	0.55	0.65			0.73	0.07
Uniform Delay, d1	58.5	38.0	22.9	54.5	54.5	45.7	45.5	47.0			58.1	52.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	144.6	49.1	1.0	133.0	118.1	0.9	2.8	2.0			5.5	0.1
Delay (s)	203.1	87.0	23.9	187.5	172.6	46.6	48.3	49.0			63.6	52.1
Level of Service	F	F	C	F	F	D	D	D			E	D
Approach Delay (s)		110.5			144.8			48.8			61.3	
Approach LOS		F			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	99.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



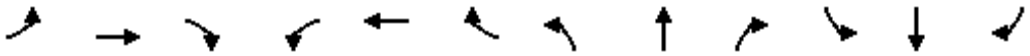
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	720	90	60	300	280	60	320	150	290	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1890	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.88	1.00	1.00	0.93	1.00	0.97	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1352	1063		1607	1217	1540	1612	1085	1540	1482	
Flt Permitted		0.75	1.00		0.35	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1021	1063		575	1217	1540	1612	1085	1540	1482	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	758	95	63	316	295	63	337	158	305	84	53
RTOR Reduction (vph)	0	0	43	0	0	56	0	0	54	0	25	0
Lane Group Flow (vph)	0	916	52	0	379	239	63	337	104	305	112	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.0	60.0		60.0	70.0	21.0	24.4	24.4	10.0	13.4	
Effective Green, g (s)		60.0	60.0		60.0	70.0	21.0	24.4	24.4	10.0	13.4	
Actuated g/C Ratio		0.55	0.55		0.55	0.64	0.19	0.22	0.22	0.09	0.12	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		559	582		315	834	295	359	241	140	181	
v/s Ratio Prot						0.03	0.04	c0.21		c0.20	0.08	
v/s Ratio Perm		c0.90	0.05		0.66	0.17			0.10			
v/c Ratio		1.64	0.09		1.20	0.29	0.21	0.94	0.43	2.18	0.62	
Uniform Delay, d1		24.7	11.7		24.7	8.7	37.2	41.8	36.6	49.7	45.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		295.4	0.1		117.7	0.2	0.4	31.7	1.2	553.1	6.1	
Delay (s)		320.1	11.8		142.4	8.9	37.6	73.5	37.8	602.8	51.7	
Level of Service		F	B		F	A	D	E	D	F	D	
Approach Delay (s)		291.2			84.0			59.3			432.0	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	214.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	109.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	129.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	230	720	230	390	550
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1109	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1109	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	237	742	237	402	567
RTOR Reduction (vph)	0	215	0	50	0	0
Lane Group Flow (vph)	52	22	742	187	402	567
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.9	8.9	41.0	36.0	32.0	78.0
Effective Green, g (s)	8.9	8.9	41.0	36.0	32.0	78.0
Actuated g/C Ratio	0.09	0.09	0.42	0.37	0.33	0.80
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	141	222	808	469	427	879
v/s Ratio Prot	c0.03		c0.39	0.02	c0.31	0.52
v/s Ratio Perm		0.01		0.15		
v/c Ratio	0.37	0.10	0.92	0.40	0.94	0.65
Uniform Delay, d1	41.4	40.3	26.4	22.5	31.5	3.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.2	15.2	0.6	29.1	1.6
Delay (s)	43.0	40.5	41.5	23.0	60.7	5.5
Level of Service	D	D	D	C	E	A
Approach Delay (s)	41.0		37.1			28.4
Approach LOS	D		D			C

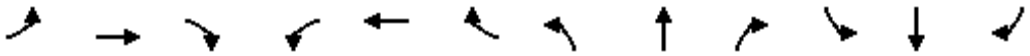
Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	96.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	340	40	40	50	10	30	20	190	10	60	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	103	391	46	46	57	11	34	23	218	11	69	11

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	540	46	69	57	218	92
Volume Left (vph)	103	46	0	34	0	11
Volume Right (vph)	46	0	11	0	218	11
Hadj (s)	0.02	0.53	-0.08	0.33	-0.67	-0.02
Departure Headway (s)	5.9	7.0	6.4	7.0	6.0	7.0
Degree Utilization, x	0.88	0.09	0.12	0.11	0.36	0.18
Capacity (veh/h)	605	482	526	489	568	479
Control Delay (s)	36.9	9.5	9.1	9.7	11.2	11.6
Approach Delay (s)	36.9	9.3		10.9		11.6
Approach LOS	E	A		B		B

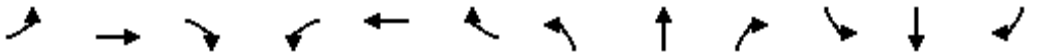
Intersection Summary				
Delay	24.5			
Level of Service	C			
Intersection Capacity Utilization	54.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	410	460	80	10	70	30	100	1480	130	40	330	110
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.96	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98			0.96		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1722	1842			3206		1711	3356		1711	3264	
Flt Permitted	0.68	1.00			0.80		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1229	1842			2569		1711	3356		1711	3264	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	432	484	84	11	74	32	105	1558	137	42	347	116
RTOR Reduction (vph)	0	6	0	0	22	0	0	7	0	0	33	0
Lane Group Flow (vph)	432	562	0	0	95	0	105	1688	0	42	430	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.7	32.7			32.7		12.1	48.3		3.5	39.7	
Effective Green, g (s)	32.7	32.7			32.7		12.1	48.3		3.5	39.7	
Actuated g/C Ratio	0.33	0.33			0.33		0.12	0.48		0.04	0.40	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	401	602			840		207	1620		59	1295	
v/s Ratio Prot		0.31					0.06	c0.50		c0.02	0.13	
v/s Ratio Perm	c0.35				0.04							
v/c Ratio	1.08	0.93			0.11		0.51	1.04		0.71	0.33	
Uniform Delay, d1	33.6	32.6			23.5		41.2	25.9		47.8	20.9	
Progression Factor	1.00	1.00			1.00		0.81	0.72		1.18	0.75	
Incremental Delay, d2	67.2	23.5			0.3		8.2	33.7		51.0	0.7	
Delay (s)	100.8	56.1			23.8		41.5	52.4		107.1	16.3	
Level of Service	F	E			C		D	D		F	B	
Approach Delay (s)		75.4			23.8			51.7			23.9	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	53.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	200	0	0	250	160	900	710	960	0	0	170
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.94		1.00	0.92				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2843			3890		1350	3133				2694
Flt Permitted		0.72			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2066			3890		1350	3133				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	76	206	0	0	258	174	928	772	990	0	0	185
RTOR Reduction (vph)	0	0	0	0	112	0	0	128	0	0	0	60
Lane Group Flow (vph)	0	282	0	0	320	0	928	1634	0	0	0	125
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		28.5			28.5		74.5	74.0				74.5
Effective Green, g (s)		28.5			28.5		74.5	74.0				74.5
Actuated g/C Ratio		0.26			0.26		0.68	0.67				0.68
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		535			1007		914	2107				1824
v/s Ratio Prot					0.08		c0.69	0.52				
v/s Ratio Perm		c0.14										0.05
v/c Ratio		0.53			0.32		1.02	0.86dr				0.07
Uniform Delay, d1		35.0			32.9		17.8	12.3				6.0
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		3.7			0.2		33.6	1.9				0.0
Delay (s)		38.7			33.1		51.4	14.2				6.0
Level of Service		D			C		D	B				A
Approach Delay (s)		38.7			33.1			27.0			6.0	
Approach LOS		D			C			C			A	

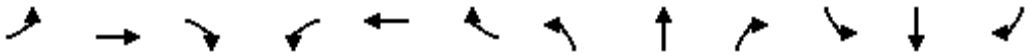
Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	142.3%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	260	150	400	910	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	1.00	0.96	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.99	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1283	1059	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1283	1059	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	268	155	412	938	0	0
RTOR Reduction (vph)	1	1	0	0	0	0
Lane Group Flow (vph)	283	138	412	938	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	20.1	20.1	11.9	40.0		
Effective Green, g (s)	20.1	20.1	11.9	40.0		
Actuated g/C Ratio	0.50	0.50	0.30	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	644	532	748	1365		
v/s Ratio Prot	0.22		0.16	c0.69		
v/s Ratio Perm		0.13				
v/c Ratio	0.44	0.26	0.55	0.69		
Uniform Delay, d1	6.3	5.7	11.8	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.5	0.3	0.9	1.5		
Delay (s)	6.8	5.9	12.7	1.5		
Level of Service	A	A	B	A		
Approach Delay (s)	6.5			4.9	0.0	
Approach LOS	A			A	A	

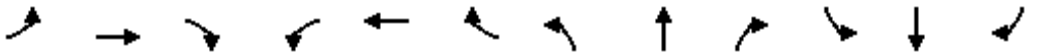
Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	40	60	100	50	30	0	970	150	0	430	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.99			0.98			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.95			0.98			0.98			0.99	
Flt Protected		0.98			0.97			1.00			1.00	
Satd. Flow (prot)		1274			1310			2785			2836	
Flt Permitted		0.84			0.71			1.00			1.00	
Satd. Flow (perm)		1089			956			2785			2836	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	51	41	61	102	51	31	0	990	153	0	439	31
RTOR Reduction (vph)	0	27	0	0	9	0	0	9	0	0	4	0
Lane Group Flow (vph)	0	126	0	0	175	0	0	1134	0	0	466	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		22.4			22.4			67.7			67.7	
Effective Green, g (s)		22.4			22.4			67.7			67.7	
Actuated g/C Ratio		0.22			0.22			0.68			0.68	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		243			214			1885			1919	
v/s Ratio Prot								c0.41			0.16	
v/s Ratio Perm		0.12			c0.18							
v/c Ratio		0.52			0.82			0.60			0.24	
Uniform Delay, d1		34.1			36.9			8.8			6.2	
Progression Factor		1.00			1.00			0.99			0.24	
Incremental Delay, d2		1.9			21.1			0.6			0.3	
Delay (s)		35.9			58.0			9.3			1.8	
Level of Service		D			E			A			A	
Approach Delay (s)		35.9			58.0			9.3			1.8	
Approach LOS		D			E			A			A	

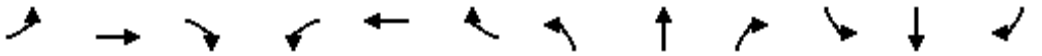
Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	540	430	10	110	20	270	860	20	30	410	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1538	2678		1539	1580		1540	3068		1540	2907	
Flt Permitted	0.48	1.00		0.26	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	783	2678		416	1580		1540	3068		1540	2907	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	526	568	453	11	116	21	284	905	21	32	432	147
RTOR Reduction (vph)	0	146	0	0	7	0	0	2	0	0	36	0
Lane Group Flow (vph)	526	875	0	11	130	0	284	924	0	32	543	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	38.2	38.2		18.8	18.8		17.7	42.2		3.3	27.8	
Effective Green, g (s)	38.2	38.2		18.8	18.8		17.7	42.2		3.3	27.8	
Actuated g/C Ratio	0.38	0.38		0.19	0.19		0.18	0.42		0.03	0.28	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	405	1022		78	297		272	1294		50	808	
v/s Ratio Prot	c0.18	0.33			0.08		c0.18	c0.30		0.02	c0.19	
v/s Ratio Perm	c0.31			0.03								
v/c Ratio	1.30	0.86		0.14	0.44		1.04	0.71		0.64	0.67	
Uniform Delay, d1	29.3	28.4		33.9	35.9		41.1	23.9		47.8	32.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.01	1.10	
Incremental Delay, d2	151.6	7.2		0.8	1.0		66.6	3.4		23.9	4.3	
Delay (s)	180.8	35.5		34.7	36.9		107.7	27.3		72.3	39.5	
Level of Service	F	D		C	D		F	C		E	D	
Approach Delay (s)		84.9			36.8			46.2			41.3	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	62.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
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)	50	20	390	90	100	20	290	700	0	60	1050	100
Future Volume (vph)	50	20	390	90	100	20	290	700	0	60	1050	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			1.00		1.00	1.00		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1514	1349			1555		1540	2848		1540	3079	976
Flt Permitted	0.60	1.00			0.40		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	958	1349			630		1540	2848		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	21	411	95	105	21	305	737	0	63	1105	105
RTOR Reduction (vph)	0	250	0	0	3	0	0	0	0	0	0	69
Lane Group Flow (vph)	53	182	0	0	218	0	305	737	0	63	1105	36
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	331	467			218		231	970		211	1030	326
v/s Ratio Prot		0.13					c0.20	0.26		0.04	c0.36	
v/s Ratio Perm	0.06				c0.35							0.04
v/c Ratio	0.16	0.39			1.00		1.32	0.76		0.30	1.07	0.11
Uniform Delay, d1	24.9	27.2			35.9		46.8	32.2		42.7	36.6	25.3
Progression Factor	1.00	1.00			1.00		0.78	0.78		1.00	1.00	1.00
Incremental Delay, d2	1.0	2.4			60.6		160.9	3.3		3.6	49.7	0.7
Delay (s)	25.9	29.6			96.6		197.2	28.4		46.3	86.3	26.0
Level of Service	C	C			F		F	C		D	F	C
Approach Delay (s)		29.2			96.6			77.8			79.4	
Approach LOS		C			F			E			E	

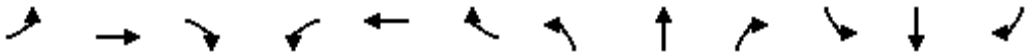
Intersection Summary			
HCM 2000 Control Delay	72.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	134.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	140	40	50	980	0	880	400
Future Volume (vph)	140	40	50	980	0	880	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00		1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079		3079	1018
Flt Permitted	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079		3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	43	54	1054	0	946	430
RTOR Reduction (vph)	0	19	0	0	0	0	164
Lane Group Flow (vph)	151	24	54	1054	0	946	266
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8		37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8		37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40		0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226		1035	342
v/s Ratio Prot	c0.12		0.04	c0.34		c0.31	
v/s Ratio Perm		0.02					0.26
v/c Ratio	0.33	0.06	0.25	0.86		0.91	0.78
Uniform Delay, d1	26.6	24.0	42.2	30.3		35.0	32.8
Progression Factor	1.00	1.00	0.53	0.64		0.69	0.69
Incremental Delay, d2	2.0	0.3	1.7	5.0		5.3	5.7
Delay (s)	28.5	24.4	24.0	24.5		29.3	28.4
Level of Service	C	C	C	C		C	C
Approach Delay (s)	27.6			24.4		29.0	
Approach LOS	C			C		C	

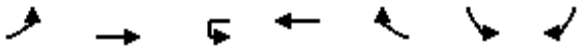
Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	10	20	10	10	10	70	950	10	10	850	180
Future Volume (vph)	110	10	20	10	10	10	70	950	10	10	850	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	0.95	
Flpb, ped/bikes		0.97			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.97	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1481			1487		1540	3068		1540	2861	
Flt Permitted		0.75			0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1156			1380		1540	3068		1540	2861	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	10	21	10	10	10	73	990	10	10	885	188
RTOR Reduction (vph)	0	5	0	0	7	0	0	1	0	0	16	0
Lane Group Flow (vph)	0	141	0	0	23	0	73	999	0	10	1057	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		399			476		210	1199		128	977	
v/s Ratio Prot							0.05	c0.33		0.01	c0.37	
v/s Ratio Perm		c0.12			0.02							
v/c Ratio		0.35			0.05		0.35	0.83		0.08	1.08	
Uniform Delay, d1		26.8			24.0		43.1	30.3		46.5	36.2	
Progression Factor		1.00			1.00		0.86	0.80		1.29	0.24	
Incremental Delay, d2		2.4			0.2		1.9	3.0		0.7	47.4	
Delay (s)		29.3			24.2		39.0	27.3		60.8	56.0	
Level of Service		C			C		D	C		E	E	
Approach Delay (s)		29.3			24.2			28.1			56.0	
Approach LOS		C			C			C			E	

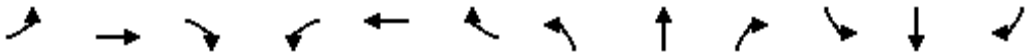
Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	240	1100	0	960	30	80	330
Future Volume (vph)	240	1100	0	960	30	80	330
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2		6.6		6.8	6.8
Lane Util. Factor	1.00	0.95		0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00		0.99		1.00	0.69
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		1.00		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1459	2917		2873		1459	894
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1459	2917		2873		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	247	1134	0	990	31	82	340
RTOR Reduction (vph)	0	0	0	2	0	0	222
Lane Group Flow (vph)	247	1134	0	1019	0	82	118
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8		36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8		36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41		0.33		0.35	0.35
Clearance Time (s)	6.6	5.2		6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188		950		506	310
v/s Ratio Prot	c0.17	0.39		c0.35		0.06	
v/s Ratio Perm							c0.13
v/c Ratio	1.21	0.95		1.07		0.16	0.38
Uniform Delay, d1	47.3	31.6		36.8		24.8	27.0
Progression Factor	1.49	0.74		1.72		1.00	1.00
Incremental Delay, d2	115.7	10.6		40.3		0.7	3.5
Delay (s)	186.3	33.8		103.8		25.5	30.5
Level of Service	F	C		F		C	C
Approach Delay (s)		61.1		103.8		29.6	
Approach LOS		E		F		C	

Intersection Summary			
HCM 2000 Control Delay	71.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

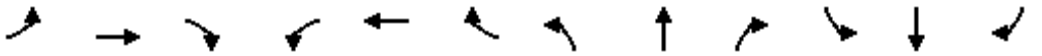
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	850	50	370	950	40	90	1280	440	0	0	0
Future Volume (vph)	930	850	50	370	950	40	90	1280	440	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3034		2987	3029			5533	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3034		2987	3029			5533	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	989	904	53	394	1011	43	96	1362	468	0	0	0
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	213	0	0	0
Lane Group Flow (vph)	989	953	0	394	1053	0	0	1458	255	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1026		358	927			1971	451			
v/s Ratio Prot	c0.23	0.31		0.13	c0.35							
v/s Ratio Perm								0.26	0.20			
v/c Ratio	1.38	0.93		1.10	1.14			0.74	0.57			
Uniform Delay, d1	45.9	35.1		48.4	38.1			30.9	28.5			
Progression Factor	1.09	1.13		0.67	0.93			1.36	2.35			
Incremental Delay, d2	170.7	1.9		62.8	67.5			1.2	1.3			
Delay (s)	220.7	41.6		95.4	103.1			43.3	68.3			
Level of Service	F	D		F	F			D	E			
Approach Delay (s)		132.6			101.0			49.4			0.0	
Approach LOS		F			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	93.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
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)	350	1650	0	30	980	30	10	250	110	50	560	600
Future Volume (vph)	350	1650	0	30	980	30	10	250	110	50	560	600
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00		1.00	0.98			1.00	0.71	1.00	0.96	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	0.83	1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3726		1459	2856			1527	911	1204	1378	698
Flt Permitted	0.95	1.00		0.95	1.00			0.47	1.00	0.49	1.00	1.00
Satd. Flow (perm)	1296	3726		1459	2856			720	911	622	1378	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	376	1774	0	32	1054	32	11	269	118	54	602	645
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	77	0	3	151
Lane Group Flow (vph)	376	1774	0	32	1084	0	0	280	41	54	664	429
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1456		118	932			250	316	221	491	248
v/s Ratio Prot	c0.29	c0.48		0.02	c0.38						0.48	
v/s Ratio Perm								0.39	0.05	0.09		c0.61
v/c Ratio	2.22	1.22		0.27	1.16			1.12	0.13	0.24	1.35	1.73
Uniform Delay, d1	47.8	33.5		47.5	37.0			35.9	24.5	25.0	35.4	35.4
Progression Factor	1.26	0.70		0.52	0.46			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	552.9	98.9		0.1	74.6			93.0	0.2	0.6	171.4	344.4
Delay (s)	613.0	122.3		24.7	91.8			128.9	24.7	25.5	206.8	379.8
Level of Service	F	F		C	F			F	C	C	F	F
Approach Delay (s)		208.1			89.8			98.0			276.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	190.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	141.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1830	170	0	1320	90	10
Future Volume (vph)	1830	170	0	1320	90	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3031			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3031			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1926	179	0	1389	95	11
RTOR Reduction (vph)	6	0	0	0	0	5
Lane Group Flow (vph)	2099	0	0	1389	95	6
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1711			1738	512	451
v/s Ratio Prot	c0.69			0.45	c0.06	
v/s Ratio Perm						0.00
v/c Ratio	1.23			0.80	0.19	0.01
Uniform Delay, d1	23.9			19.0	26.1	24.6
Progression Factor	1.00			1.86	1.00	1.00
Incremental Delay, d2	107.4			0.4	0.8	0.1
Delay (s)	131.4			35.7	26.9	24.6
Level of Service	F			D	C	C
Approach Delay (s)	131.4			35.7	26.7	
Approach LOS	F			D	C	

Intersection Summary			
HCM 2000 Control Delay	91.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

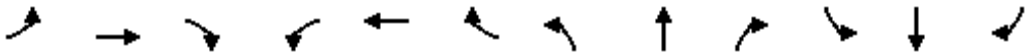
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	90	120	30	30	40	100	30	20	10	20	100	30
Future Volume (vph)	90	120	30	30	40	100	30	20	10	20	100	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0				5.0			5.0			5.0
Lane Util. Factor		1.00				1.00			1.00			0.95
Frpb, ped/bikes		0.99				0.99			0.97			0.80
Flpb, ped/bikes		0.99				0.99			0.94			1.00
Frt		0.98				0.98			0.95			0.91
Flt Protected		0.98				0.98			0.98			0.98
Satd. Flow (prot)		1448				1226			1105			1050
Flt Permitted		0.76				0.77			0.83			0.87
Satd. Flow (perm)		1115				955			937			934
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	105	140	35	35	47	116	35	23	12	23	116	35
RTOR Reduction (vph)	0	0	0	0	0	7	0	0	13	0	0	6
Lane Group Flow (vph)	0	280	0	0	0	226	0	0	45	0	0	346
Confl. Peds. (#/hr)	27		46	46			27	206		61		
Confl. Bikes (#/hr)			3							4		
Parking (#/hr)				10	10	10	10	10	10	10		
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		27.0				27.0			38.0			38.0
Effective Green, g (s)		27.0				27.0			38.0			38.0
Actuated g/C Ratio		0.30				0.30			0.42			0.42
Clearance Time (s)		5.0				5.0			5.0			5.0
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		334				286			395			394
v/s Ratio Prot												
v/s Ratio Perm		c0.25				0.24			0.05			c0.37
v/c Ratio		0.84				0.79			0.11			0.88
Uniform Delay, d1		29.5				28.9			15.8			23.9
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		21.6				13.8			0.1			19.2
Delay (s)		51.0				42.7			15.9			43.1
Level of Service		D				D			B			D
Approach Delay (s)		51.0				42.7			15.9			32.9
Approach LOS		D				D			B			C

Intersection Summary			
HCM 2000 Control Delay	144.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	130	330	20	110	180	90
Future Volume (vph)	130	330	20	110	180	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0	5.0	
Lane Util. Factor		0.95		1.00	1.00	
Frpb, ped/bikes		0.67		1.00	0.78	
Flpb, ped/bikes		1.00		0.88	1.00	
Frt		0.85		1.00	0.85	
Flt Protected		1.00		0.95	1.00	
Satd. Flow (prot)		829		1281	1014	
Flt Permitted		1.00		0.95	1.00	
Satd. Flow (perm)		829		1281	1014	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	151	384	23	128	209	105
RTOR Reduction (vph)	0	133	0	0	76	0
Lane Group Flow (vph)	0	201	0	151	238	0
Confl. Peds. (#/hr)		206		27		46
Confl. Bikes (#/hr)	30	30				
Parking (#/hr)						
Turn Type		Perm	Perm	Prot	Perm	
Protected Phases				5		
Permitted Phases		4	5		5	
Actuated Green, G (s)		38.0		10.0	10.0	
Effective Green, g (s)		38.0		10.0	10.0	
Actuated g/C Ratio		0.42		0.11	0.11	
Clearance Time (s)		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0	3.0	
Lane Grp Cap (vph)		350		142	112	
v/s Ratio Prot						
v/s Ratio Perm		0.24		0.12	c0.24	
v/c Ratio		0.57		1.06	2.13	
Uniform Delay, d1		19.8		40.0	40.0	
Progression Factor		1.00		1.00	1.00	
Incremental Delay, d2		2.3		93.4	536.7	
Delay (s)		22.1		133.4	576.7	
Level of Service		C		F	F	
Approach Delay (s)				432.8		
Approach LOS				F		

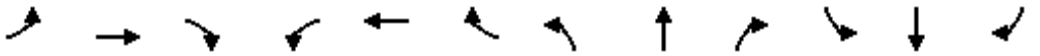
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	100	0	0	890	50	80	170	150	10	0	210
Future Volume (vph)	50	100	0	0	890	50	80	170	150	10	0	210
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1281			2047	702	1459	2673			1318	
Flt Permitted		0.61			1.00	1.00	0.61	1.00			0.98	
Satd. Flow (perm)		799			2047	702	933	2673			1293	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	105	0	0	937	53	84	179	158	11	0	221
RTOR Reduction (vph)	0	0	0	0	0	0	0	100	0	0	0	0
Lane Group Flow (vph)	0	158	0	0	937	53	84	237	0	0	232	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		372			955	327	342	980			474	
v/s Ratio Prot					c0.46			0.09				
v/s Ratio Perm		0.20				0.08	0.09				c0.18	
v/c Ratio		0.42			0.98	0.16	0.25	0.24			0.49	
Uniform Delay, d1		10.6			15.7	9.2	13.2	13.2			14.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		3.5			24.9	1.1	1.7	0.6			3.6	
Delay (s)		14.2			40.7	10.3	14.9	13.8			18.2	
Level of Service		B			D	B	B	B			B	
Approach Delay (s)		14.2			39.0			14.0			18.2	
Approach LOS		B			D			B			B	

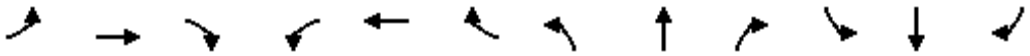
Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



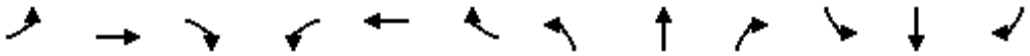
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	380	180	20	160	150	10	230	110	330	90	0
Future Volume (vph)	210	380	180	20	160	150	10	230	110	330	90	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0	3.0		3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		1.00	1.00	
Frpb, ped/bikes		0.95			1.00	0.87		0.92		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		0.97			1.00	0.85		0.95		1.00	1.00	
Flt Protected		0.99			0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1147			1474	1092		2564		1459	1535	
Flt Permitted		0.99			0.87	1.00		0.95		0.44	1.00	
Satd. Flow (perm)		1147			1286	1092		2434		677	1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	223	404	191	21	170	160	11	245	117	351	96	0
RTOR Reduction (vph)	0	12	0	0	0	101	0	60	0	0	0	0
Lane Group Flow (vph)	0	806	0	0	191	59	0	314	0	351	96	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA		Perm	NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8		4	2			6		
Actuated Green, G (s)		24.0			24.0	24.0		24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0	27.0		27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29	0.30		0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)		344			371	327		730		210	477	
v/s Ratio Prot		c0.70									0.06	
v/s Ratio Perm					c0.15	0.05		0.13		c0.52		
v/c Ratio		2.34			0.51	0.18		0.43		1.67	0.20	
Uniform Delay, d1		31.5			26.7	23.3		25.3		31.0	22.8	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		613.5			5.0	1.2		1.8		322.2	0.9	
Delay (s)		645.0			31.8	24.5		27.2		353.2	23.7	
Level of Service		F			C	C		C		F	C	
Approach Delay (s)		645.0			28.5			27.2			282.4	
Approach LOS		F			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	338.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	116.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



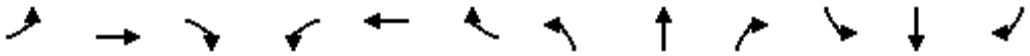
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	280	240	110	430	120	50	580	190	40	400	190
Future Volume (vph)	170	280	240	110	430	120	50	580	190	40	400	190
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.83			0.91			0.93			0.91	
Flpb, ped/bikes		0.96			0.97			0.99			1.00	
Frt		0.95			0.97			0.97			0.95	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		2009			2308			2567			2301	
Flt Permitted		0.64			0.73			0.89			0.87	
Satd. Flow (perm)		1311			1688			2279			2003	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	295	253	116	453	126	53	611	200	42	421	200
RTOR Reduction (vph)	0	12	0	0	7	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	715	0	0	688	0	0	864	0	0	651	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		611			787			1063			901	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.41			c0.38			0.33	
v/c Ratio		1.17			0.87			0.81			0.72	
Uniform Delay, d1		16.0			14.4			13.7			13.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		93.1			12.9			6.8			5.0	
Delay (s)		109.1			27.4			20.6			18.5	
Level of Service		F			C			C			B	
Approach Delay (s)		109.1			27.4			20.6			18.5	
Approach LOS		F			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	118.4%	ICU Level of Service	H
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)	280	1230	130	0	0	0	0	690	130	20	480	0
Future Volume (vph)	280	1230	130	0	0	0	0	690	130	20	480	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						0.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4094						1588	1260		1553	
Flt Permitted	0.95	1.00						1.00	1.00		0.80	
Satd. Flow (perm)	2830	4094						1588	1260		1240	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	298	1309	138	0	0	0	0	734	138	21	511	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	298	1433	0	0	0	0	0	734	138	0	532	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	custom	Perm	NA	
Protected Phases		2						8 7	7		4	
Permitted Phases	2									4		
Actuated Green, G (s)	35.5	35.5						44.5	18.5		44.5	
Effective Green, g (s)	37.0	37.0						46.0	20.0		46.0	
Actuated g/C Ratio	0.41	0.41						0.51	0.22		0.51	
Clearance Time (s)	5.0	5.0							5.0		5.0	
Lane Grp Cap (vph)	1163	1683						811	280		633	
v/s Ratio Prot		c0.35						c0.46	0.11			
v/s Ratio Perm	0.11										0.43	
v/c Ratio	0.26	0.85						0.91	0.49		0.84	
Uniform Delay, d1	17.4	24.0						20.0	30.6		18.9	
Progression Factor	0.86	1.05						1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.5						15.5	6.1		12.7	
Delay (s)	15.0	25.9						35.5	36.7		31.6	
Level of Service	B	C						D	D		C	
Approach Delay (s)		24.0			0.0			35.7			31.6	
Approach LOS		C			A			D			C	

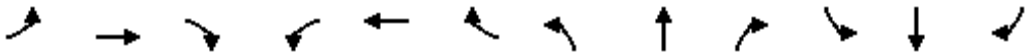
Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	630	1280	0	0	0	0	0	1690	360	0	0	0
Future Volume (vph)	630	1280	0	0	0	0	0	1690	360	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.95				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.97				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		5017						3742				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		5017						3742				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	656	1333	0	0	0	0	0	1760	375	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1989	0	0	0	0	0	2135	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1700						1060				
v/s Ratio Prot								c0.57				
v/s Ratio Perm		0.40										
v/c Ratio		1.38dl						2.01				
Uniform Delay, d1		29.8						32.2				
Progression Factor		0.40						1.00				
Incremental Delay, d2		79.7						459.7				
Delay (s)		91.6						492.0				
Level of Service		F						F				
Approach Delay (s)		91.6			0.0			492.0			0.0	
Approach LOS		F			A			F			A	

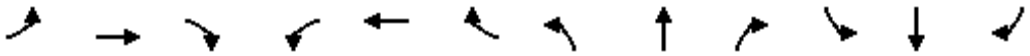
Intersection Summary			
HCM 2000 Control Delay	298.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	2010	140	340	1680	400	0	0	0
Future Volume (vph)	0	0	0	0	2010	140	340	1680	400	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.99			0.90				
Flpb, ped/bikes					1.00			1.00				
Frt					0.99			0.98				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					2720			3542				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					2720			3542				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	2138	149	362	1787	426	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2281	0	0	2575	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					952			1042				
v/s Ratio Prot					c0.84			c0.73				
v/s Ratio Perm												
v/c Ratio					2.40			2.47				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.56				
Incremental Delay, d2					631.5			662.3				
Delay (s)					660.8			680.2				
Level of Service					F			F				
Approach Delay (s)		0.0			660.8			680.2			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	671.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	135.7%	ICU Level of Service	H
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)	0	0	0	0	1640	430	350	1640	0	0	0	0
Future Volume (vph)	0	0	0	0	1640	430	350	1640	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.93			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3256			2897				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3256			2897				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1745	457	372	1745	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	52	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2150	0	0	2117	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1139			981				
v/s Ratio Prot					c0.66			c0.73				
v/s Ratio Perm												
v/c Ratio					1.89			2.16				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.42				
Incremental Delay, d2					402.8			521.4				
Delay (s)					432.0			534.0				
Level of Service					F			F				
Approach Delay (s)		0.0			432.0			534.0			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	482.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	126.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Traffic Volume (vph)	1420	200	310	120	550	140	10
Future Volume (vph)	1420	200	310	120	550	140	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00	1.00	1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.64	1.00	1.00	1.00
Frt	1.00	0.85	0.86	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5099	1212	1282	903	2605	4121	1122
Flt Permitted	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5099	1212	1282	903	2605	4121	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1560	220	341	132	604	154	11
RTOR Reduction (vph)	0	78	206	94	0	0	0
Lane Group Flow (vph)	1560	142	135	38	604	155	10
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0	26.0	26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350	370	260	752	1282	349
v/s Ratio Prot	c0.31				c0.23	c0.04	
v/s Ratio Perm		0.12	0.11	0.04			0.01
v/c Ratio	1.06	0.41	0.37	0.15	0.80	0.12	0.03
Uniform Delay, d1	32.0	25.8	25.4	23.8	29.6	22.2	21.5
Progression Factor	0.97	1.07	1.00	1.57	1.05	1.00	1.00
Incremental Delay, d2	34.3	1.6	2.8	0.9	6.9	0.2	0.2
Delay (s)	65.2	29.3	28.2	38.3	37.9	22.4	21.7
Level of Service	E	C	C	D	D	C	C
Approach Delay (s)	60.8				38.0	22.3	
Approach LOS	E				D	C	

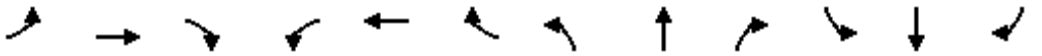
Intersection Summary			
HCM 2000 Control Delay	49.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	230	770	1480	440	760	250
Future Volume (vph)	230	770	1480	440	760	250
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.93	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1115		3867	2266	1013	1099
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1115		3867	2266	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	235	786	1510	449	776	255
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	211	0	2320	837	388	241
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1658	1090	521	565
v/s Ratio Prot				0.37		
v/s Ratio Perm	0.19		0.60		c0.38	0.22
v/c Ratio	0.44		1.40	0.77	0.74	0.43
Uniform Delay, d1	18.1		25.7	19.2	17.2	13.6
Progression Factor	1.39		1.22	1.32	1.42	1.59
Incremental Delay, d2	0.3		180.0	2.6	4.7	1.1
Delay (s)	25.5		211.4	28.0	29.1	22.8
Level of Service	C		F	C	C	C
Approach Delay (s)			195.9	27.4		
Approach LOS			F	C		

Intersection Summary			
HCM 2000 Control Delay	133.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
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)	0	0	0	510	1540	0	0	0	0	0	860	660
Future Volume (vph)	0	0	0	510	1540	0	0	0	0	0	860	660
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	520	1571	0	0	0	0	0	878	673
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	520	1571	0	0	0	0	0	878	673
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				0.36	c0.37						0.30	
v/s Ratio Perm												c0.78
v/c Ratio				0.96	1.01						0.88	2.27
Uniform Delay, d1				27.6	28.2						27.8	29.5
Progression Factor				1.18	1.18						1.00	1.00
Incremental Delay, d2				5.3	8.8						11.3	580.3
Delay (s)				37.9	42.3						39.1	609.8
Level of Service				D	D						D	F
Approach Delay (s)		0.0			41.2			0.0			286.7	
Approach LOS		A			D			A			F	

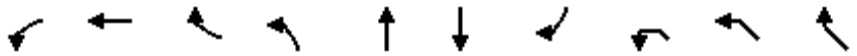
Intersection Summary			
HCM 2000 Control Delay	145.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	126.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	90	290	1050	110	550	500	140	260	150	950
Future Volume (vph)	90	290	1050	110	550	500	140	260	150	950
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.73	1.00	0.84			1.00	1.00
Flpb, ped/bikes		0.88	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2143	2521	918	1535	1130			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.23	1.00
Satd. Flow (perm)		2143	2521	918	1535	1130			652	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	312	1129	118	591	538	151	280	161	1022
RTOR Reduction (vph)	0	0	0	20	0	20	0	0	0	0
Lane Group Flow (vph)	0	378	1160	98	591	669	0	0	441	1022
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		39.0	39.0	39.0	39.0	39.0			39.0	39.0
Effective Green, g (s)		39.0	41.5	41.0	40.5	41.0			40.5	40.5
Actuated g/C Ratio		0.43	0.46	0.46	0.45	0.46			0.45	0.45
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		928	1162	418	690	514			293	587
v/s Ratio Prot			c0.46		0.38					c0.78
v/s Ratio Perm		0.18		0.11		0.59			0.68	
v/c Ratio		0.41	1.00	0.24	0.86	1.30			1.85dl	1.74
Uniform Delay, d1		17.5	24.2	14.9	22.1	24.5			24.8	24.8
Progression Factor		1.00	1.00	1.00	1.00	1.00			0.69	0.69
Incremental Delay, d2		1.3	26.0	1.3	13.0	149.8			228.9	334.1
Delay (s)		18.9	50.2	16.3	35.1	174.3			246.0	351.3
Level of Service		B	D	B	D	F			F	F
Approach Delay (s)			40.6		110.0					319.6
Approach LOS			D		F					F

Intersection Summary			
HCM 2000 Control Delay	153.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		

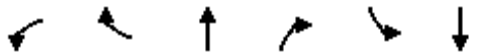
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	250	1050	150	100	570	770	340	270	1360	460
Future Volume (vph)	250	1050	150	100	570	770	340	270	1360	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.95			0.99	0.88
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.95			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5024			2866	2410			3418	985
Flt Permitted		0.99			0.52	1.00			0.95	1.00
Satd. Flow (perm)		5024			1500	2410			3418	985
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	272	1129	161	108	613	828	366	293	1462	495
RTOR Reduction (vph)	0	22	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	1540	0	0	721	1193	0	0	1805	445
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1618			466	749			1025	295
v/s Ratio Prot						c0.49				
v/s Ratio Perm		0.31			0.48				0.53	0.45
v/c Ratio		0.95			1.64dl	1.59			1.76	1.51
Uniform Delay, d1		29.8			31.0	31.0			31.5	31.5
Progression Factor		0.60			1.58	1.00			1.00	1.00
Incremental Delay, d2		1.8			253.0	272.8			346.5	245.7
Delay (s)		19.6			301.9	303.8			378.0	277.2
Level of Service		B			F	F			F	F
Approach Delay (s)		19.6			301.9	303.8			358.0	
Approach LOS		B			F	F			F	

Intersection Summary			
HCM 2000 Control Delay	247.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	142.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

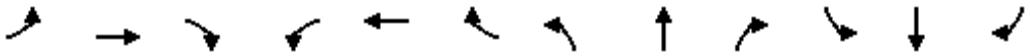


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	150	1360	20	80	300
Future Volume (vph)	10	150	1360	20	80	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3067		1525	3079
Flt Permitted	0.95	1.00	1.00		0.12	1.00
Satd. Flow (perm)	1540	1378	3067		185	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	167	1511	22	89	333
RTOR Reduction (vph)	0	25	1	0	0	0
Lane Group Flow (vph)	11	142	1532	0	89	333
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2085		125	2093
v/s Ratio Prot	0.01		c0.50			0.11
v/s Ratio Perm		c0.10			0.48	
v/c Ratio	0.03	0.45	0.73		0.71	0.16
Uniform Delay, d1	32.6	36.1	11.3		10.9	6.3
Progression Factor	1.00	1.00	1.00		2.86	0.35
Incremental Delay, d2	0.2	4.4	2.3		3.1	0.0
Delay (s)	32.8	40.6	13.6		34.3	2.2
Level of Service	C	D	B		C	A
Approach Delay (s)	40.1		13.6			9.0
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
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)	70	70	220	10	10	20	40	1290	100	60	400	50
Future Volume (vph)	70	70	220	10	10	20	40	1290	100	60	400	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.93		1.00	0.99		1.00	0.98	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1576	1342		1475		1459	2869		1540	3003	
Flt Permitted		0.84	1.00		0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1350	1342		1395		1459	2869		1540	3003	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	79	79	247	11	11	22	45	1449	112	67	449	56
RTOR Reduction (vph)	0	0	168	0	15	0	0	6	0	0	9	0
Lane Group Flow (vph)	0	158	79	0	29	0	45	1555	0	67	496	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		433	430		447		215	1018		254	1126	
v/s Ratio Prot							0.03	c0.54		0.04	c0.17	
v/s Ratio Perm		c0.12	0.06		0.02							
v/c Ratio		0.36	0.18		0.07		0.21	1.53		0.26	0.44	
Uniform Delay, d1		26.1	24.5		23.5		37.5	32.2		36.4	23.4	
Progression Factor		1.00	1.00		1.00		1.60	0.70		1.00	1.00	
Incremental Delay, d2		2.4	0.9		0.3		0.2	237.9		2.5	1.3	
Delay (s)		28.5	25.4		23.8		60.3	260.5		39.0	24.6	
Level of Service		C	C		C		E	F		D	C	
Approach Delay (s)		26.6			23.8			254.9			26.3	
Approach LOS		C			C			F			C	

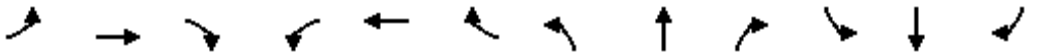
Intersection Summary			
HCM 2000 Control Delay	166.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	10	110	120	10	30	70	1420	10	20	640	10
Future Volume (vph)	70	10	110	120	10	30	70	1420	10	20	640	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Frt		0.92			0.97		1.00	1.00		1.00	1.00	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1218			1501		1418	2830		1540	3067	
Flt Permitted		0.83			0.62		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1035			973		1418	2830		1540	3067	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	11	121	132	11	33	77	1560	11	22	703	11
RTOR Reduction (vph)	0	50	0	0	8	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	159	0	0	168	0	77	1570	0	22	713	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		338			318		212	1044		229	1131	
v/s Ratio Prot							0.05	c0.55		0.01	c0.23	
v/s Ratio Perm		0.15			c0.17							
v/c Ratio		0.47			0.53		0.36	1.50		0.10	0.63	
Uniform Delay, d1		26.8			27.4		38.2	31.6		36.7	25.9	
Progression Factor		1.00			1.00		1.35	0.96		0.74	0.69	
Incremental Delay, d2		4.7			6.2		1.7	228.7		0.8	2.5	
Delay (s)		31.4			33.5		53.4	258.8		27.9	20.4	
Level of Service		C			C		D	F		C	C	
Approach Delay (s)		31.4			33.5			249.2			20.7	
Approach LOS		C			C			F			C	

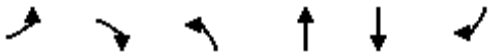
Intersection Summary			
HCM 2000 Control Delay	158.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	40	20	10	40	40	20	200	30	300	230	50
Future Volume (vph)	40	40	20	10	40	40	20	200	30	300	230	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.99	1.00	0.99		1.00	0.96	
Flpb, ped/bikes		0.99			1.00	1.00	0.89	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.98		1.00	0.97	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1297			1602	1358	1148	1328		1296	1280	
Flt Permitted		0.85			0.91	1.00	0.57	1.00		0.95	1.00	
Satd. Flow (perm)		1119			1480	1358	695	1328		1296	1280	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	43	22	11	43	43	22	217	33	326	250	54
RTOR Reduction (vph)	0	15	0	0	0	25	0	7	0	0	7	0
Lane Group Flow (vph)	0	93	0	0	54	18	22	243	0	326	297	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		8.0			8.0	20.9	14.7	14.7		12.9	32.6	
Effective Green, g (s)		8.0			8.0	20.9	14.7	14.7		12.9	32.6	
Actuated g/C Ratio		0.16			0.16	0.41	0.29	0.29		0.25	0.64	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		176			233	695	201	385		330	824	
v/s Ratio Prot						0.01		c0.18		c0.25	0.23	
v/s Ratio Perm		c0.08			0.04	0.01	0.03					
v/c Ratio		0.53			0.23	0.03	0.11	0.63		0.99	0.36	
Uniform Delay, d1		19.6			18.6	8.8	13.2	15.6		18.8	4.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.8			0.5	0.0	0.2	3.4		45.8	0.3	
Delay (s)		22.4			19.1	8.8	13.4	18.9		64.6	4.4	
Level of Service		C			B	A	B	B		E	A	
Approach Delay (s)		22.4			14.6			18.5			35.6	
Approach LOS		C			B			B			D	

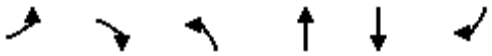
Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	50.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	10	20	10	140	120	20
Future Volume (vph)	10	20	10	140	120	20
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	11	23	11	159	136	23

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	11	23	64	106	91	68
Volume Left (vph)	11	0	11	0	0	0
Volume Right (vph)	0	23	0	0	0	23
Hadj (s)	0.53	-0.67	0.12	0.03	0.03	-0.20
Departure Headway (s)	5.8	4.6	4.8	4.7	4.8	4.5
Degree Utilization, x	0.02	0.03	0.09	0.14	0.12	0.09
Capacity (veh/h)	585	734	730	744	738	779
Control Delay (s)	7.7	6.5	7.1	7.3	7.2	6.7
Approach Delay (s)	6.9		7.2		7.0	
Approach LOS	A		A		A	

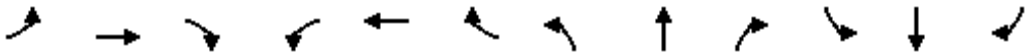
Intersection Summary				
Delay	7.1			
Level of Service	A			
Intersection Capacity Utilization	24.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	50	140	170	125
Future Volume (Veh/h)	25	25	50	140	170	125
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	30	30	60	169	205	151
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	500	192	368			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	500	192	368			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	96	95			
cM capacity (veh/h)	469	808	1176			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	116	113	137	219
Volume Left	30	60	0	0	0
Volume Right	30	0	0	0	151
cSH	594	1176	1700	1700	1700
Volume to Capacity	0.10	0.05	0.07	0.08	0.13
Queue Length 95th (ft)	8	4	0	0	0
Control Delay (s)	11.7	4.5	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	11.7	2.3		0.0	
Approach LOS	B				

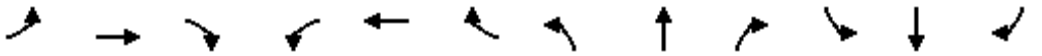
Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	120	360	30	250	120	320	1120	10	70	860	200
Future Volume (vph)	190	120	360	30	250	120	320	1120	10	70	860	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1530	1378	1136	1532	1527		2987	3073		1540	2978	
Flt Permitted	0.33	1.00	1.00	0.67	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	535	1378	1136	1088	1527		2987	3073		1540	2978	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	202	128	383	32	266	128	340	1191	11	74	915	213
RTOR Reduction (vph)	0	0	239	0	17	0	0	1	0	0	20	0
Lane Group Flow (vph)	202	128	144	32	377	0	340	1201	0	74	1108	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	184	475	391	375	526		418	1161		184	1066	
v/s Ratio Prot		0.09			0.25		0.11	c0.39		0.05	c0.37	
v/s Ratio Perm	c0.38		0.13	0.03								
v/c Ratio	1.10	0.27	0.37	0.09	0.72		0.81	1.03		0.40	1.04	
Uniform Delay, d1	32.8	23.6	24.6	22.1	28.5		41.7	31.1		40.7	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.57	0.76		0.75	0.64	
Incremental Delay, d2	94.9	1.4	2.7	0.4	8.1		6.7	26.3		5.7	36.9	
Delay (s)	127.7	25.0	27.2	22.5	36.6		30.5	50.1		36.3	57.2	
Level of Service	F	C	C	C	D		C	D		D	E	
Approach Delay (s)		55.3			35.6			45.7			56.0	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	49.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	120.4%	ICU Level of Service	H
Analysis Period (min)	15		

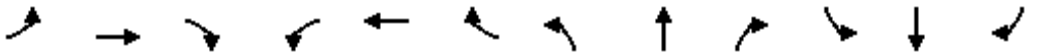
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	340	260	70	760	100	140	180	130	170	330	200
Future Volume (vph)	140	340	260	70	760	100	140	180	130	170	330	200
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Lane Width	8	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	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
Frt	1.00	1.00	0.85		0.98		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1235	1232	1378		2535		1540	2886			3027	1133
Flt Permitted	0.95	1.00	1.00		0.89		0.36	1.00			0.70	1.00
Satd. Flow (perm)	1235	1232	1378		2253		588	2886			2159	1133
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	156	378	283	76	844	111	152	196	141	189	359	222
RTOR Reduction (vph)	0	0	112	0	8	0	0	91	0	0	0	97
Lane Group Flow (vph)	156	378	171	0	1023	0	152	246	0	0	548	125
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6			8			4		4
Actuated Green, G (s)	4.0	45.4	45.4		36.4		29.5	29.5			28.5	28.5
Effective Green, g (s)	4.0	45.4	45.4		36.4		29.5	29.5			28.5	28.5
Actuated g/C Ratio	0.05	0.54	0.54		0.43		0.35	0.35			0.34	0.34
Clearance Time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	58	666	745		977		206	1014			733	384
v/s Ratio Prot	c0.13	0.31						0.09				
v/s Ratio Perm			0.12		c0.45		c0.26				0.25	0.11
v/c Ratio	2.69	0.57	0.23		1.05		0.74	0.24			0.75	0.33
Uniform Delay, d1	40.0	12.7	10.1		23.8		23.8	19.3			24.5	20.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	806.9	1.1	0.2		41.9		12.9	0.1			4.2	0.5
Delay (s)	846.8	13.9	10.2		65.7		36.7	19.4			28.7	21.1
Level of Service	F	B	B		E		D	B			C	C
Approach Delay (s)		171.7			65.7			24.8			26.5	
Approach LOS		F			E			C			C	

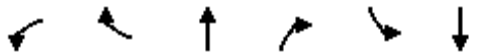
Intersection Summary			
HCM 2000 Control Delay	77.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	510	80	60	580	460	80	220	50	190	90	140
Future Volume (vph)	80	510	80	60	580	460	80	220	50	190	90	140
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.89	1.00	1.00	0.91	1.00	0.96	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1184	922		1399	1069	1337	1407	929	1337	1230	
Flt Permitted		0.59	1.00		0.74	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		704	922		1040	1069	1337	1407	929	1337	1230	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	537	84	63	611	484	84	232	53	200	95	147
RTOR Reduction (vph)	0	0	39	0	0	64	0	0	44	0	57	0
Lane Group Flow (vph)	0	621	45	0	674	420	84	232	9	200	185	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		59.0	59.0		59.0	75.0	14.4	19.6	19.6	16.0	21.2	
Effective Green, g (s)		59.0	59.0		59.0	75.0	14.4	19.6	19.6	16.0	21.2	
Actuated g/C Ratio		0.54	0.54		0.54	0.68	0.13	0.18	0.18	0.15	0.19	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		378	496		559	780	175	251	166	195	237	
v/s Ratio Prot						0.08	0.06	c0.16		c0.15	0.15	
v/s Ratio Perm		c0.88	0.05		0.65	0.31			0.01			
v/c Ratio		1.64	0.09		1.21	0.54	0.48	0.92	0.06	1.03	0.78	
Uniform Delay, d1		25.3	12.3		25.3	8.6	44.1	44.3	37.3	46.8	42.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		301.0	0.1		108.7	0.7	2.1	36.7	0.1	71.3	14.9	
Delay (s)		326.3	12.4		134.0	9.4	46.2	81.0	37.5	118.1	56.9	
Level of Service		F	B		F	A	D	F	D	F	E	
Approach Delay (s)		288.9			81.9			66.8			84.6	
Approach LOS		F			F			E			F	

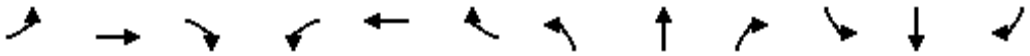
Intersection Summary			
HCM 2000 Control Delay	134.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	109.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	128.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	190	460	860	80	320	270
Future Volume (vph)	190	460	860	80	320	270
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1110	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1110	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	474	887	82	330	278
RTOR Reduction (vph)	0	390	0	15	0	0
Lane Group Flow (vph)	196	84	887	67	330	278
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	19.0	19.0	48.1	43.1	25.1	78.2
Effective Green, g (s)	19.0	19.0	48.1	43.1	25.1	78.2
Actuated g/C Ratio	0.18	0.18	0.45	0.40	0.23	0.73
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	272	429	857	498	303	796
v/s Ratio Prot	c0.13		c0.46	0.01	c0.25	0.25
v/s Ratio Perm		0.03		0.05		
v/c Ratio	0.72	0.20	1.04	0.13	1.09	0.35
Uniform Delay, d1	41.6	37.6	29.6	20.3	41.0	5.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.0	0.2	40.1	0.1	77.6	0.3
Delay (s)	50.6	37.8	69.7	20.4	118.7	5.5
Level of Service	D	D	E	C	F	A
Approach Delay (s)	41.6		65.5			66.9
Approach LOS	D		E			E

Intersection Summary			
HCM 2000 Control Delay	58.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	107.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

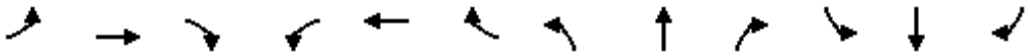
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	30	130	40	60	270	10	40	120	100	20	60	60
Future Volume (vph)	30	130	40	60	270	10	40	120	100	20	60	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	34	149	46	69	310	11	46	138	115	23	69	69

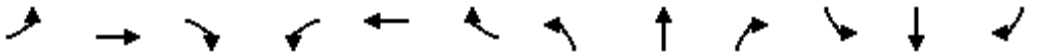
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	229	69	321	184	115	161
Volume Left (vph)	34	69	0	46	0	23
Volume Right (vph)	46	0	11	0	115	69
Hadj (s)	-0.06	0.53	0.01	0.16	-0.67	-0.19
Departure Headway (s)	6.6	6.9	6.4	6.9	6.1	6.8
Degree Utilization, x	0.42	0.13	0.57	0.35	0.19	0.30
Capacity (veh/h)	506	492	531	479	546	477
Control Delay (s)	14.3	9.8	16.3	12.4	9.3	12.8
Approach Delay (s)	14.3	15.2		11.2		12.8
Approach LOS	B	C		B		B

Intersection Summary				
Delay	13.5			
Level of Service	B			
Intersection Capacity Utilization	51.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	80	110	50	360	50	110	1180	70	30	940	280
Future Volume (vph)	180	80	110	50	360	50	110	1180	70	30	940	280
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91			0.98		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1689			3318		1711	3375		1711	3277	
Flt Permitted	0.37	1.00			0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	693	1689			2972		1711	3375		1711	3277	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	189	84	116	53	379	53	116	1242	74	32	989	295
RTOR Reduction (vph)	0	50	0	0	9	0	0	4	0	0	28	0
Lane Group Flow (vph)	189	150	0	0	476	0	116	1312	0	32	1256	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	205	501			882		289	1346		254	1241	
v/s Ratio Prot		0.09					0.07	c0.39		0.02	c0.38	
v/s Ratio Perm	c0.27				0.16							
v/c Ratio	0.92	0.30			0.54		0.40	0.97		0.13	1.01	
Uniform Delay, d1	34.0	27.1			29.4		37.0	29.6		36.9	31.1	
Progression Factor	1.00	1.00			1.00		0.81	0.67		1.58	0.83	
Incremental Delay, d2	45.3	1.5			2.4		3.4	16.9		0.4	19.8	
Delay (s)	79.3	28.7			31.8		33.5	36.8		58.8	45.6	
Level of Service	E	C			C		C	D		E	D	
Approach Delay (s)		53.3			31.8			36.5			45.9	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	116.2%	ICU Level of Service	H
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)	30	140	0	0	860	100	540	250	430	0	0	610
Future Volume (vph)	30	140	0	0	860	100	540	250	430	0	0	610
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.98		1.00	0.91				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2854			4072		1350	3103				2694
Flt Permitted		0.75			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2169			4072		1350	3103				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	33	144	0	0	887	109	557	272	443	0	0	663
RTOR Reduction (vph)	0	0	0	0	12	0	0	213	0	0	0	30
Lane Group Flow (vph)	0	177	0	0	984	0	557	502	0	0	0	633
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		45.4			45.4		57.6	57.1				57.6
Effective Green, g (s)		45.4			45.4		57.6	57.1				57.6
Actuated g/C Ratio		0.41			0.41		0.52	0.52				0.52
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		895			1680		706	1610				1410
v/s Ratio Prot					c0.24		c0.41	0.16				
v/s Ratio Perm		0.08										0.23
v/c Ratio		0.20			0.59		0.79	0.31				0.45
Uniform Delay, d1		20.7			25.0		21.3	15.2				16.3
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.5			0.5		5.9	0.1				0.2
Delay (s)		21.1			25.5		27.1	15.3				16.5
Level of Service		C			C		C	B				B
Approach Delay (s)		21.1			25.5			20.5			16.5	
Approach LOS		C			C			C			B	

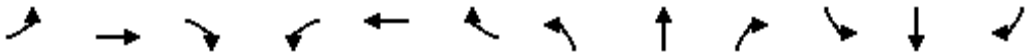
Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	160	430	1240	760	0	0
Future Volume (vph)	160	430	1240	760	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.97	0.95	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.93	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1173	1043	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1173	1043	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	443	1278	784	0	0
RTOR Reduction (vph)	33	33	0	0	0	0
Lane Group Flow (vph)	283	259	1278	784	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	21.6	21.6	35.4	65.0		
Effective Green, g (s)	21.6	21.6	35.4	65.0		
Actuated g/C Ratio	0.33	0.33	0.54	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	389	346	1369	1365		
v/s Ratio Prot	0.24		c0.51	0.57		
v/s Ratio Perm		c0.25				
v/c Ratio	0.73	0.75	0.93	0.57		
Uniform Delay, d1	19.1	19.3	13.7	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	6.7	8.6	11.8	0.6		
Delay (s)	25.8	27.9	25.5	0.6		
Level of Service	C	C	C	A		
Approach Delay (s)	26.8			16.0	0.0	
Approach LOS	C			B	A	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

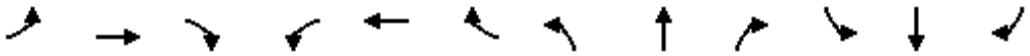
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	20	60	60	50	70	0	1160	130	0	920	40
Future Volume (vph)	40	20	60	60	50	70	0	1160	130	0	920	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.97			0.97			0.99			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.93			0.95			0.98			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1249			1270			2810			2855	
Flt Permitted		0.81			0.84			1.00			1.00	
Satd. Flow (perm)		1026			1081			2810			2855	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	41	20	61	61	51	71	0	1184	133	0	939	41
RTOR Reduction (vph)	0	40	0	0	26	0	0	6	0	0	2	0
Lane Group Flow (vph)	0	82	0	0	157	0	0	1311	0	0	978	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.1			19.1			71.0			71.0	
Effective Green, g (s)		19.1			19.1			71.0			71.0	
Actuated g/C Ratio		0.19			0.19			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			206			1995			2027	
v/s Ratio Prot								c0.47			0.34	
v/s Ratio Perm		0.08			c0.15							
v/c Ratio		0.42			0.76			0.66			0.48	
Uniform Delay, d1		35.6			38.3			7.9			6.4	
Progression Factor		1.00			1.00			0.80			0.31	
Incremental Delay, d2		1.5			15.3			0.2			0.3	
Delay (s)		37.0			53.6			6.4			2.3	
Level of Service		D			D			A			A	
Approach Delay (s)		37.0			53.6			6.4			2.3	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

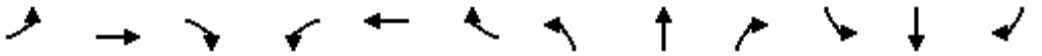
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	190	220	10	210	20	220	1090	40	260	710	170
Future Volume (vph)	340	190	220	10	210	20	220	1090	40	260	710	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.92		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1539	2634		1538	1598		1540	3061		1540	2947	
Flt Permitted	0.30	1.00		0.50	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	491	2634		810	1598		1540	3061		1540	2947	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	358	200	232	11	221	21	232	1147	42	274	747	179
RTOR Reduction (vph)	0	159	0	0	4	0	0	2	0	0	21	0
Lane Group Flow (vph)	358	273	0	11	238	0	232	1187	0	274	905	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	31.6	31.6		19.6	19.6		14.9	41.6		10.5	37.2	
Effective Green, g (s)	31.6	31.6		19.6	19.6		14.9	41.6		10.5	37.2	
Actuated g/C Ratio	0.32	0.32		0.20	0.20		0.15	0.42		0.10	0.37	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	225	832		158	313		229	1273		161	1096	
v/s Ratio Prot	c0.11	0.10			0.15		0.15	c0.39		c0.18	0.31	
v/s Ratio Perm	c0.40			0.01								
v/c Ratio	1.59	0.33		0.07	0.76		1.01	0.93		1.70	0.83	
Uniform Delay, d1	33.7	26.1		32.8	38.0		42.5	27.9		44.8	28.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.91	0.88	
Incremental Delay, d2	286.0	0.2		0.2	10.4		62.9	13.5		339.1	6.6	
Delay (s)	319.7	26.3		33.0	48.4		105.4	41.3		380.0	31.8	
Level of Service	F	C		C	D		F	D		F	C	
Approach Delay (s)		159.3			47.7			51.8			111.3	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	94.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

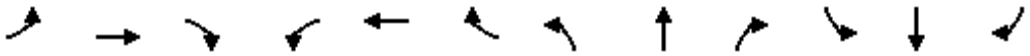


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	20	390	90	100	20	290	710	3	71	1050	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			1.00		1.00	1.00		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1514	1349			1555		1540	2843		1540	3079	976
Flt Permitted	0.60	1.00			0.40		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	958	1349			630		1540	2843		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	21	411	95	105	21	305	747	3	75	1105	182
RTOR Reduction (vph)	0	250	0	0	3	0	0	0	0	0	0	69
Lane Group Flow (vph)	77	182	0	0	218	0	305	750	0	75	1105	113
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	331	467			218		231	969		211	1030	326
v/s Ratio Prot		0.13					c0.20	0.26		0.05	c0.36	
v/s Ratio Perm	0.08				c0.35							0.12
v/c Ratio	0.23	0.39			1.00		1.32	0.77		0.36	1.07	0.35
Uniform Delay, d1	25.6	27.2			35.9		46.8	32.5		43.0	36.6	27.6
Progression Factor	1.00	1.00			1.00		0.78	0.78		1.00	1.00	1.00
Incremental Delay, d2	1.6	2.4			60.6		161.0	3.6		4.6	49.7	2.9
Delay (s)	27.2	29.6			96.6		197.4	28.8		47.7	86.3	30.5
Level of Service	C	C			F		F	C		D	F	C
Approach Delay (s)		29.2			96.6			77.5			76.7	
Approach LOS		C			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	70.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	134.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	156	40	50	980	1	929	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00	1.00	1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079	1540	3079	1018
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079	1540	3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	168	43	54	1054	1	999	478
RTOR Reduction (vph)	0	17	0	0	0	0	173
Lane Group Flow (vph)	168	26	54	1054	1	999	305
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226	140	1035	342
v/s Ratio Prot	c0.13		0.04	c0.34	0.00	c0.32	
v/s Ratio Perm		0.02					0.30
v/c Ratio	0.37	0.07	0.25	0.86	0.01	0.97	0.89
Uniform Delay, d1	27.0	24.1	42.2	30.3	45.5	35.9	34.6
Progression Factor	1.00	1.00	0.53	0.64	0.87	0.69	0.71
Incremental Delay, d2	2.3	0.4	1.7	5.0	0.0	9.7	11.6
Delay (s)	29.3	24.4	24.1	24.5	39.7	34.5	36.2
Level of Service	C	C	C	C	D	C	D
Approach Delay (s)	28.3			24.5		35.0	
Approach LOS	C			C		D	

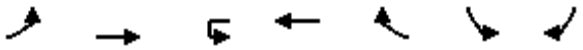
Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	10	33	10	16	10	70	950	10	13	850	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	0.95	
Flpb, ped/bikes		0.98			0.99		1.00	1.00		1.00	1.00	
Frt		0.97			0.96		1.00	1.00		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1470			1512		1540	3068		1540	2861	
Flt Permitted		0.76			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1161			1417		1540	3068		1540	2861	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	10	34	10	17	10	73	990	10	14	885	188
RTOR Reduction (vph)	0	9	0	0	7	0	0	1	0	0	16	0
Lane Group Flow (vph)	0	150	0	0	30	0	73	999	0	14	1057	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		401			489		210	1199		128	977	
v/s Ratio Prot							0.05	c0.33		0.01	c0.37	
v/s Ratio Perm		c0.13			0.02							
v/c Ratio		0.37			0.06		0.35	0.83		0.11	1.08	
Uniform Delay, d1		27.1			24.1		43.1	30.3		46.6	36.2	
Progression Factor		1.00			1.00		0.87	0.80		1.28	0.18	
Incremental Delay, d2		2.7			0.2		1.9	3.1		0.7	45.2	
Delay (s)		29.7			24.3		39.3	27.3		60.6	51.8	
Level of Service		C			C		D	C		E	D	
Approach Delay (s)		29.7			24.3			28.1			51.9	
Approach LOS		C			C			C			D	

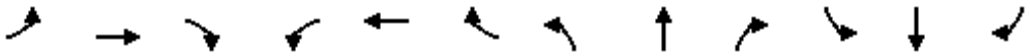
Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



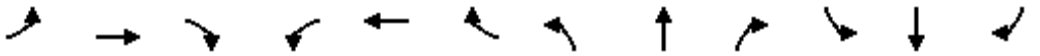
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	240	1100	5	960	53	91	330
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98		1.00	0.69
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1459	2917	1540	2841		1459	894
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1459	2917	1540	2841		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	247	1134	5	990	55	94	340
RTOR Reduction (vph)	0	0	0	3	0	0	222
Lane Group Flow (vph)	247	1134	5	1042	0	94	118
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188	117	940		506	310
v/s Ratio Prot	c0.17	0.39	0.00	c0.37		0.06	
v/s Ratio Perm							c0.13
v/c Ratio	1.21	0.95	0.04	1.11		0.19	0.38
Uniform Delay, d1	47.3	31.6	47.1	36.8		25.0	27.0
Progression Factor	1.48	0.75	1.56	1.70		1.00	1.00
Incremental Delay, d2	111.8	8.8	0.3	55.2		0.8	3.5
Delay (s)	181.9	32.5	73.5	117.6		25.9	30.5
Level of Service	F	C	E	F		C	C
Approach Delay (s)		59.2		117.4		29.5	
Approach LOS		E		F		C	

Intersection Summary			
HCM 2000 Control Delay	76.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	930	850	133	523	950	52	90	1280	440	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.98		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.98		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	2970		2987	3015			5533	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	2970		2987	3015			5533	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	989	904	141	556	1011	55	96	1362	468	0	0	0
RTOR Reduction (vph)	0	11	0	0	1	0	0	0	213	0	0	0
Lane Group Flow (vph)	989	1034	0	556	1065	0	0	1458	255	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1004		358	923			1971	451			
v/s Ratio Prot	c0.23	0.35		c0.19	c0.35							
v/s Ratio Perm								0.26	0.20			
v/c Ratio	1.38	1.03		1.55	1.15			0.74	0.57			
Uniform Delay, d1	45.9	36.4		48.4	38.1			30.9	28.5			
Progression Factor	1.07	1.10		0.71	0.94			1.36	2.35			
Incremental Delay, d2	170.7	17.6		256.5	76.4			1.2	1.3			
Delay (s)	219.9	57.5		290.9	112.2			43.3	68.3			
Level of Service	F	E		F	F			D	E			
Approach Delay (s)		136.5			173.5			49.4			0.0	
Approach LOS		F			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	117.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



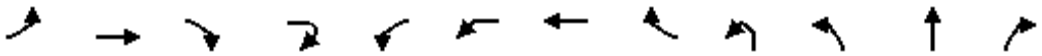
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1650	5	40	980	35	12	312	140	138	701	736
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00		1.00	0.98			1.00	0.71	1.00	0.96	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	0.85	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3722		1459	2845			1529	911	1240	1380	698
Flt Permitted	0.95	1.00		0.95	1.00			0.44	1.00	0.41	1.00	1.00
Satd. Flow (perm)	1296	3722		1459	2845			674	911	529	1380	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	376	1774	5	43	1054	38	13	335	151	148	754	791
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	99	0	3	148
Lane Group Flow (vph)	376	1779	0	43	1090	0	0	348	52	148	830	564
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1454		118	928			234	316	188	491	248
v/s Ratio Prot	c0.29	0.48		0.03	c0.38						0.60	
v/s Ratio Perm								0.52	0.06	0.28		c0.81
v/c Ratio	2.22	1.22		0.36	1.17			1.49	0.17	0.79	1.69	2.27
Uniform Delay, d1	47.8	33.5		47.9	37.0			35.9	24.9	31.7	35.4	35.4
Progression Factor	1.25	0.70		0.54	0.47			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	552.9	101.2		0.2	79.7			240.6	0.2	19.2	319.2	586.0
Delay (s)	612.8	124.7		25.9	97.1			276.5	25.1	50.9	354.6	621.4
Level of Service	F	F		C	F			F	C	D	F	F
Approach Delay (s)		209.8			94.4			200.4			440.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	256.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	177.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1830	183	0	1320	90	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3027			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3027			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1926	193	0	1389	95	28
RTOR Reduction (vph)	7	0	0	0	0	5
Lane Group Flow (vph)	2112	0	0	1389	95	23
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1708			1738	512	451
v/s Ratio Prot	c0.70			0.45	c0.06	
v/s Ratio Perm						0.02
v/c Ratio	1.24			0.80	0.19	0.05
Uniform Delay, d1	23.9			19.0	26.1	24.9
Progression Factor	1.00			1.76	1.00	1.00
Incremental Delay, d2	111.7			0.4	0.8	0.2
Delay (s)	135.6			33.8	26.9	25.1
Level of Service	F			C	C	C
Approach Delay (s)	135.6			33.8	26.5	
Approach LOS	F			C	C	

Intersection Summary			
HCM 2000 Control Delay	93.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



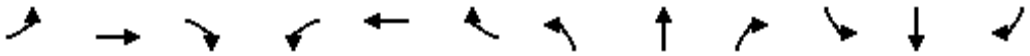
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Volume (vph)	90	120	30	4	30	79	122	53	13	20	10	31
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.99					0.99				0.97	
Flpb, ped/bikes		0.99					0.98				0.94	
Frt		0.98					0.97				0.94	
Flt Protected		0.98					0.98				0.98	
Satd. Flow (prot)		1446					1213				1099	
Flt Permitted		0.71					0.71				0.77	
Satd. Flow (perm)		1046					880				861	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	105	140	35	5	35	92	142	62	15	23	12	36
RTOR Reduction (vph)	0	0	0	0	0	0	9	0	0	0	21	0
Lane Group Flow (vph)	0	285	0	0	0	0	322	0	0	0	65	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		27.0					27.0				38.0	
Effective Green, g (s)		27.0					27.0				38.0	
Actuated g/C Ratio		0.30					0.30				0.42	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		313					264				363	
v/s Ratio Prot												
v/s Ratio Perm		0.27					c0.37				0.08	
v/c Ratio		0.91					1.22				0.18	
Uniform Delay, d1		30.3					31.5				16.3	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		32.4					127.9				0.2	
Delay (s)		62.8					159.4				16.5	
Level of Service		E					F				B	
Approach Delay (s)		62.8					159.4				16.5	
Approach LOS		E					F				B	

Intersection Summary			
HCM 2000 Control Delay	199.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

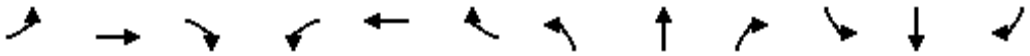
Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Volume (vph)	113	35	166	356	20	119	213	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	1.00	
Frpb, ped/bikes		0.80		0.67		1.00	0.78	
Flpb, ped/bikes		1.00		1.00		0.88	1.00	
Frt		0.91		0.85		1.00	0.85	
Flt Protected		0.98		1.00		0.95	1.00	
Satd. Flow (prot)		1047		829		1281	1014	
Flt Permitted		0.86		1.00		0.95	1.00	
Satd. Flow (perm)		919		829		1281	1014	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	131	41	193	414	23	138	248	105
RTOR Reduction (vph)	0	5	0	122	0	0	76	0
Lane Group Flow (vph)	0	401	0	251	0	161	277	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		38.0		38.0		10.0	10.0	
Effective Green, g (s)		38.0		38.0		10.0	10.0	
Actuated g/C Ratio		0.42		0.42		0.11	0.11	
Clearance Time (s)		5.0		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		388		350		142	112	
v/s Ratio Prot								
v/s Ratio Perm		c0.44		0.30		0.13	c0.27	
v/c Ratio		1.03		0.72		1.13	2.48	
Uniform Delay, d1		26.0		21.5		40.0	40.0	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		54.9		6.8		116.0	690.7	
Delay (s)		80.9		28.3		156.0	730.7	
Level of Service		F		C		F	F	
Approach Delay (s)		55.7				550.7		
Approach LOS		E				F		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	112	0	0	890	52	160	200	345	15	0	286
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.98			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.91			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1283			2047	702	1459	2589			1319	
Flt Permitted		0.63			1.00	1.00	0.51	1.00			0.96	
Satd. Flow (perm)		817			2047	702	788	2589			1270	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	118	0	0	937	55	168	211	363	16	0	301
RTOR Reduction (vph)	0	0	0	0	0	0	0	230	0	0	0	0
Lane Group Flow (vph)	0	171	0	0	937	55	168	344	0	0	317	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		381			955	327	288	949			465	
v/s Ratio Prot					c0.46			0.13				
v/s Ratio Perm		0.21				0.08	0.21				c0.25	
v/c Ratio		0.45			0.98	0.17	0.58	0.36			0.68	
Uniform Delay, d1		10.8			15.7	9.3	15.3	13.9			16.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		3.8			24.9	1.1	8.4	1.1			7.9	
Delay (s)		14.6			40.7	10.4	23.7	15.0			23.9	
Level of Service		B			D	B	C	B			C	
Approach Delay (s)		14.6			39.0			16.9			23.9	
Approach LOS		B			D			B			C	

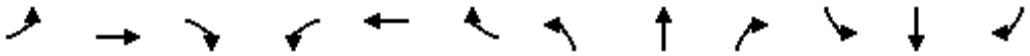
Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	221	417	254	29	165	0	12	230	149	320	90	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0			3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00			0.95		1.00	1.00	
Frpb, ped/bikes		0.94			1.00			0.91		1.00	1.00	
Flpb, ped/bikes		1.00			1.00			1.00		1.00	1.00	
Frt		0.96			1.00			0.94		1.00	0.98	
Flt Protected		0.99			0.99			1.00		0.95	1.00	
Satd. Flow (prot)		1128			1471			2492		1459	1512	
Flt Permitted		0.99			0.79			0.95		0.40	1.00	
Satd. Flow (perm)		1128			1176			2362		620	1512	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	235	444	270	31	176	0	13	245	159	340	96	11
RTOR Reduction (vph)	0	16	0	0	0	0	0	106	0	0	5	0
Lane Group Flow (vph)	0	933	0	0	207	0	0	311	0	340	102	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA		Perm	NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8		4	2			6		
Actuated Green, G (s)		24.0			24.0			24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0			27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29			0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0			6.0		6.0	6.0	
Lane Grp Cap (vph)		338			339			708		192	470	
v/s Ratio Prot		c0.83									0.07	
v/s Ratio Perm					c0.18			0.13		c0.55		
v/c Ratio		2.76			0.61			0.44		1.77	0.22	
Uniform Delay, d1		31.5			27.6			25.4		31.0	22.9	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		800.3			8.0			2.0		367.2	1.1	
Delay (s)		831.8			35.6			27.4		398.2	24.0	
Level of Service		F			D			C		F	C	
Approach Delay (s)		831.8			35.6			27.4			308.6	
Approach LOS		F			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	468.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		

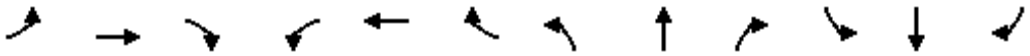
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	205	370	256	110	470	120	50	580	190	64	444	190
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.85			0.91			0.93			0.92	
Flpb, ped/bikes		0.96			0.98			0.99			0.99	
Frt		0.95			0.97			0.97			0.96	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		2076			2342			2569			2326	
Flt Permitted		0.61			0.68			0.88			0.79	
Satd. Flow (perm)		1284			1615			2262			1845	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	216	389	269	116	495	126	53	611	200	67	467	200
RTOR Reduction (vph)	0	10	0	0	7	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	864	0	0	730	0	0	864	0	0	724	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		599			753			1055			830	
v/s Ratio Prot												
v/s Ratio Perm		c0.67			0.45			0.38			c0.39	
v/c Ratio		1.44			0.97			0.82			0.87	
Uniform Delay, d1		16.0			15.6			13.8			14.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		208.3			26.2			7.1			12.2	
Delay (s)		224.3			41.7			20.9			27.1	
Level of Service		F			D			C			C	
Approach Delay (s)		224.3			41.7			20.9			27.1	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	82.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	125.9%	ICU Level of Service	H
Analysis Period (min)	15		

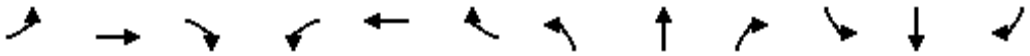
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	1256	142	0	0	0	0	704	130	25	578	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						0.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.98						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4087						1588	1260		1553	
Flt Permitted	0.95	1.00						1.00	1.00		0.72	
Satd. Flow (perm)	2830	4087						1588	1260		1125	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	298	1336	151	0	0	0	0	749	138	27	615	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	298	1472	0	0	0	0	0	749	138	0	642	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	custom	Perm	NA	
Protected Phases		2						8 7	7		4	
Permitted Phases	2									4		
Actuated Green, G (s)	35.5	35.5						44.5	18.5		44.5	
Effective Green, g (s)	37.0	37.0						46.0	20.0		46.0	
Actuated g/C Ratio	0.41	0.41						0.51	0.22		0.51	
Clearance Time (s)	5.0	5.0							5.0		5.0	
Lane Grp Cap (vph)	1163	1680						811	280		575	
v/s Ratio Prot		c0.36						0.47	0.11			
v/s Ratio Perm	0.11										c0.57	
v/c Ratio	0.26	0.88						0.92	0.49		1.12	
Uniform Delay, d1	17.4	24.4						20.4	30.6		22.0	
Progression Factor	0.94	1.13						1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.7						17.7	6.1		73.8	
Delay (s)	16.5	28.2						38.1	36.7		95.8	
Level of Service	B	C						D	D		F	
Approach Delay (s)		26.2			0.0			37.9			95.8	
Approach LOS		C			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

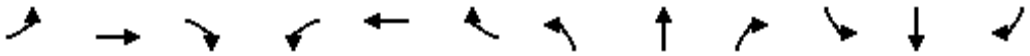


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	630	1280	0	0	0	0	0	1690	470	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.94				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.97				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		5017						3670				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		5017						3670				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	656	1333	0	0	0	0	0	1760	490	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1989	0	0	0	0	0	2250	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1700						1039				
v/s Ratio Prot								c0.61				
v/s Ratio Perm		0.40										
v/c Ratio		1.38dl						2.17				
Uniform Delay, d1		29.8						32.2				
Progression Factor		0.40						1.00				
Incremental Delay, d2		79.4						527.7				
Delay (s)		91.2						559.9				
Level of Service		F						F				
Approach Delay (s)		91.2			0.0			559.9			0.0	
Approach LOS		F			A			F			A	

Intersection Summary			
HCM 2000 Control Delay	340.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

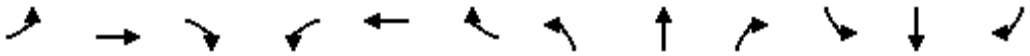
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	2010	140	341	1680	400	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.99			0.90				
Flpb, ped/bikes					1.00			1.00				
Frt					0.99			0.98				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					2720			3542				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					2720			3542				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	2138	149	363	1787	426	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2281	0	0	2576	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					952			1042				
v/s Ratio Prot					c0.84			c0.73				
v/s Ratio Perm												
v/c Ratio					2.40			2.47				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.56				
Incremental Delay, d2					631.5			662.7				
Delay (s)					660.8			680.6				
Level of Service					F			F				
Approach Delay (s)		0.0			660.8			680.6			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	671.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	135.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	1640	430	350	1640	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.92			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3224			2897				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3224			2897				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1745	457	372	1745	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	52	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2150	0	0	2117	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1128			981				
v/s Ratio Prot					c0.67			c0.73				
v/s Ratio Perm												
v/c Ratio					1.91			2.16				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.42				
Incremental Delay, d2					411.0			521.4				
Delay (s)					440.3			533.9				
Level of Service					F			F				
Approach Delay (s)		0.0			440.3			533.9			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	486.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	126.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Volume (vph)	1454	242	310	123	676	140	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00	1.00	1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.64	1.00	1.00	1.00
Frt	1.00	0.85	0.86	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5099	1212	1282	903	2605	4115	1122
Flt Permitted	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5099	1212	1282	903	2605	4115	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1598	266	341	135	743	154	31
RTOR Reduction (vph)	0	78	206	96	0	0	0
Lane Group Flow (vph)	1598	188	135	39	743	157	28
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0	26.0	26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350	370	260	752	1280	349
v/s Ratio Prot	c0.31				c0.29	c0.04	
v/s Ratio Perm		0.16	0.11	0.04			0.02
v/c Ratio	1.08	0.54	0.37	0.15	0.99	0.12	0.08
Uniform Delay, d1	32.0	26.9	25.4	23.8	31.8	22.2	21.9
Progression Factor	1.00	1.06	1.00	1.48	1.03	1.00	1.00
Incremental Delay, d2	41.6	1.4	2.8	1.0	27.5	0.2	0.4
Delay (s)	73.5	29.9	28.2	36.3	60.2	22.4	22.4
Level of Service	E	C	C	D	E	C	C
Approach Delay (s)	67.3				56.6	22.4	
Approach LOS	E				E	C	

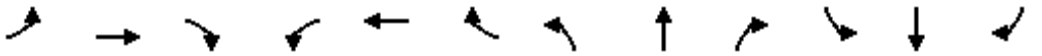
Intersection Summary			
HCM 2000 Control Delay	57.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Volume (vph)	230	986	1480	440	760	250
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.93	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1115		3856	2266	1013	1099
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1115		3856	2266	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	235	1006	1510	449	776	255
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	211	0	2540	837	388	241
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1653	1090	521	565
v/s Ratio Prot				0.37		
v/s Ratio Perm	0.19		0.66		c0.38	0.22
v/c Ratio	0.44		1.77dl	0.77	0.74	0.43
Uniform Delay, d1	18.1		25.7	19.2	17.2	13.6
Progression Factor	1.36		1.17	1.32	1.42	1.59
Incremental Delay, d2	0.3		241.8	2.6	4.7	1.1
Delay (s)	24.9		271.9	28.0	29.1	22.8
Level of Service	C		F	C	C	C
Approach Delay (s)			252.9	27.4		
Approach LOS			F	C		

Intersection Summary			
HCM 2000 Control Delay	174.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	120.1%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	510	1540	0	0	0	0	0	860	675
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	520	1571	0	0	0	0	0	878	689
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	520	1571	0	0	0	0	0	878	689
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				0.36	c0.37						0.30	
v/s Ratio Perm												c0.80
v/c Ratio				0.96	1.01						0.88	2.32
Uniform Delay, d1				27.6	28.2						27.8	29.5
Progression Factor				1.18	1.18						1.00	1.00
Incremental Delay, d2				5.3	8.8						11.3	604.4
Delay (s)				37.9	42.3						39.1	633.9
Level of Service				D	D						D	F
Approach Delay (s)		0.0			41.2			0.0			300.6	
Approach LOS		A			D			A			F	

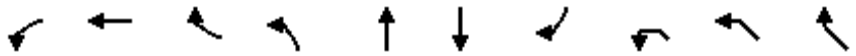
Intersection Summary			
HCM 2000 Control Delay	152.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	126.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Volume (vph)	102	290	1165	128	550	516	154	260	150	950
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.73	1.00	0.84			1.00	1.00
Flpb, ped/bikes		0.88	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2143	2521	918	1535	1130			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.23	1.00
Satd. Flow (perm)		2143	2521	918	1535	1130			652	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	110	312	1253	138	591	555	166	280	161	1022
RTOR Reduction (vph)	0	0	0	20	0	20	0	0	0	0
Lane Group Flow (vph)	0	391	1284	118	591	701	0	0	441	1022
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		39.0	39.0	39.0	39.0	39.0			39.0	39.0
Effective Green, g (s)		39.0	41.5	41.0	40.5	41.0			40.5	40.5
Actuated g/C Ratio		0.43	0.46	0.46	0.45	0.46			0.45	0.45
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		928	1162	418	690	514			293	587
v/s Ratio Prot			c0.51		0.38					c0.78
v/s Ratio Perm		0.18		0.13		0.62			0.68	
v/c Ratio		0.42	1.10	0.28	0.86	1.36			1.85dl	1.74
Uniform Delay, d1		17.7	24.2	15.3	22.1	24.5			24.8	24.8
Progression Factor		1.00	1.00	1.00	1.00	1.00			0.67	0.67
Incremental Delay, d2		1.4	60.1	1.7	13.0	176.3			228.9	334.1
Delay (s)		19.1	84.3	17.0	35.1	200.8			245.5	350.8
Level of Service		B	F	B	D	F			F	F
Approach Delay (s)			65.1		126.1					319.0
Approach LOS			E		F					F

Intersection Summary			
HCM 2000 Control Delay	163.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	109.3%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

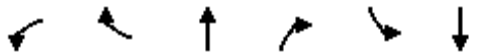
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Volume (vph)	250	1050	150	100	570	894	340	333	1360	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.95			0.99	0.88
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5024			2866	2435			3418	985
Flt Permitted		0.99			0.52	1.00			0.95	1.00
Satd. Flow (perm)		5024			1500	2435			3418	985
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	272	1129	161	108	613	961	366	362	1462	495
RTOR Reduction (vph)	0	22	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	1540	0	0	721	1326	0	0	1874	445
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1618			466	757			1025	295
v/s Ratio Prot						c0.54				
v/s Ratio Perm		0.31			0.48				0.55	0.45
v/c Ratio		0.95			1.64dl	1.75			1.83	1.51
Uniform Delay, d1		29.8			31.0	31.0			31.5	31.5
Progression Factor		0.59			1.57	1.00			1.00	1.00
Incremental Delay, d2		1.8			252.8	343.5			376.6	245.7
Delay (s)		19.6			301.5	374.5			408.1	277.2
Level of Service		B			F	F			F	F
Approach Delay (s)		19.6			301.5	374.5			383.0	
Approach LOS		B			F	F			F	

Intersection Summary			
HCM 2000 Control Delay	275.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	148.1%	ICU Level of Service	H
Analysis Period (min)	15		

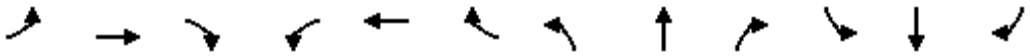
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	150	1360	21	80	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3066		1525	3079
Flt Permitted	0.95	1.00	1.00		0.12	1.00
Satd. Flow (perm)	1540	1378	3066		185	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	167	1511	23	89	521
RTOR Reduction (vph)	0	25	1	0	0	0
Lane Group Flow (vph)	11	142	1533	0	89	521
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2084		125	2093
v/s Ratio Prot	0.01		c0.50			0.17
v/s Ratio Perm		c0.10			0.48	
v/c Ratio	0.03	0.45	0.74		0.71	0.25
Uniform Delay, d1	32.6	36.1	11.3		10.9	6.8
Progression Factor	1.00	1.00	1.00		2.66	0.69
Incremental Delay, d2	0.2	4.4	2.4		3.1	0.0
Delay (s)	32.8	40.6	13.6		32.2	4.7
Level of Service	C	D	B		C	A
Approach Delay (s)	40.1		13.6			8.7
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		

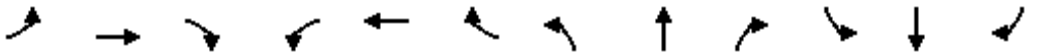
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	87	116	232	10	10	20	43	1290	138	183	400	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.93		1.00	0.99		1.00	0.98	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1582	1342		1475		1459	2852		1540	2983	
Flt Permitted		0.85	1.00		0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1370	1342		1379		1459	2852		1540	2983	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	98	130	261	11	11	22	48	1449	155	206	449	74
RTOR Reduction (vph)	0	0	177	0	15	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	228	84	0	29	0	48	1596	0	206	510	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		439	430		442		215	1012		254	1118	
v/s Ratio Prot							0.03	c0.56		c0.13	0.17	
v/s Ratio Perm		c0.17	0.06		0.02							
v/c Ratio		0.52	0.19		0.07		0.22	1.58		0.81	0.46	
Uniform Delay, d1		27.7	24.6		23.5		37.5	32.2		40.2	23.6	
Progression Factor		1.00	1.00		1.00		1.55	0.71		1.00	1.00	
Incremental Delay, d2		4.3	1.0		0.3		0.2	259.9		23.8	1.3	
Delay (s)		32.0	25.6		23.8		58.5	282.9		64.0	24.9	
Level of Service		C	C		C		E	F		E	C	
Approach Delay (s)		28.6			23.8			276.4			36.0	
Approach LOS		C			C			F			D	

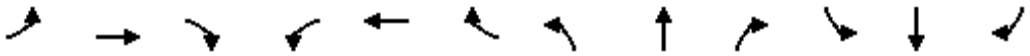
Intersection Summary			
HCM 2000 Control Delay	170.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	17	118	131	41	107	134	1420	33	44	640	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Frt		0.92			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1224			1468		1418	2818		1540	3053	
Flt Permitted		0.78			0.71		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		974			1066		1418	2818		1540	3053	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	19	130	144	45	118	147	1560	36	48	703	25
RTOR Reduction (vph)	0	48	0	0	22	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	178	0	0	285	0	147	1594	0	48	725	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		318			348		212	1039		229	1126	
v/s Ratio Prot							0.10	c0.57		0.03	c0.24	
v/s Ratio Perm		0.18			c0.27							
v/c Ratio		0.56			0.82		0.69	1.53		0.21	0.64	
Uniform Delay, d1		27.7			30.9		40.3	31.6		37.4	26.1	
Progression Factor		1.00			1.00		1.32	0.97		0.76	0.71	
Incremental Delay, d2		6.9			18.9		1.7	240.9		1.9	2.6	
Delay (s)		34.6			49.8		55.1	271.4		30.3	21.3	
Level of Service		C			D		E	F		C	C	
Approach Delay (s)		34.6			49.8			253.1			21.8	
Approach LOS		C			D			F			C	

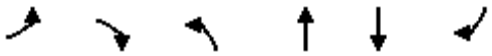
Intersection Summary			
HCM 2000 Control Delay	157.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	43	33	10	45	54	57	371	38	342	244	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.98	1.00	0.99		1.00	0.95	
Flpb, ped/bikes		0.99			1.00	1.00	0.86	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1282			1604	1351	1121	1339		1296	1260	
Flt Permitted		0.84			0.94	1.00	0.56	1.00		0.95	1.00	
Satd. Flow (perm)		1096			1520	1351	662	1339		1296	1260	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	47	36	11	49	59	62	403	41	372	265	66
RTOR Reduction (vph)	0	20	0	0	0	39	0	4	0	0	7	0
Lane Group Flow (vph)	0	122	0	0	60	20	62	440	0	372	324	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		10.1			10.1	21.3	25.7	25.7		11.2	41.9	
Effective Green, g (s)		10.1			10.1	21.3	25.7	25.7		11.2	41.9	
Actuated g/C Ratio		0.16			0.16	0.34	0.41	0.41		0.18	0.68	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		178			247	573	274	555		234	851	
v/s Ratio Prot						0.01		c0.33		c0.29	0.26	
v/s Ratio Perm		c0.11			0.04	0.01	0.09					
v/c Ratio		0.68			0.24	0.04	0.23	0.79		1.59	0.38	
Uniform Delay, d1		24.5			22.6	13.5	11.7	15.8		25.4	4.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		10.4			0.5	0.0	0.4	7.6		284.7	0.3	
Delay (s)		34.9			23.1	13.5	12.1	23.5		310.1	4.7	
Level of Service		C			C	B	B	C		F	A	
Approach Delay (s)		34.9			18.4			22.1			166.3	
Approach LOS		C			B			C			F	

Intersection Summary			
HCM 2000 Control Delay	92.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

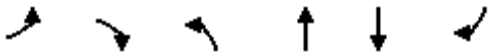
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	26	24	127	140	120	148
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	30	27	144	159	136	168

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	30	27	197	106	91	214
Volume Left (vph)	30	0	144	0	0	0
Volume Right (vph)	0	27	0	0	0	168
Hadj (s)	0.53	-0.67	0.40	0.03	0.03	-0.52
Departure Headway (s)	6.4	5.2	5.3	4.9	5.0	4.4
Degree Utilization, x	0.05	0.04	0.29	0.15	0.13	0.26
Capacity (veh/h)	521	634	664	709	701	795
Control Delay (s)	8.5	7.2	9.3	7.6	7.5	7.8
Approach Delay (s)	7.9		8.7		7.7	
Approach LOS	A		A		A	

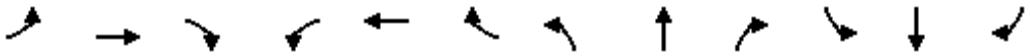
Intersection Summary			
Delay	8.2		
Level of Service	A		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	25	25	50	238	177	125
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	30	30	60	287	213	151
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	567	196	376			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	567	196	376			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	96	95			
cM capacity (veh/h)	425	804	1168			

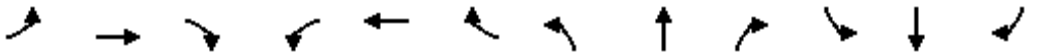
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	156	191	142	222
Volume Left	30	60	0	0	0
Volume Right	30	0	0	0	151
cSH	556	1168	1700	1700	1700
Volume to Capacity	0.11	0.05	0.11	0.08	0.13
Queue Length 95th (ft)	9	4	0	0	0
Control Delay (s)	12.3	3.5	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	12.3	1.6		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	232	141	365	31	295	144	367	1215	22	71	860	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	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	0.95		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1532	1378	1136	1532	1527		2987	3068		1540	2935	
Flt Permitted	0.24	1.00	1.00	0.65	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	394	1378	1136	1053	1527		2987	3068		1540	2935	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	247	150	388	33	314	153	390	1293	23	76	915	299
RTOR Reduction (vph)	0	0	239	0	18	0	0	1	0	0	31	0
Lane Group Flow (vph)	247	150	149	33	449	0	390	1315	0	76	1183	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	135	475	391	363	526		418	1159		184	1050	
v/s Ratio Prot		0.11			0.29		0.13	c0.43		0.05	c0.40	
v/s Ratio Perm	c0.63		0.13	0.03								
v/c Ratio	1.83	0.32	0.38	0.09	0.85		0.93	1.13		0.41	1.13	
Uniform Delay, d1	32.8	24.1	24.7	22.1	30.4		42.5	31.1		40.7	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.66	0.80		0.77	0.66	
Incremental Delay, d2	400.7	1.7	2.8	0.5	16.1		4.7	61.6		5.9	68.0	
Delay (s)	433.5	25.8	27.5	22.6	46.5		32.8	86.4		37.3	89.2	
Level of Service	F	C	C	C	D		C	F		D	F	
Approach Delay (s)		154.9			44.9			74.2			86.1	
Approach LOS		F			D			E			F	

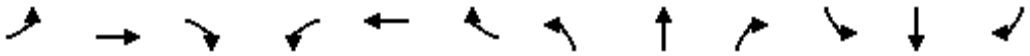
Intersection Summary			
HCM 2000 Control Delay	89.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	123.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	381	260	70	909	126	140	180	130	177	330	213
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.98	1.00
Satd. Flow (prot)	1377	1232	1378	1540	1365	1131	1540	2886			3026	1133
Flt Permitted	0.95	1.00	1.00	0.52	1.00	1.00	0.36	1.00			0.70	1.00
Satd. Flow (perm)	1377	1232	1378	835	1365	1131	581	2886			2149	1133
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	164	423	283	76	1010	140	152	196	141	197	359	237
RTOR Reduction (vph)	0	0	101	0	0	43	0	91	0	0	0	85
Lane Group Flow (vph)	164	423	182	76	1010	97	152	246	0	0	556	152
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	4.0	45.5	45.5	36.5	36.5	36.5	30.1	30.1			29.1	29.1
Effective Green, g (s)	4.0	45.5	45.5	36.5	36.5	36.5	30.1	30.1			29.1	29.1
Actuated g/C Ratio	0.05	0.54	0.54	0.43	0.43	0.43	0.36	0.36			0.34	0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	65	662	741	360	588	487	206	1026			739	389
v/s Ratio Prot	c0.12	0.34			c0.74			0.09				
v/s Ratio Perm			0.13	0.09		0.09	c0.26				0.26	0.13
v/c Ratio	2.52	0.64	0.25	0.21	1.72	0.20	0.74	0.24			0.75	0.39
Uniform Delay, d1	40.3	13.8	10.4	15.0	24.0	15.0	23.8	19.2			24.6	21.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	728.5	2.0	0.2	0.3	330.1	0.2	12.9	0.1			4.3	0.7
Delay (s)	768.8	15.8	10.6	15.3	354.2	15.2	36.7	19.3			28.9	21.7
Level of Service	F	B	B	B	F	B	D	B			C	C
Approach Delay (s)		156.1			294.5			24.7			26.8	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	156.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	84.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	117.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



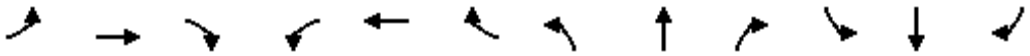
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	560	94	63	659	537	80	328	56	205	90	140
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.88	1.00	1.00	0.93	1.00	0.96	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1189	922		1400	1053	1337	1407	949	1337	1230	
Flt Permitted		0.49	1.00		0.67	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		586	922		945	1053	1337	1407	949	1337	1230	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	589	99	66	694	565	84	345	59	216	95	147
RTOR Reduction (vph)	0	0	46	0	0	72	0	0	44	0	57	0
Lane Group Flow (vph)	0	673	53	0	760	493	84	345	15	216	185	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		59.0	59.0		59.0	67.0	14.8	28.0	28.0	8.0	21.2	
Effective Green, g (s)		59.0	59.0		59.0	67.0	14.8	28.0	28.0	8.0	21.2	
Actuated g/C Ratio		0.54	0.54		0.54	0.61	0.13	0.25	0.25	0.07	0.19	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		314	494		506	689	179	358	241	97	237	
v/s Ratio Prot						0.05	0.06	c0.25		c0.16	0.15	
v/s Ratio Perm		c1.15	0.06		0.80	0.42			0.02			
v/c Ratio		2.14	0.11		1.50	0.72	0.47	0.96	0.06	2.23	0.78	
Uniform Delay, d1		25.5	12.5		25.5	14.9	44.0	40.5	31.1	51.0	42.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		525.0	0.1		236.1	3.5	1.9	37.7	0.1	583.9	14.9	
Delay (s)		550.5	12.6		261.6	18.4	45.9	78.2	31.2	634.9	57.1	
Level of Service		F	B		F	B	D	E	C	F	E	
Approach Delay (s)		481.5			157.9			67.0			329.6	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	251.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	145.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	203	501	1015	88	334	270
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1111	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1111	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	209	516	1046	91	344	278
RTOR Reduction (vph)	0	419	0	14	0	0
Lane Group Flow (vph)	209	97	1046	77	344	278
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	20.3	20.3	50.1	45.1	23.1	78.2
Effective Green, g (s)	20.3	20.3	50.1	45.1	23.1	78.2
Actuated g/C Ratio	0.19	0.19	0.46	0.42	0.21	0.72
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	288	453	882	513	275	787
v/s Ratio Prot	c0.14		c0.55	0.01	c0.27	0.25
v/s Ratio Perm		0.04		0.06		
v/c Ratio	0.73	0.21	1.19	0.15	1.25	0.35
Uniform Delay, d1	41.5	37.3	29.2	19.8	42.7	5.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	0.2	95.1	0.1	139.3	0.3
Delay (s)	50.2	37.6	124.3	19.9	182.0	6.0
Level of Service	D	D	F	B	F	A
Approach Delay (s)	41.2		116.0			103.3
Approach LOS	D		F			F

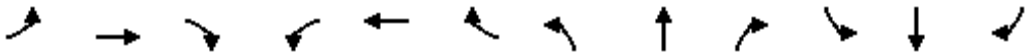
Intersection Summary			
HCM 2000 Control Delay	91.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	108.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	307	87	90	289	26	64	136	100	28	127	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	53	353	100	103	332	30	74	156	115	32	146	69

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	506	103	362	230	115	247
Volume Left (vph)	53	103	0	74	0	32
Volume Right (vph)	100	0	30	0	115	69
Hadj (s)	-0.06	0.53	-0.02	0.19	-0.67	-0.11
Departure Headway (s)	8.1	8.6	8.0	8.7	7.9	8.7
Degree Utilization, x	1.0	0.25	0.81	0.56	0.25	0.60
Capacity (veh/h)	438	409	439	394	439	390
Control Delay (s)	112.4	13.2	35.9	21.1	12.3	23.9
Approach Delay (s)	112.4	30.9		18.1		23.9
Approach LOS	F	D		C		C

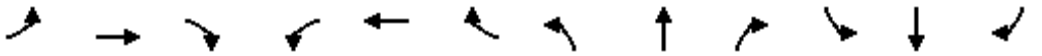
Intersection Summary				
Delay	53.3			
Level of Service	F			
Intersection Capacity Utilization	78.1%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	285	317	110	50	387	60	110	1180	70	36	940	280
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96			0.98		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1761	1803			3314		1711	3375		1711	3277	
Flt Permitted	0.34	1.00			0.66		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	638	1803			2206		1711	3375		1711	3277	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	300	334	116	53	407	63	116	1242	74	38	989	295
RTOR Reduction (vph)	0	13	0	0	11	0	0	4	0	0	28	0
Lane Group Flow (vph)	300	437	0	0	512	0	116	1312	0	38	1256	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	189	535			655		289	1346		254	1241	
v/s Ratio Prot		0.24					0.07	c0.39		0.02	c0.38	
v/s Ratio Perm	c0.47				0.23							
v/c Ratio	1.59	0.82			0.78		0.40	0.97		0.15	1.01	
Uniform Delay, d1	35.1	32.6			32.2		37.0	29.6		37.0	31.1	
Progression Factor	1.00	1.00			1.00		0.84	0.72		1.56	0.84	
Incremental Delay, d2	287.9	13.0			9.0		3.2	16.4		0.4	17.6	
Delay (s)	323.1	45.6			41.2		34.5	37.6		58.3	43.7	
Level of Service	F	D			D		C	D		E	D	
Approach Delay (s)		156.6			41.2			37.3			44.1	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	62.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	116.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

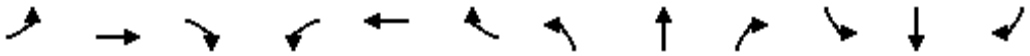


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	149	0	0	915	100	625	250	898	0	0	610
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.98		1.00	0.88				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2856			4075		1350	3025				2694
Flt Permitted		0.74			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2141			4075		1350	3025				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	33	154	0	0	943	109	644	272	926	0	0	663
RTOR Reduction (vph)	0	0	0	0	12	0	0	271	0	0	0	18
Lane Group Flow (vph)	0	187	0	0	1040	0	644	927	0	0	0	645
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		42.1			42.1		60.9	60.4				60.9
Effective Green, g (s)		42.1			42.1		60.9	60.4				60.9
Actuated g/C Ratio		0.38			0.38		0.55	0.55				0.55
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		819			1559		747	1661				1491
v/s Ratio Prot					c0.26		c0.48	0.31				
v/s Ratio Perm		0.09										0.24
v/c Ratio		0.23			0.67		0.86	0.56				0.43
Uniform Delay, d1		23.0			28.1		21.0	16.1				14.4
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.6			1.1		10.1	0.4				0.2
Delay (s)		23.6			29.2		31.0	16.5				14.6
Level of Service		C			C		C	B				B
Approach Delay (s)		23.6			29.2			21.6			14.6	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	123.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

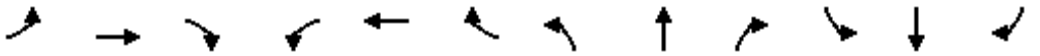
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	167	480	1240	913	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.97	0.95	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.92	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1167	1044	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1167	1044	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	172	495	1278	941	0	0
RTOR Reduction (vph)	33	33	0	0	0	0
Lane Group Flow (vph)	312	289	1278	941	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	23.7	23.7	38.3	70.0		
Effective Green, g (s)	23.7	23.7	38.3	70.0		
Actuated g/C Ratio	0.34	0.34	0.55	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	395	353	1376	1365		
v/s Ratio Prot	0.27		c0.51	0.69		
v/s Ratio Perm		c0.28				
v/c Ratio	0.79	0.82	0.93	0.69		
Uniform Delay, d1	20.9	21.2	14.6	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	10.1	13.7	11.1	1.5		
Delay (s)	31.0	34.9	25.7	1.5		
Level of Service	C	C	C	A		
Approach Delay (s)	32.9			15.4	0.0	
Approach LOS	C			B	A	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.0%	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												
Volume (vph)	50	33	60	63	54	75	0	1192	130	0	920	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.97			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.94			0.95			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1268			1270			2812			2852	
Flt Permitted		0.78			0.82			1.00			1.00	
Satd. Flow (perm)		1001			1056			2812			2852	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	51	34	61	64	55	77	0	1216	133	0	939	45
RTOR Reduction (vph)	0	29	0	0	26	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	117	0	0	170	0	0	1343	0	0	981	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.1			20.1			70.0			70.0	
Effective Green, g (s)		20.1			20.1			70.0			70.0	
Actuated g/C Ratio		0.20			0.20			0.70			0.70	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		201			212			1968			1996	
v/s Ratio Prot								c0.48			0.34	
v/s Ratio Perm		0.12			c0.16							
v/c Ratio		0.58			0.80			0.68			0.49	
Uniform Delay, d1		36.2			38.0			8.6			6.9	
Progression Factor		1.00			1.00			0.74			0.28	
Incremental Delay, d2		4.3			19.1			0.2			0.2	
Delay (s)		40.4			57.1			6.5			2.2	
Level of Service		D			E			A			A	
Approach Delay (s)		40.4			57.1			6.5			2.2	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	70.7%	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												
Volume (vph)	355	214	220	11	228	23	243	1164	40	268	710	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.92		1.00	0.99		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1539	2648		1538	1596		1540	3062		1540	2947	
Flt Permitted	0.28	1.00		0.49	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	457	2648		791	1596		1540	3062		1540	2947	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	374	225	232	12	240	24	256	1225	42	282	747	179
RTOR Reduction (vph)	0	156	0	0	4	0	0	2	0	0	21	0
Lane Group Flow (vph)	374	301	0	12	260	0	256	1265	0	282	905	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.6	32.6		20.6	20.6		13.9	40.6		10.5	37.2	
Effective Green, g (s)	32.6	32.6		20.6	20.6		13.9	40.6		10.5	37.2	
Actuated g/C Ratio	0.33	0.33		0.21	0.21		0.14	0.41		0.10	0.37	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	863		162	328		214	1243		161	1096	
v/s Ratio Prot	c0.11	0.11			0.16		0.17	c0.41		c0.18	0.31	
v/s Ratio Perm	c0.44			0.02								
v/c Ratio	1.69	0.35		0.07	0.79		1.20	1.02		1.75	0.83	
Uniform Delay, d1	33.1	25.6		32.0	37.7		43.0	29.7		44.8	28.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.86	
Incremental Delay, d2	330.3	0.2		0.2	12.3		124.6	30.0		360.6	6.6	
Delay (s)	363.4	25.9		32.2	50.0		167.7	59.7		400.9	31.2	
Level of Service	F	C		C	D		F	E		F	C	
Approach Delay (s)		177.8			49.2			77.8			117.5	
Approach LOS		F			D			E			F	

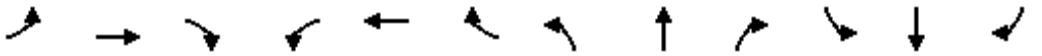
Intersection Summary			
HCM 2000 Control Delay	109.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	108.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Intersection LOS Calculations

Cumulative Plus Project

Maximum Commercial Scenario

FEHR PEERS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	20	212	0	40	20	134	1188	40	100	1071	60
Future Volume (vph)	120	20	212	0	40	20	134	1188	40	100	1071	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			0.99		1.00	0.99		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1359			1529		1540	2804		1540	3079	976
Flt Permitted	0.72	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1134	1359			1529		1540	2804		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	21	223	0	42	21	141	1251	42	105	1127	63
RTOR Reduction (vph)	0	146	0	0	14	0	0	2	0	0	0	42
Lane Group Flow (vph)	126	98	0	0	49	0	141	1291	0	105	1127	21
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	392	470			529		231	955		211	1030	326
v/s Ratio Prot		0.07			0.03		0.09	c0.46		0.07	c0.37	
v/s Ratio Perm	c0.11											0.02
v/c Ratio	0.32	0.21			0.09		0.61	1.35		0.50	1.09	0.06
Uniform Delay, d1	26.4	25.3			24.3		43.7	36.2		43.9	36.6	24.9
Progression Factor	1.00	1.00			1.00		0.92	0.86		1.00	1.00	1.00
Incremental Delay, d2	2.2	1.0			0.3		3.7	160.6		8.2	57.4	0.4
Delay (s)	28.6	26.3			24.6		43.8	191.8		52.1	94.0	25.3
Level of Service	C	C			C		D	F		D	F	C
Approach Delay (s)		27.1			24.6			177.3			87.2	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	119.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

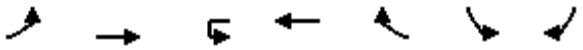
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	210	30	20	1182	0	1133	180
Future Volume (vph)	210	30	20	1182	0	1133	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00		1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079		3079	1018
Flt Permitted	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079		3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	226	32	22	1271	0	1218	194
RTOR Reduction (vph)	0	9	0	0	0	0	58
Lane Group Flow (vph)	226	23	22	1271	0	1218	136
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8		37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8		37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40		0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226		1035	342
v/s Ratio Prot	c0.17		0.01	c0.41		c0.40	
v/s Ratio Perm		0.02					0.13
v/c Ratio	0.50	0.06	0.10	1.04		1.18	0.40
Uniform Delay, d1	28.4	24.0	41.3	33.1		36.5	28.0
Progression Factor	1.00	1.00	0.58	0.64		0.59	0.37
Incremental Delay, d2	3.9	0.3	0.3	26.0		83.4	1.2
Delay (s)	32.3	24.3	24.3	47.2		104.8	11.5
Level of Service	C	C	C	D		F	B
Approach Delay (s)	31.3			46.8		92.0	
Approach LOS	C			D		F	

Intersection Summary			
HCM 2000 Control Delay	67.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.3%	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)	60	10	20	10	10	10	30	1142	10	30	1073	120
Future Volume (vph)	60	10	20	10	10	10	30	1142	10	30	1073	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	0.97	
Flpb, ped/bikes		0.98			0.99		1.00	1.00		1.00	1.00	
Frt		0.97			0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1473			1486		1540	3070		1540	2953	
Flt Permitted		0.80			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1218			1395		1540	3070		1540	2953	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	62	10	21	10	10	10	31	1190	10	31	1118	125
RTOR Reduction (vph)	0	9	0	0	7	0	0	1	0	0	8	0
Lane Group Flow (vph)	0	85	0	0	23	0	31	1199	0	31	1235	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		420			481		210	1200		128	1009	
v/s Ratio Prot							0.02	c0.39		0.02	c0.42	
v/s Ratio Perm		c0.07			0.02							
v/c Ratio		0.20			0.05		0.15	1.00		0.24	1.22	
Uniform Delay, d1		25.3			24.0		41.9	33.5		47.1	36.2	
Progression Factor		1.00			1.00		0.89	0.87		1.28	0.14	
Incremental Delay, d2		1.1			0.2		0.6	16.7		0.4	101.7	
Delay (s)		26.4			24.2		38.0	45.9		60.6	106.8	
Level of Service		C			C		D	D		E	F	
Approach Delay (s)		26.4			24.2			45.7			105.6	
Approach LOS		C			C			D			F	

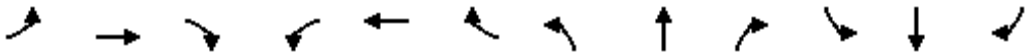
Intersection Summary			
HCM 2000 Control Delay	73.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	140	1112	0	1033	30	10	503
Future Volume (vph)	140	1112	0	1033	30	10	503
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2		6.6		6.8	6.8
Lane Util. Factor	1.00	0.95		0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00		0.99		1.00	0.69
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		1.00		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1459	2917		2876		1459	894
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1459	2917		2876		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1146	0	1065	31	10	519
RTOR Reduction (vph)	0	0	0	2	0	0	236
Lane Group Flow (vph)	144	1146	0	1094	0	10	283
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8		36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8		36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41		0.33		0.35	0.35
Clearance Time (s)	6.6	5.2		6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188		951		506	310
v/s Ratio Prot	0.10	c0.39		c0.38		0.01	
v/s Ratio Perm							c0.32
v/c Ratio	0.71	0.96		1.15		0.02	0.91
Uniform Delay, d1	45.1	31.8		36.8		23.6	34.3
Progression Factor	1.43	0.79		1.81		1.00	1.00
Incremental Delay, d2	7.9	10.0		68.9		0.1	33.2
Delay (s)	72.5	35.2		135.7		23.7	67.6
Level of Service	E	D		F		C	E
Approach Delay (s)		39.4		135.7		66.7	
Approach LOS		D		F		E	

Intersection Summary			
HCM 2000 Control Delay	80.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

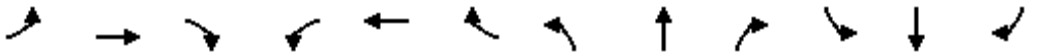
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	720	850	50	547	890	40	80	1337	552	0	0	0
Future Volume (vph)	720	850	50	547	890	40	80	1337	552	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3034		2987	3025			5539	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3034		2987	3025			5539	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	766	904	53	582	947	43	85	1422	587	0	0	0
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	213	0	0	0
Lane Group Flow (vph)	766	953	0	582	989	0	0	1507	374	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1026		358	926			1973	451			
v/s Ratio Prot	c0.18	0.31		c0.19	c0.33							
v/s Ratio Perm								0.27	c0.30			
v/c Ratio	1.07	0.93		1.63	1.07			0.76	0.83			
Uniform Delay, d1	45.9	35.1		48.4	38.1			31.3	32.3			
Progression Factor	1.09	1.13		0.71	0.90			1.21	1.66			
Incremental Delay, d2	33.3	1.9		282.7	33.0			0.6	4.0			
Delay (s)	83.3	41.6		317.1	67.4			38.6	57.6			
Level of Service	F	D		F	E			D	E			
Approach Delay (s)		60.2			159.8			43.9			0.0	
Approach LOS		E			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	82.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
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)	230	1520	64	60	850	60	43	130	40	80	846	250
Future Volume (vph)	230	1520	64	60	850	60	43	130	40	80	846	250
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	0.99		1.00	0.96			1.00	0.71	1.00	0.99	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.79	1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3675		1459	2780			1495	911	1147	1434	698
Flt Permitted	0.95	1.00		0.95	1.00			0.17	1.00	0.62	1.00	1.00
Satd. Flow (perm)	1296	3675		1459	2780			252	911	744	1434	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	247	1634	69	65	914	65	46	140	43	86	910	269
RTOR Reduction (vph)	0	4	0	0	5	0	0	0	28	0	1	113
Lane Group Flow (vph)	247	1699	0	65	974	0	0	186	15	86	936	129
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	40.0		11.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	40.0		11.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.36		0.11	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1336		157	907			87	316	265	511	248
v/s Ratio Prot	0.19	c0.46		0.04	c0.35						0.65	
v/s Ratio Perm								c0.74	0.02	0.12		0.18
v/c Ratio	1.46	1.27		0.41	1.07			2.14	0.05	0.32	1.83	0.52
Uniform Delay, d1	47.8	35.0		45.8	37.0			35.9	23.8	25.8	35.4	28.0
Progression Factor	1.28	0.80		0.53	0.46			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	210.7	122.9		0.2	35.8			548.4	0.1	0.7	381.6	1.8
Delay (s)	271.8	150.9		24.6	52.7			584.3	23.9	26.5	417.0	29.8
Level of Service	F	F		C	D			F	C	C	F	C
Approach Delay (s)		166.2			50.9			479.0			316.4	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	197.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	147.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1784	110	0	973	120	10
Future Volume (vph)	1784	110	0	973	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3046			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3046			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1878	116	0	1024	126	11
RTOR Reduction (vph)	4	0	0	0	0	6
Lane Group Flow (vph)	1990	0	0	1024	126	5
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1719			1738	512	451
v/s Ratio Prot	c0.65			0.33	c0.08	
v/s Ratio Perm						0.00
v/c Ratio	1.16			0.59	0.25	0.01
Uniform Delay, d1	23.9			15.6	26.7	24.6
Progression Factor	1.00			2.22	1.00	1.00
Incremental Delay, d2	78.0			0.1	1.1	0.0
Delay (s)	101.9			34.9	27.8	24.6
Level of Service	F			C	C	C
Approach Delay (s)	101.9			34.9	27.6	
Approach LOS	F			C	C	

Intersection Summary			
HCM 2000 Control Delay	76.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

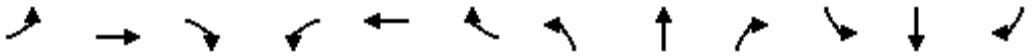
c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	160	330	40	60	10	20	64	10	10	10	10	40
Future Volume (vph)	160	330	40	60	10	20	64	10	10	10	10	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.98					0.99				0.97	
Flpb, ped/bikes		0.99					1.00				0.95	
Frt		0.98					0.99				0.92	
Flt Protected		0.99					0.99				0.99	
Satd. Flow (prot)		1445					1256				1095	
Flt Permitted		0.88					0.73				0.89	
Satd. Flow (perm)		1289					930				984	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	186	384	47	70	12	23	74	12	12	12	12	47
RTOR Reduction (vph)	0	0	0	0	0	0	5	0	0	0	27	0
Lane Group Flow (vph)	0	687	0	0	0	0	116	0	0	0	56	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		24.0					24.0				32.0	
Effective Green, g (s)		24.0					24.0				32.0	
Actuated g/C Ratio		0.32					0.32				0.43	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		412					297				419	
v/s Ratio Prot												
v/s Ratio Perm		c0.53					0.12				0.06	
v/c Ratio		1.67					0.39				0.13	
Uniform Delay, d1		25.5					19.8				13.1	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		310.9					0.8				0.1	
Delay (s)		336.4					20.7				13.2	
Level of Service		F					C				B	
Approach Delay (s)		336.4					20.7				13.2	
Approach LOS		F					C				B	

Intersection Summary			
HCM 2000 Control Delay	221.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	162	10	50	80	10	90	140	10
Future Volume (vph)	162	10	50	80	10	90	140	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	1.00	
Frpb, ped/bikes		0.92		0.72		1.00	0.81	
Flpb, ped/bikes		1.00		1.00		0.90	1.00	
Frt		0.96		0.85		1.00	0.85	
Flt Protected		0.97		1.00		0.95	1.00	
Satd. Flow (prot)		1253		888		1311	1058	
Flt Permitted		0.74		1.00		0.95	1.00	
Satd. Flow (perm)		958		888		1311	1058	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	188	12	58	93	12	105	163	12
RTOR Reduction (vph)	0	2	0	48	0	0	97	0
Lane Group Flow (vph)	0	265	0	36	0	117	78	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		32.0		32.0		4.0	4.0	
Effective Green, g (s)		32.0		32.0		4.0	4.0	
Actuated g/C Ratio		0.43		0.43		0.05	0.05	
Clearance Time (s)		5.0		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		408		378		69	56	
v/s Ratio Prot								
v/s Ratio Perm		c0.28		0.04		0.09	0.07	
v/c Ratio		0.65		0.09		1.70	1.40	
Uniform Delay, d1		17.1		12.8		35.5	35.5	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		3.7		0.1		367.2	258.7	
Delay (s)		20.7		13.0		402.7	294.2	
Level of Service		C		B		F	F	
Approach Delay (s)		18.9				337.7		
Approach LOS		B				F		

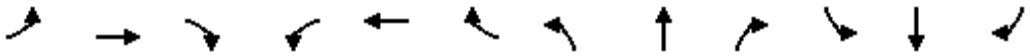
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	140	0	0	530	50	253	350	310	10	0	80
Future Volume (vph)	140	140	0	0	530	50	253	350	310	10	0	80
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.88	
Flt Protected		0.98			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1267			2047	702	1459	2672			1329	
Flt Permitted		0.55			1.00	1.00	0.70	1.00			0.91	
Satd. Flow (perm)		711			2047	702	1068	2672			1221	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	147	0	0	558	53	266	368	326	11	0	84
RTOR Reduction (vph)	0	0	0	0	0	0	0	206	0	0	0	0
Lane Group Flow (vph)	0	294	0	0	558	53	266	488	0	0	95	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		331			955	327	391	979			447	
v/s Ratio Prot					0.27			0.18				
v/s Ratio Perm		c0.41				0.08	c0.25				0.08	
v/c Ratio		0.89			0.58	0.16	0.68	0.50			0.21	
Uniform Delay, d1		14.6			11.7	9.2	16.0	14.7			13.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		27.8			2.6	1.1	9.2	1.8			1.1	
Delay (s)		42.4			14.3	10.3	25.2	16.5			14.1	
Level of Service		D			B	B	C	B			B	
Approach Delay (s)		42.4			14.0			18.9			14.1	
Approach LOS		D			B			B			B	

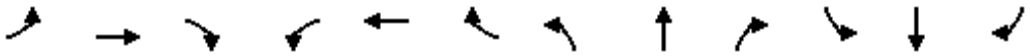
Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	450	20	0	60	30	10	410	140	732	130	0
Future Volume (vph)	340	450	20	0	60	30	10	410	140	732	130	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0	3.0		3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.87		0.94		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		1.00			1.00	0.85		0.96		1.00	1.00	
Flt Protected		0.98			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1224			1482	1092		2635		1459	1535	
Flt Permitted		0.98			1.00	1.00		0.95		0.27	1.00	
Satd. Flow (perm)		1224			1482	1092		2505		414	1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	362	479	21	0	64	32	11	436	149	779	138	0
RTOR Reduction (vph)	0	1	0	0	0	22	0	36	0	0	0	0
Lane Group Flow (vph)	0	861	0	0	64	10	0	560	0	779	138	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA			NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases						4	2			6		
Actuated Green, G (s)		24.0			24.0	24.0		24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0	27.0		27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29	0.30		0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)		367			428	327		751		128	477	
v/s Ratio Prot		c0.70			c0.04						0.09	
v/s Ratio Perm						0.01		0.22		c1.88		
v/c Ratio		2.35			0.15	0.03		0.75		6.09	0.29	
Uniform Delay, d1		31.5			23.8	22.2		28.4		31.0	23.5	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		614.5			0.7	0.2		6.6		2305.4	1.5	
Delay (s)		646.0			24.5	22.4		35.0		2336.4	25.0	
Level of Service		F			C	C		D		F	C	
Approach Delay (s)		646.0			23.8			35.0			1988.5	
Approach LOS		F			C			D			F	

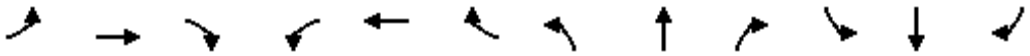
Intersection Summary			
HCM 2000 Control Delay	972.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	136.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	320	60	60	260	70	20	290	60	70	413	160
Future Volume (vph)	260	320	60	60	260	70	20	290	60	70	413	160
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.95			0.91			0.95			0.93	
Flpb, ped/bikes		0.89			0.97			0.99			0.98	
Frt		0.99			0.97			0.98			0.96	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		2226			2311			2657			2325	
Flt Permitted		0.66			0.81			0.91			0.87	
Satd. Flow (perm)		1490			1886			2430			2033	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	337	63	63	274	74	21	305	63	74	435	168
RTOR Reduction (vph)	0	12	0	0	18	0	0	0	0	0	20	0
Lane Group Flow (vph)	0	662	0	0	393	0	0	389	0	0	657	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		695			880			1134			914	
v/s Ratio Prot												
v/s Ratio Perm		c0.44			0.21			0.16			c0.32	
v/c Ratio		1.08dl			0.45			0.34			0.72	
Uniform Delay, d1		15.4			10.8			10.2			13.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		24.4			1.6			0.8			4.8	
Delay (s)		39.7			12.4			11.0			18.3	
Level of Service		D			B			B			B	
Approach Delay (s)		39.7			12.4			11.0			18.3	
Approach LOS		D			B			B			B	

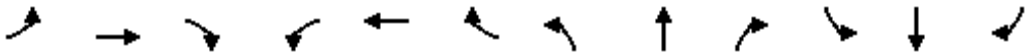
Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	580	777	60	0	0	0	0	510	110	50	643	0
Future Volume (vph)	580	777	60	0	0	0	0	510	110	50	643	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	0.65		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		0.99	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4117						1588	823		1537	
Flt Permitted	0.95	1.00						1.00	1.00		0.93	
Satd. Flow (perm)	2830	4117						1588	823		1442	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	617	827	64	0	0	0	0	543	117	53	684	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	617	881	0	0	0	0	0	543	117	0	737	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2								4	4		
Actuated Green, G (s)	27.0	27.0						53.0	53.0		53.0	
Effective Green, g (s)	28.5	28.5						54.5	54.5		54.5	
Actuated g/C Ratio	0.32	0.32						0.61	0.61		0.61	
Clearance Time (s)	5.0	5.0						5.0	5.0		5.0	
Lane Grp Cap (vph)	896	1303						961	498		873	
v/s Ratio Prot		0.21						0.34				
v/s Ratio Perm	c0.22								0.14		c0.51	
v/c Ratio	0.69	0.68						0.57	0.23		0.84	
Uniform Delay, d1	26.9	26.7						10.6	8.2		14.3	
Progression Factor	0.76	0.76						1.00	1.00		1.00	
Incremental Delay, d2	0.4	0.3						2.4	1.1		9.8	
Delay (s)	20.9	20.6						13.0	9.3		24.1	
Level of Service	C	C						B	A		C	
Approach Delay (s)		20.7			0.0			12.4			24.1	
Approach LOS		C			A			B			C	

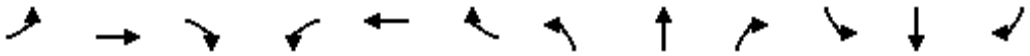
Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1100	1340	0	0	0	0	0	1470	337	0	0	0
Future Volume (vph)	1100	1340	0	0	0	0	0	1470	337	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.95				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.97				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		4987						3723				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		4987						3723				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1146	1396	0	0	0	0	0	1531	351	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2542	0	0	0	0	0	1882	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1690						1054				
v/s Ratio Prot								c0.51				
v/s Ratio Perm		0.51										
v/c Ratio		2.40dl						1.79				
Uniform Delay, d1		29.8						32.2				
Progression Factor		1.04						1.00				
Incremental Delay, d2		227.9						357.4				
Delay (s)		258.8						389.6				
Level of Service		F						F				
Approach Delay (s)		258.8			0.0			389.6			0.0	
Approach LOS		F			A			F			A	

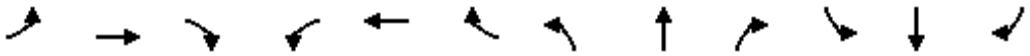
Intersection Summary			
HCM 2000 Control Delay	314.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	122.7%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1240	170	199	1845	136	0	0	0
Future Volume (vph)	0	0	0	0	1240	170	199	1845	136	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.97			0.96				
Flpb, ped/bikes					1.00			1.00				
Frt					0.98			0.99				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					2662			3846				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					2662			3846				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1319	181	212	1963	145	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1488	0	0	2320	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					931			1132				
v/s Ratio Prot					c0.56			c0.60				
v/s Ratio Perm												
v/c Ratio					1.60			2.05				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.82				
Incremental Delay, d2					274.4			472.5				
Delay (s)					303.7			498.5				
Level of Service					F			F				
Approach Delay (s)		0.0			303.7			498.5			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	422.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
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)	0	0	0	0	1160	300	200	1605	0	0	0	0
Future Volume (vph)	0	0	0	0	1160	300	200	1605	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.93			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3227			2907				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3227			2907				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1234	319	213	1707	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	51	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1502	0	0	1920	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1129			985				
v/s Ratio Prot					c0.47			c0.66				
v/s Ratio Perm												
v/c Ratio					1.33			1.95				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.38				
Incremental Delay, d2					154.7			427.5				
Delay (s)					184.0			438.7				
Level of Service					F			F				
Approach Delay (s)		0.0			184.0			438.7			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	324.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Traffic Volume (vph)	1130	493	0	100	634	1280	83
Future Volume (vph)	1130	493	0	100	634	1280	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00		1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.64	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5099	1212		903	2605	4121	1122
Flt Permitted	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5099	1212		903	2605	4121	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1242	542	0	110	697	1407	91
RTOR Reduction (vph)	0	180	0	78	0	0	0
Lane Group Flow (vph)	1242	362	0	32	697	1416	82
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0		24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0		26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350		260	752	1282	349
v/s Ratio Prot	0.24				c0.27	c0.34	
v/s Ratio Perm		c0.30		0.04			0.07
v/c Ratio	0.84	1.03		0.12	0.93	1.10	0.23
Uniform Delay, d1	30.1	32.0		23.6	31.1	31.0	23.0
Progression Factor	1.00	1.00		0.96	0.91	1.00	1.00
Incremental Delay, d2	6.1	57.3		1.0	18.9	58.9	1.6
Delay (s)	36.1	89.3		23.6	47.2	89.9	24.6
Level of Service	D	F		C	D	F	C
Approach Delay (s)	52.3				44.0	86.3	
Approach LOS	D				D	F	

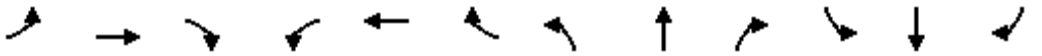
Intersection Summary			
HCM 2000 Control Delay	63.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	150	799	630	324	450	160
Future Volume (vph)	150	799	630	324	450	160
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.94	0.85	0.85
Flt Protected	0.95		0.97	1.00	1.00	1.00
Satd. Flow (prot)	1115		3827	2300	1013	1099
Flt Permitted	0.95		0.97	1.00	1.00	1.00
Satd. Flow (perm)	1115		3827	2300	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	153	815	643	331	459	163
RTOR Reduction (vph)	0	0	0	0	0	74
Lane Group Flow (vph)	138	0	1473	542	248	89
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1641	1106	521	565
v/s Ratio Prot				0.24		
v/s Ratio Perm	0.12		0.38		c0.24	0.08
v/c Ratio	0.29		1.43dl	0.49	0.48	0.16
Uniform Delay, d1	16.8		23.9	15.9	14.0	11.5
Progression Factor	1.43		1.23	1.24	1.33	3.07
Incremental Delay, d2	0.1		0.8	1.3	2.7	0.5
Delay (s)	24.1		30.3	21.0	21.4	35.9
Level of Service	C		C	C	C	D
Approach Delay (s)			29.7	23.7		
Approach LOS			C	C		

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	400	960	0	0	0	0	0	424	200
Future Volume (vph)	0	0	0	400	960	0	0	0	0	0	424	200
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	408	980	0	0	0	0	0	433	204
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	408	980	0	0	0	0	0	433	204
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				c0.28	0.23						0.15	
v/s Ratio Perm												c0.24
v/c Ratio				0.75	0.63						0.44	0.69
Uniform Delay, d1				24.6	23.2						22.8	25.3
Progression Factor				1.15	1.14						1.00	1.00
Incremental Delay, d2				0.9	0.2						1.4	12.2
Delay (s)				29.2	26.6						24.1	37.6
Level of Service				C	C						C	D
Approach Delay (s)		0.0			27.4			0.0			28.4	
Approach LOS		A			C			A			C	

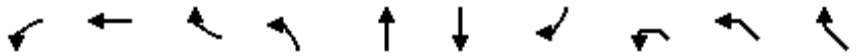
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	150	450	870	180	460	320	110	270	313	1020
Future Volume (vph)	150	450	870	180	460	320	110	270	313	1020
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.77	1.00	0.86			1.00	1.00
Flpb, ped/bikes		0.87	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2098	2518	968	1535	1164			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.35	1.00
Satd. Flow (perm)		2098	2518	968	1535	1164			1003	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	161	484	935	194	495	344	118	290	337	1097
RTOR Reduction (vph)	0	0	0	26	0	22	0	0	0	0
Lane Group Flow (vph)	0	597	983	168	495	440	0	0	627	1097
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		28.0	28.0	28.0	35.0	35.0			35.0	35.0
Effective Green, g (s)		28.0	30.5	30.0	36.5	37.0			36.5	36.5
Actuated g/C Ratio		0.37	0.41	0.40	0.49	0.49			0.49	0.49
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		783	1023	387	747	574			488	635
v/s Ratio Prot			c0.39		0.32					c0.84
v/s Ratio Perm		0.28		0.17		0.38			0.62	
v/c Ratio		0.76	0.96	0.43	0.66	0.77			1.28	1.73
Uniform Delay, d1		20.6	21.7	16.3	14.6	15.5			19.2	19.2
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.35	1.35
Incremental Delay, d2		6.9	20.2	3.5	4.6	9.4			129.7	328.0
Delay (s)		27.5	41.8	19.8	19.2	24.9			155.7	354.0
Level of Service		C	D	B	B	C			F	F
Approach Delay (s)			34.6		21.9					281.9
Approach LOS			C		C					F

Intersection Summary			
HCM 2000 Control Delay	127.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



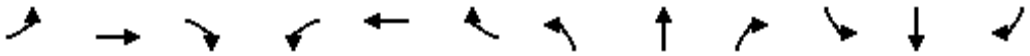
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	60	680	160	60	440	760	270	453	690	450
Future Volume (vph)	60	680	160	60	440	760	270	453	690	450
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.98			1.00	0.95			0.99	0.87
Flpb, ped/bikes		1.00			1.00	1.00			0.83	1.00
Frt		0.97			1.00	0.96			0.99	0.85
Flt Protected		1.00			0.99	1.00			0.96	1.00
Satd. Flow (prot)		4974			2871	2444			3368	979
Flt Permitted		1.00			0.56	1.00			0.96	1.00
Satd. Flow (perm)		4974			1611	2444			3368	979
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	65	731	172	65	473	817	290	492	742	484
RTOR Reduction (vph)	0	31	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	937	0	0	538	1096	0	0	1321	397
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		22.0			20.0	20.0			19.0	19.0
Effective Green, g (s)		24.0			23.0	23.0			22.0	22.0
Actuated g/C Ratio		0.32			0.31	0.31			0.29	0.29
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1591			494	749			987	287
v/s Ratio Prot						c0.45				
v/s Ratio Perm		0.19			0.33				0.39	c0.41
v/c Ratio		0.59			1.09	1.46			1.40dl	1.38
Uniform Delay, d1		21.4			26.0	26.0			26.5	26.5
Progression Factor		1.00			0.72	1.00			1.00	1.00
Incremental Delay, d2		1.6			61.0	215.8			159.2	192.7
Delay (s)		23.0			79.6	241.8			185.7	219.2
Level of Service		C			E	F			F	F
Approach Delay (s)		23.0			79.6	241.8			193.4	
Approach LOS		C			E	F			F	

Intersection Summary			
HCM 2000 Control Delay	153.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	114.7%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

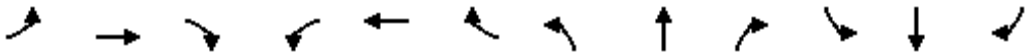
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	260	1729	80	81	516
Future Volume (vph)	10	260	1729	80	81	516
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3041		1533	3079
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1540	1378	3041		86	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	289	1921	89	90	573
RTOR Reduction (vph)	0	10	3	0	0	0
Lane Group Flow (vph)	11	279	2007	0	90	573
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2067		58	2093
v/s Ratio Prot	0.01		0.66			0.19
v/s Ratio Perm		c0.20			c1.04	
v/c Ratio	0.03	0.87	0.97		1.55	0.27
Uniform Delay, d1	32.6	40.6	16.6		17.6	6.9
Progression Factor	1.00	1.00	1.00		2.76	0.60
Incremental Delay, d2	0.2	26.3	14.0		255.9	0.0
Delay (s)	32.8	66.9	30.6		304.5	4.2
Level of Service	C	E	C		F	A
Approach Delay (s)	65.7		30.6			45.0
Approach LOS	E		C			D

Intersection Summary			
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
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)	190	76	205	24	27	77	40	1542	266	6	479	40
Future Volume (vph)	190	76	205	24	27	77	40	1542	266	6	479	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.98		1.00	0.99	
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1559	1342		1456		1459	2819		1540	3026	
Flt Permitted		0.68	1.00		0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1103	1342		1332		1459	2819		1540	3026	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	213	85	230	27	30	87	45	1733	299	7	538	45
RTOR Reduction (vph)	0	0	156	0	55	0	0	14	0	0	6	0
Lane Group Flow (vph)	0	298	74	0	89	0	45	2018	0	7	577	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		354	430		427		215	1000		254	1134	
v/s Ratio Prot							0.03	c0.72		0.00	c0.19	
v/s Ratio Perm		c0.27	0.06		0.07							
v/c Ratio		0.84	0.17		0.21		0.21	2.02		0.03	0.51	
Uniform Delay, d1		31.6	24.4		24.7		37.5	32.2		35.0	24.1	
Progression Factor		1.00	1.00		1.00		1.51	1.02		1.00	1.00	
Incremental Delay, d2		20.9	0.9		1.1		0.2	458.3		0.2	1.6	
Delay (s)		52.5	25.3		25.8		56.6	491.4		35.2	25.8	
Level of Service		D	C		C		E	F		D	C	
Approach Delay (s)		40.6			25.8			482.0			25.9	
Approach LOS		D			C			F			C	

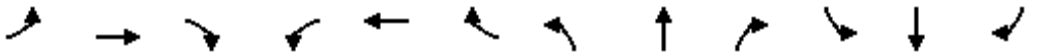
Intersection Summary			
HCM 2000 Control Delay	311.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	233	70	144	6	64	30	1832	139	144	524	30
Future Volume (vph)	30	233	70	144	6	64	30	1832	139	144	524	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.96		1.00	0.99		1.00	0.99	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1323			1478		1418	2780		1540	3039	
Flt Permitted		0.95			0.45		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1268			693		1418	2780		1540	3039	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	33	256	77	158	7	70	33	2013	153	158	576	33
RTOR Reduction (vph)	0	9	0	0	15	0	0	5	0	0	4	0
Lane Group Flow (vph)	0	357	0	0	220	0	33	2161	0	158	605	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		7.0	50.8		1.0	44.9	
Effective Green, g (s)		32.7			32.7		7.0	50.8		1.0	44.9	
Actuated g/C Ratio		0.33			0.33		0.07	0.51		0.01	0.45	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		414			226		99	1412		15	1364	
v/s Ratio Prot							0.02	c0.78		c0.10	0.20	
v/s Ratio Perm		0.28			c0.32							
v/c Ratio		0.86			0.97		0.33	1.53		10.53	0.44	
Uniform Delay, d1		31.5			33.2		44.3	24.6		49.5	19.0	
Progression Factor		1.00			1.00		1.14	0.75		0.74	0.79	
Incremental Delay, d2		20.4			52.9		0.8	238.9		4405.9	0.9	
Delay (s)		51.9			86.1		51.2	257.3		4442.6	16.0	
Level of Service		D			F		D	F		F	B	
Approach Delay (s)		51.9			86.1			254.2			927.9	
Approach LOS		D			F			F			F	

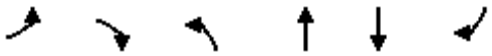
Intersection Summary			
HCM 2000 Control Delay	367.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	147.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	130	10	20	30	107	20	106	30	281	289	190
Future Volume (vph)	20	130	10	20	30	107	20	106	30	281	289	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.99	1.00	0.99		1.00	0.91	
Flpb, ped/bikes		1.00			1.00	1.00	0.91	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	0.94	
Flt Protected		0.99			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1352			1585	1357	1175	1301		1296	1171	
Flt Permitted		0.96			0.87	1.00	0.47	1.00		0.95	1.00	
Satd. Flow (perm)		1299			1414	1357	583	1301		1296	1171	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	141	11	22	33	116	22	115	33	305	314	207
RTOR Reduction (vph)	0	4	0	0	0	57	0	15	0	0	23	0
Lane Group Flow (vph)	0	170	0	0	55	59	22	133	0	305	498	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		10.8			10.8	28.2	12.7	12.7		17.4	35.1	
Effective Green, g (s)		10.8			10.8	28.2	12.7	12.7		17.4	35.1	
Actuated g/C Ratio		0.19			0.19	0.50	0.23	0.23		0.31	0.63	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		250			273	805	132	295		403	735	
v/s Ratio Prot						0.02		0.10		0.24	c0.43	
v/s Ratio Perm		c0.13			0.04	0.02	0.04					
v/c Ratio		0.68			0.20	0.07	0.17	0.45		0.76	0.68	
Uniform Delay, d1		20.9			18.9	7.1	17.3	18.6		17.3	6.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.2			0.4	0.0	0.6	1.1		7.9	2.5	
Delay (s)		28.1			19.3	7.2	17.9	19.7		25.3	9.2	
Level of Service		C			B	A	B	B		C	A	
Approach Delay (s)		28.1			11.1			19.5			15.1	
Approach LOS		C			B			B			B	

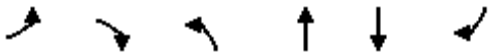
Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	55.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	20	119	203	330	109	10
Future Volume (vph)	20	119	203	330	109	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	23	135	231	375	124	11

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	23	135	356	250	83	52
Volume Left (vph)	23	0	231	0	0	0
Volume Right (vph)	0	135	0	0	0	11
Hadj (s)	0.53	-0.67	0.36	0.03	0.03	-0.11
Departure Headway (s)	6.7	5.5	5.5	5.1	5.7	5.5
Degree Utilization, x	0.04	0.21	0.54	0.36	0.13	0.08
Capacity (veh/h)	496	601	646	682	605	620
Control Delay (s)	8.8	8.7	13.5	9.8	8.3	7.8
Approach Delay (s)	8.8		12.0		8.1	
Approach LOS	A		B		A	

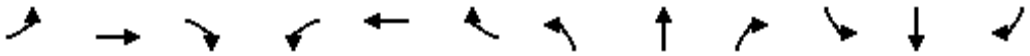
Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	31.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	100	25	100	624	168	50
Future Volume (Veh/h)	100	25	100	624	168	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	120	30	120	752	202	60
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	863	145	274			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	863	145	274			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	54	97	91			
cM capacity (veh/h)	263	867	1274			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	150	371	501	135	127
Volume Left	120	120	0	0	0
Volume Right	30	0	0	0	60
cSH	306	1274	1700	1700	1700
Volume to Capacity	0.49	0.09	0.29	0.08	0.07
Queue Length 95th (ft)	64	8	0	0	0
Control Delay (s)	27.6	3.2	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	27.6	1.4		0.0	
Approach LOS	D				

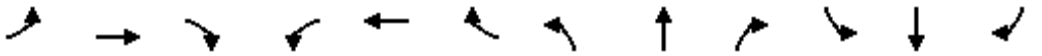
Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	220	190	30	130	140	440	1526	90	90	328	280
Future Volume (vph)	376	220	190	30	130	140	440	1526	90	90	328	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	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	0.92		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1527	1378	1136	1533	1472		2987	3044		1540	2812	
Flt Permitted	0.47	1.00	1.00	0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	750	1378	1136	866	1472		2987	3044		1540	2812	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	400	234	202	32	138	149	468	1623	96	96	349	298
RTOR Reduction (vph)	0	0	132	0	39	0	0	4	0	0	156	0
Lane Group Flow (vph)	400	234	70	32	248	0	468	1715	0	96	492	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		12.0	45.8		4.0	37.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		12.0	45.8		4.0	37.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.12	0.46		0.04	0.38	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	258	475	391	298	507		358	1394		61	1062	
v/s Ratio Prot		0.17			0.17		0.16	c0.56		c0.06	0.17	
v/s Ratio Perm	c0.53		0.06	0.04								
v/c Ratio	1.55	0.49	0.18	0.11	0.49		1.31	1.23		1.57	0.46	
Uniform Delay, d1	32.8	25.8	22.9	22.3	25.8		44.0	27.1		48.0	23.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.84	0.90		0.81	0.63	
Incremental Delay, d2	266.0	3.6	1.0	0.7	3.4		140.2	104.1		312.6	1.2	
Delay (s)	298.7	29.5	23.9	23.0	29.2		177.3	128.6		351.5	15.9	
Level of Service	F	C	C	C	C		F	F		F	B	
Approach Delay (s)		156.9			28.6			139.0			59.3	
Approach LOS		F			C			F			E	

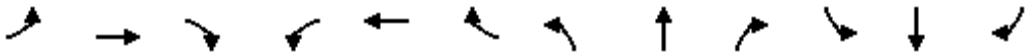
Intersection Summary			
HCM 2000 Control Delay	119.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	125.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	832	200	131	519	180	120	360	143	80	240	80
Future Volume (vph)	340	832	200	131	519	180	120	360	143	80	240	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1540	1378	1378	1540	1621	1331	1540	2948			3040	1341
Flt Permitted	0.95	1.00	1.00	0.11	1.00	1.00	0.54	1.00			0.99	1.00
Satd. Flow (perm)	1540	1378	1378	180	1621	1331	878	2948			3040	1341
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	378	924	217	142	577	200	130	391	155	89	261	89
RTOR Reduction (vph)	0	0	27	0	0	62	0	25	0	0	0	75
Lane Group Flow (vph)	378	924	190	142	577	138	130	521	0	0	350	14
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases	5	2			6			8		4	4	
Permitted Phases			2	6		6	8					4
Actuated Green, G (s)	27.8	68.8	68.8	36.0	36.0	36.0	39.3	39.3			22.9	22.9
Effective Green, g (s)	27.8	68.8	68.8	36.0	36.0	36.0	39.3	39.3			22.9	22.9
Actuated g/C Ratio	0.19	0.47	0.47	0.25	0.25	0.25	0.27	0.27			0.16	0.16
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	295	653	653	44	402	330	237	799			480	211
v/s Ratio Prot	0.25	c0.67			0.36			c0.18			c0.12	
v/s Ratio Perm			0.14	c0.79		0.10	0.15					0.01
v/c Ratio	1.28	1.42	0.29	3.23	1.44	0.42	0.55	0.65			0.73	0.07
Uniform Delay, d1	58.6	38.1	23.2	54.5	54.5	45.7	45.3	46.8			58.1	52.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	150.1	195.7	1.1	1058.4	209.7	0.9	2.6	1.9			5.5	0.1
Delay (s)	208.7	233.8	24.3	1112.9	264.2	46.6	47.8	48.7			63.6	52.1
Level of Service	F	F	C	F	F	D	D	D			E	D
Approach Delay (s)		197.6			348.0			48.6			61.3	
Approach LOS		F			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	191.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



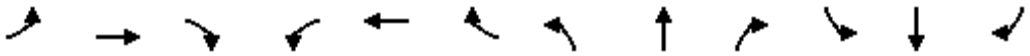
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	896	90	60	363	296	60	320	150	326	80	50
Future Volume (vph)	150	896	90	60	363	296	60	320	150	326	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1890	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.88	1.00	1.00	0.93	1.00	0.97	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1358	1063		1609	1217	1540	1612	1085	1540	1482	
Flt Permitted		0.71	1.00		0.19	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		973	1063		309	1217	1540	1612	1085	1540	1482	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	943	95	63	382	312	63	337	158	343	84	53
RTOR Reduction (vph)	0	0	43	0	0	56	0	0	54	0	25	0
Lane Group Flow (vph)	0	1101	52	0	445	256	63	337	104	343	112	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.0	60.0		60.0	70.0	21.0	24.4	24.4	10.0	13.4	
Effective Green, g (s)		60.0	60.0		60.0	70.0	21.0	24.4	24.4	10.0	13.4	
Actuated g/C Ratio		0.55	0.55		0.55	0.64	0.19	0.22	0.22	0.09	0.12	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		533	582		169	834	295	359	241	140	181	
v/s Ratio Prot						0.03	0.04	c0.21		c0.22	0.08	
v/s Ratio Perm		1.13	0.05		c1.44	0.18			0.10			
v/c Ratio		2.07	0.09		2.63	0.31	0.21	0.94	0.43	2.45	0.62	
Uniform Delay, d1		24.7	11.7		24.7	8.8	37.2	41.8	36.6	49.7	45.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		486.0	0.1		751.7	0.2	0.4	31.7	1.2	673.5	6.1	
Delay (s)		510.7	11.8		776.4	9.0	37.6	73.5	37.8	723.2	51.7	
Level of Service		F	B		F	A	D	E	D	F	D	
Approach Delay (s)		471.1			460.1			59.3			531.6	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	401.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.17		
Actuated Cycle Length (s)	109.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	142.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	230	736	230	390	586
Future Volume (vph)	50	230	736	230	390	586
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1109	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1109	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	237	759	237	402	604
RTOR Reduction (vph)	0	215	0	49	0	0
Lane Group Flow (vph)	52	22	759	188	402	604
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.9	8.9	41.0	36.0	32.0	78.0
Effective Green, g (s)	8.9	8.9	41.0	36.0	32.0	78.0
Actuated g/C Ratio	0.09	0.09	0.42	0.37	0.33	0.80
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	141	222	808	469	427	879
v/s Ratio Prot	c0.03		c0.40	0.02	c0.31	0.55
v/s Ratio Perm		0.01		0.15		
v/c Ratio	0.37	0.10	0.94	0.40	0.94	0.69
Uniform Delay, d1	41.4	40.3	26.8	22.5	31.5	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.2	18.3	0.6	29.1	2.2
Delay (s)	43.0	40.5	45.1	23.0	60.7	6.4
Level of Service	D	D	D	C	E	A
Approach Delay (s)	41.0		39.8			28.1
Approach LOS	D		D			C

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	96.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

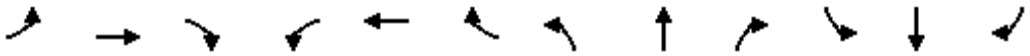
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	90	554	40	40	148	10	30	20	190	10	60	10
Future Volume (vph)	90	554	40	40	148	10	30	20	190	10	60	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	103	637	46	46	170	11	34	23	218	11	69	11

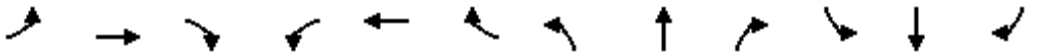
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	786	46	181	57	218	91
Volume Left (vph)	103	46	0	34	0	11
Volume Right (vph)	46	0	11	0	218	11
Hadj (s)	0.03	0.53	-0.01	0.33	-0.67	-0.01
Departure Headway (s)	6.2	7.2	6.6	7.5	6.5	7.6
Degree Utilization, x	1.35	0.09	0.33	0.12	0.39	0.19
Capacity (veh/h)	572	483	524	468	541	451
Control Delay (s)	186.4	9.7	11.7	10.3	12.4	12.3
Approach Delay (s)	186.4	11.3		11.9		12.3
Approach LOS	F	B		B		B

Intersection Summary				
Delay	111.3			
Level of Service	F			
Intersection Capacity Utilization	67.6%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	528	660	80	14	164	30	100	1508	144	40	339	169
Future Volume (vph)	528	660	80	14	164	30	100	1508	144	40	339	169
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.96	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98			0.98		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1732	1857			3304		1711	3350		1711	3213	
Flt Permitted	0.61	1.00			0.69		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1120	1857			2275		1711	3350		1711	3213	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	556	695	84	15	173	32	105	1587	152	42	357	178
RTOR Reduction (vph)	0	4	0	0	13	0	0	7	0	0	62	0
Lane Group Flow (vph)	556	775	0	0	207	0	105	1732	0	42	473	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.7	32.7			32.7		12.1	48.3		3.5	39.7	
Effective Green, g (s)	32.7	32.7			32.7		12.1	48.3		3.5	39.7	
Actuated g/C Ratio	0.33	0.33			0.33		0.12	0.48		0.04	0.40	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	366	607			743		207	1618		59	1275	
v/s Ratio Prot		0.42					0.06	c0.52		c0.02	0.15	
v/s Ratio Perm	c0.50				0.09							
v/c Ratio	1.52	1.28			0.28		0.51	1.07		0.71	0.37	
Uniform Delay, d1	33.6	33.6			24.9		41.2	25.9		47.8	21.3	
Progression Factor	1.00	1.00			1.00		0.81	0.73		1.21	0.69	
Incremental Delay, d2	247.2	137.0			0.9		8.2	43.3		49.4	0.8	
Delay (s)	280.9	170.6			25.8		41.4	62.1		107.2	15.6	
Level of Service	F	F			C		D	E		F	B	
Approach Delay (s)		216.5			25.8			60.9			22.2	
Approach LOS		F			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	105.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	129.8%	ICU Level of Service	H
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)	70	200	0	0	403	160	900	713	1278	0	0	171
Future Volume (vph)	70	200	0	0	403	160	900	713	1278	0	0	171
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.96		1.00	0.91				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2843			3956		1350	3098				2694
Flt Permitted		0.65			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1873			3956		1350	3098				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	76	206	0	0	415	174	928	775	1318	0	0	186
RTOR Reduction (vph)	0	0	0	0	69	0	0	128	0	0	0	60
Lane Group Flow (vph)	0	282	0	0	520	0	928	1965	0	0	0	126
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		28.5			28.5		74.5	74.0				74.5
Effective Green, g (s)		28.5			28.5		74.5	74.0				74.5
Actuated g/C Ratio		0.26			0.26		0.68	0.67				0.68
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		485			1024		914	2084				1824
v/s Ratio Prot					0.13		c0.69	0.63				
v/s Ratio Perm		c0.15										0.05
v/c Ratio		0.58			0.51		1.02	1.14dr				0.07
Uniform Delay, d1		35.5			34.8		17.8	16.1				6.0
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		5.0			0.4		33.6	9.4				0.0
Delay (s)		40.6			35.2		51.4	25.6				6.0
Level of Service		D			D		D	C				A
Approach Delay (s)		40.6			35.2			33.5			6.0	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	142.3%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	260	150	554	910	0	0
Future Volume (vph)	260	150	554	910	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	1.00	0.96	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.99	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1283	1057	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1283	1057	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	268	155	571	938	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	284	139	571	938	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	18.8	18.8	13.2	40.0		
Effective Green, g (s)	18.8	18.8	13.2	40.0		
Actuated g/C Ratio	0.47	0.47	0.33	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	603	496	829	1365		
v/s Ratio Prot	0.22		0.23	c0.69		
v/s Ratio Perm		0.13				
v/c Ratio	0.47	0.28	0.69	0.69		
Uniform Delay, d1	7.2	6.5	11.6	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.6	0.3	2.4	1.5		
Delay (s)	7.8	6.8	14.0	1.5		
Level of Service	A	A	B	A		
Approach Delay (s)	7.5			6.2	0.0	
Approach LOS	A			A	A	

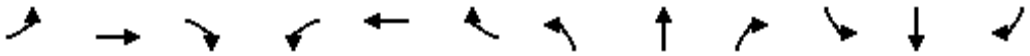
Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	40	60	100	50	30	0	1012	150	0	443	30
Future Volume (vph)	50	40	60	100	50	30	0	1012	150	0	443	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.95			0.98			0.98			0.99	
Flt Protected		0.98			0.97			1.00			1.00	
Satd. Flow (prot)		1274			1310			2789			2838	
Flt Permitted		0.84			0.71			1.00			1.00	
Satd. Flow (perm)		1089			956			2789			2838	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	51	41	61	102	51	31	0	1033	153	0	452	31
RTOR Reduction (vph)	0	27	0	0	9	0	0	9	0	0	4	0
Lane Group Flow (vph)	0	126	0	0	175	0	0	1177	0	0	479	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		22.4			22.4			67.7			67.7	
Effective Green, g (s)		22.4			22.4			67.7			67.7	
Actuated g/C Ratio		0.22			0.22			0.68			0.68	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		243			214			1888			1921	
v/s Ratio Prot								c0.42			0.17	
v/s Ratio Perm		0.12			c0.18							
v/c Ratio		0.52			0.82			0.62			0.25	
Uniform Delay, d1		34.1			36.9			9.0			6.3	
Progression Factor		1.00			1.00			1.03			0.29	
Incremental Delay, d2		1.9			21.1			0.5			0.3	
Delay (s)		35.9			58.0			9.8			2.1	
Level of Service		D			E			A			A	
Approach Delay (s)		35.9			58.0			9.8			2.1	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

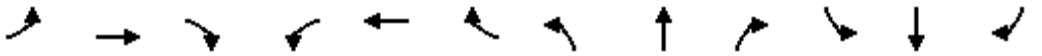
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	528	540	430	10	110	20	270	874	20	30	416	146
Future Volume (vph)	528	540	430	10	110	20	270	874	20	30	416	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1538	2678		1539	1580		1540	3068		1540	2902	
Flt Permitted	0.48	1.00		0.25	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	783	2678		409	1580		1540	3068		1540	2902	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	556	568	453	11	116	21	284	920	21	32	438	154
RTOR Reduction (vph)	0	147	0	0	7	0	0	2	0	0	38	0
Lane Group Flow (vph)	556	874	0	11	130	0	284	939	0	32	554	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	38.0	38.0		18.8	18.8		17.7	42.5		3.2	28.0	
Effective Green, g (s)	38.0	38.0		18.8	18.8		17.7	42.5		3.2	28.0	
Actuated g/C Ratio	0.38	0.38		0.19	0.19		0.18	0.42		0.03	0.28	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	402	1017		76	297		272	1303		49	812	
v/s Ratio Prot	c0.19	0.33			0.08		c0.18	c0.31		0.02	c0.19	
v/s Ratio Perm	c0.33			0.03								
v/c Ratio	1.38	0.86		0.14	0.44		1.04	0.72		0.65	0.68	
Uniform Delay, d1	29.4	28.5		33.9	35.9		41.1	23.8		47.9	32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.02	1.09	
Incremental Delay, d2	187.3	7.4		0.9	1.0		66.6	3.5		26.3	4.4	
Delay (s)	216.7	35.9		34.8	36.9		107.7	27.3		75.3	39.4	
Level of Service	F	D		C	D		F	C		E	D	
Approach Delay (s)		99.6			36.8			45.9			41.2	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	68.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
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)	50	20	401	90	100	20	303	777	0	60	1102	100
Future Volume (vph)	50	20	401	90	100	20	303	777	0	60	1102	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			1.00		1.00	1.00		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1514	1348			1555		1540	2848		1540	3079	976
Flt Permitted	0.60	1.00			0.38		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	958	1348			605		1540	2848		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	21	422	95	105	21	319	818	0	63	1160	105
RTOR Reduction (vph)	0	250	0	0	3	0	0	0	0	0	0	69
Lane Group Flow (vph)	53	193	0	0	218	0	319	818	0	63	1160	36
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	331	466			209		231	970		211	1030	326
v/s Ratio Prot		0.14					c0.21	0.29		0.04	c0.38	
v/s Ratio Perm	0.06				c0.36							0.04
v/c Ratio	0.16	0.41			1.04		1.38	0.84		0.30	1.13	0.11
Uniform Delay, d1	24.9	27.4			36.0		46.8	33.5		42.7	36.6	25.3
Progression Factor	1.00	1.00			1.00		0.84	0.84		1.00	1.00	1.00
Incremental Delay, d2	1.0	2.7			73.6		183.8	4.4		3.6	69.5	0.7
Delay (s)	25.9	30.2			109.6		223.2	32.6		46.3	106.1	26.0
Level of Service	C	C			F		F	C		D	F	C
Approach Delay (s)		29.7			109.6			86.1			97.0	
Approach LOS		C			F			F			F	

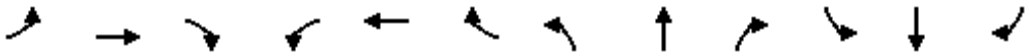
Intersection Summary			
HCM 2000 Control Delay	83.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	137.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	140	40	50	1070	0	943	400
Future Volume (vph)	140	40	50	1070	0	943	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00		1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079		3079	1018
Flt Permitted	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079		3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	43	54	1151	0	1014	430
RTOR Reduction (vph)	0	19	0	0	0	0	153
Lane Group Flow (vph)	151	24	54	1151	0	1014	277
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8		37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8		37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40		0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226		1035	342
v/s Ratio Prot	c0.12		0.04	c0.37		c0.33	
v/s Ratio Perm		0.02					0.27
v/c Ratio	0.33	0.06	0.25	0.94		0.98	0.81
Uniform Delay, d1	26.6	24.0	42.2	31.8		36.1	33.3
Progression Factor	1.00	1.00	0.57	0.63		0.68	0.65
Incremental Delay, d2	2.0	0.3	1.4	8.5		9.7	5.1
Delay (s)	28.5	24.4	25.5	28.5		34.4	26.8
Level of Service	C	C	C	C		C	C
Approach Delay (s)	27.6			28.3		32.1	
Approach LOS	C			C		C	

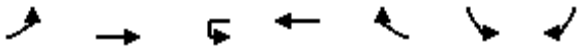
Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	10	20	10	10	10	70	1040	10	10	913	180
Future Volume (vph)	110	10	20	10	10	10	70	1040	10	10	913	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	0.96	
Flpb, ped/bikes		0.97			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1481			1487		1540	3069		1540	2873	
Flt Permitted		0.75			0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1156			1380		1540	3069		1540	2873	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	10	21	10	10	10	73	1083	10	10	951	188
RTOR Reduction (vph)	0	5	0	0	7	0	0	1	0	0	15	0
Lane Group Flow (vph)	0	141	0	0	23	0	73	1092	0	10	1124	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		399			476		210	1199		128	982	
v/s Ratio Prot							0.05	c0.36		0.01	c0.39	
v/s Ratio Perm		c0.12			0.02							
v/c Ratio		0.35			0.05		0.35	0.91		0.08	1.14	
Uniform Delay, d1		26.8			24.0		43.1	31.7		46.5	36.2	
Progression Factor		1.00			1.00		0.86	0.81		1.30	0.22	
Incremental Delay, d2		2.4			0.2		1.2	3.8		0.6	71.2	
Delay (s)		29.3			24.2		38.3	29.5		60.8	79.1	
Level of Service		C			C		D	C		E	E	
Approach Delay (s)		29.3			24.2			30.1			79.0	
Approach LOS		C			C			C			E	

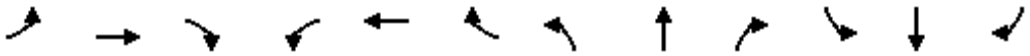
Intersection Summary			
HCM 2000 Control Delay	52.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	240	1190	0	1023	30	80	342
Future Volume (vph)	240	1190	0	1023	30	80	342
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2		6.6		6.8	6.8
Lane Util. Factor	1.00	0.95		0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00		0.99		1.00	0.69
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		1.00		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1459	2917		2876		1459	894
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1459	2917		2876		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	247	1227	0	1055	31	82	353
RTOR Reduction (vph)	0	0	0	2	0	0	230
Lane Group Flow (vph)	247	1227	0	1084	0	82	123
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8		36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8		36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41		0.33		0.35	0.35
Clearance Time (s)	6.6	5.2		6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188		951		506	310
v/s Ratio Prot	0.17	c0.42		c0.38		0.06	
v/s Ratio Perm							c0.14
v/c Ratio	1.21	1.03		1.14		0.16	0.40
Uniform Delay, d1	47.3	32.6		36.8		24.8	27.2
Progression Factor	1.44	0.77		1.72		1.00	1.00
Incremental Delay, d2	112.9	26.2		64.3		0.7	3.7
Delay (s)	181.1	51.2		127.8		25.5	30.9
Level of Service	F	D		F		C	C
Approach Delay (s)		72.9		127.8		29.9	
Approach LOS		E		F		C	

Intersection Summary			
HCM 2000 Control Delay	86.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

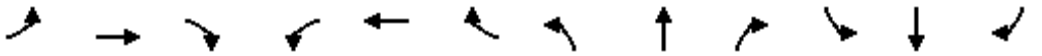
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	850	50	446	950	40	90	1630	530	0	0	0
Future Volume (vph)	930	850	50	446	950	40	90	1630	530	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3034		2987	3029			5542	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3034		2987	3029			5542	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	989	904	53	474	1011	43	96	1734	564	0	0	0
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	213	0	0	0
Lane Group Flow (vph)	989	953	0	474	1053	0	0	1830	351	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1026		358	927			1974	451			
v/s Ratio Prot	c0.23	0.31		0.16	c0.35							
v/s Ratio Perm								0.33	0.28			
v/c Ratio	1.38	0.93		1.32	1.14			0.93	0.78			
Uniform Delay, d1	45.9	35.1		48.4	38.1			34.0	31.5			
Progression Factor	1.09	1.13		0.67	0.93			1.25	1.79			
Incremental Delay, d2	170.7	1.9		152.6	66.5			4.0	3.8			
Delay (s)	220.8	41.7		185.0	101.9			46.7	60.2			
Level of Service	F	D		F	F			D	E			
Approach Delay (s)		132.7			127.7			49.9			0.0	
Approach LOS		F			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	97.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
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)	350	1650	30	30	980	30	72	250	110	50	776	600
Future Volume (vph)	350	1650	30	30	980	30	72	250	110	50	776	600
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00		1.00	0.98			1.00	0.71	1.00	0.97	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.85	1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3703		1459	2856			1498	911	1239	1398	698
Flt Permitted	0.95	1.00		0.95	1.00			0.06	1.00	0.41	1.00	1.00
Satd. Flow (perm)	1296	3703		1459	2856			97	911	532	1398	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	376	1774	32	32	1054	32	77	269	118	54	834	645
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	77	0	3	113
Lane Group Flow (vph)	376	1804	0	32	1084	0	0	346	41	54	896	467
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1447		118	932			33	316	189	498	248
v/s Ratio Prot	c0.29	c0.49		0.02	c0.38						0.64	
v/s Ratio Perm								c3.57	0.05	0.10		0.67
v/c Ratio	2.22	1.25		0.27	1.16			10.48	0.13	0.29	1.80	1.88
Uniform Delay, d1	47.8	33.5		47.5	37.0			35.9	24.5	25.4	35.4	35.4
Progression Factor	1.25	0.69		0.51	0.46			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	552.9	111.6		0.1	74.6			4327.6	0.2	0.8	368.0	411.8
Delay (s)	612.9	134.8		24.5	91.5			4363.5	24.7	26.2	403.4	447.2
Level of Service	F	F		C	F			F	C	C	F	F
Approach Delay (s)		217.1			89.5			3260.1			406.7	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	511.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	5.27		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	165.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1860	170	0	1382	90	10
Future Volume (vph)	1860	170	0	1382	90	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3031			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3031			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1958	179	0	1455	95	11
RTOR Reduction (vph)	6	0	0	0	0	5
Lane Group Flow (vph)	2131	0	0	1455	95	6
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1711			1738	512	451
v/s Ratio Prot	c0.70			0.47	c0.06	
v/s Ratio Perm						0.00
v/c Ratio	1.25			0.84	0.19	0.01
Uniform Delay, d1	23.9			19.8	26.1	24.6
Progression Factor	1.00			1.76	1.00	1.00
Incremental Delay, d2	115.5			0.5	0.8	0.1
Delay (s)	139.5			35.2	26.9	24.7
Level of Service	F			D	C	C
Approach Delay (s)	139.5			35.2	26.7	
Approach LOS	F			D	C	

Intersection Summary			
HCM 2000 Control Delay	95.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

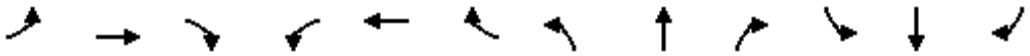
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	90	120	30	30	40	113	30	20	10	20	111	30
Future Volume (vph)	90	120	30	30	40	113	30	20	10	20	111	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0				5.0			5.0			5.0
Lane Util. Factor		1.00				1.00			1.00			0.95
Frpb, ped/bikes		0.99				0.99			0.97			0.81
Flpb, ped/bikes		0.99				0.99			0.94			1.00
Frt		0.98				0.98			0.95			0.92
Flt Protected		0.98				0.98			0.98			0.98
Satd. Flow (prot)		1449				1230			1106			1067
Flt Permitted		0.74				0.78			0.83			0.86
Satd. Flow (perm)		1095				971			936			936
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	105	140	35	35	47	131	35	23	12	23	129	35
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	13	0	0	5
Lane Group Flow (vph)	0	280	0	0	0	242	0	0	45	0	0	352
Confl. Peds. (#/hr)	27		46	46			27	206		61		
Confl. Bikes (#/hr)			3							4		
Parking (#/hr)				10	10	10	10	10	10	10		
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		27.0				27.0			38.0			38.0
Effective Green, g (s)		27.0				27.0			38.0			38.0
Actuated g/C Ratio		0.30				0.30			0.42			0.42
Clearance Time (s)		5.0				5.0			5.0			5.0
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		328				291			395			395
v/s Ratio Prot												
v/s Ratio Perm		c0.26				0.25			0.05			c0.38
v/c Ratio		0.85				0.83			0.11			0.89
Uniform Delay, d1		29.6				29.4			15.8			24.1
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		23.6				17.9			0.1			21.3
Delay (s)		53.2				47.3			15.9			45.4
Level of Service		D				D			B			D
Approach Delay (s)		53.2				47.3			15.9			34.5
Approach LOS		D				D			B			C

Intersection Summary			
HCM 2000 Control Delay	144.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	130	330	20	110	180	90
Future Volume (vph)	130	330	20	110	180	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0	5.0	
Lane Util. Factor		0.95		1.00	1.00	
Frpb, ped/bikes		0.67		1.00	0.78	
Flpb, ped/bikes		1.00		0.88	1.00	
Frt		0.85		1.00	0.85	
Flt Protected		1.00		0.95	1.00	
Satd. Flow (prot)		829		1281	1014	
Flt Permitted		1.00		0.95	1.00	
Satd. Flow (perm)		829		1281	1014	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	151	384	23	128	209	105
RTOR Reduction (vph)	0	130	0	0	76	0
Lane Group Flow (vph)	0	212	0	151	238	0
Confl. Peds. (#/hr)		206		27		46
Confl. Bikes (#/hr)	30	30				
Parking (#/hr)						
Turn Type		Perm	Perm	Prot	Perm	
Protected Phases				5		
Permitted Phases		4	5		5	
Actuated Green, G (s)		38.0		10.0	10.0	
Effective Green, g (s)		38.0		10.0	10.0	
Actuated g/C Ratio		0.42		0.11	0.11	
Clearance Time (s)		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0	3.0	
Lane Grp Cap (vph)		350		142	112	
v/s Ratio Prot						
v/s Ratio Perm		0.26		0.12	c0.24	
v/c Ratio		0.61		1.06	2.13	
Uniform Delay, d1		20.2		40.0	40.0	
Progression Factor		1.00		1.00	1.00	
Incremental Delay, d2		3.0		93.4	536.7	
Delay (s)		23.1		133.4	576.7	
Level of Service		C		F	F	
Approach Delay (s)				432.8		
Approach LOS				F		

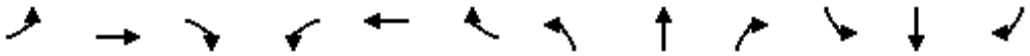
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	100	0	0	890	50	92	170	150	10	0	210
Future Volume (vph)	50	100	0	0	890	50	92	170	150	10	0	210
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1281			2047	702	1459	2673			1318	
Flt Permitted		0.61			1.00	1.00	0.61	1.00			0.98	
Satd. Flow (perm)		799			2047	702	933	2673			1293	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	105	0	0	937	53	97	179	158	11	0	221
RTOR Reduction (vph)	0	0	0	0	0	0	0	100	0	0	0	0
Lane Group Flow (vph)	0	158	0	0	937	53	97	237	0	0	232	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		372			955	327	342	980			474	
v/s Ratio Prot					c0.46			0.09				
v/s Ratio Perm		0.20				0.08	0.10				c0.18	
v/c Ratio		0.42			0.98	0.16	0.28	0.24			0.49	
Uniform Delay, d1		10.6			15.7	9.2	13.4	13.2			14.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		3.5			24.9	1.1	2.1	0.6			3.6	
Delay (s)		14.2			40.7	10.3	15.5	13.8			18.2	
Level of Service		B			D	B	B	B			B	
Approach Delay (s)		14.2			39.0			14.2			18.2	
Approach LOS		B			D			B			B	

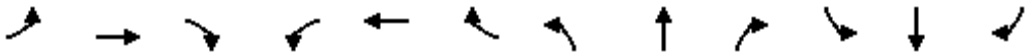
Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



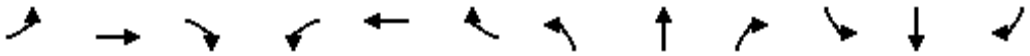
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	380	180	20	160	150	10	230	110	341	90	0
Future Volume (vph)	210	380	180	20	160	150	10	230	110	341	90	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0	3.0		3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		1.00	1.00	
Frpb, ped/bikes		0.95			1.00	0.87		0.92		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		0.97			1.00	0.85		0.95		1.00	1.00	
Flt Protected		0.99			0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1147			1474	1092		2564		1459	1535	
Flt Permitted		0.99			0.87	1.00		0.95		0.44	1.00	
Satd. Flow (perm)		1147			1286	1092		2434		677	1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	223	404	191	21	170	160	11	245	117	363	96	0
RTOR Reduction (vph)	0	12	0	0	0	101	0	60	0	0	0	0
Lane Group Flow (vph)	0	806	0	0	191	59	0	314	0	363	96	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA		Perm	NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8		4	2			6		
Actuated Green, G (s)		24.0			24.0	24.0		24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0	27.0		27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29	0.30		0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)		344			371	327		730		210	477	
v/s Ratio Prot		c0.70									0.06	
v/s Ratio Perm					c0.15	0.05		0.13		c0.54		
v/c Ratio		2.34			0.51	0.18		0.43		1.73	0.20	
Uniform Delay, d1		31.5			26.7	23.3		25.3		31.0	22.8	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		613.5			5.0	1.2		1.8		347.1	0.9	
Delay (s)		645.0			31.8	24.5		27.2		378.1	23.7	
Level of Service		F			C	C		C		F	C	
Approach Delay (s)		645.0			28.5			27.2			304.0	
Approach LOS		F			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	343.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



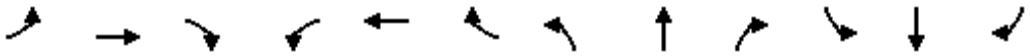
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	280	240	110	430	120	50	580	190	40	412	190
Future Volume (vph)	170	280	240	110	430	120	50	580	190	40	412	190
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.83			0.91			0.93			0.91	
Flpb, ped/bikes		0.96			0.97			0.99			1.00	
Frt		0.95			0.97			0.97			0.96	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		2009			2308			2568			2308	
Flt Permitted		0.64			0.73			0.88			0.87	
Satd. Flow (perm)		1311			1688			2276			2012	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	295	253	116	453	126	53	611	200	42	434	200
RTOR Reduction (vph)	0	12	0	0	7	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	715	0	0	688	0	0	864	0	0	664	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		611			787			1062			905	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.41			c0.38			0.33	
v/c Ratio		1.17			0.87			0.81			0.73	
Uniform Delay, d1		16.0			14.4			13.8			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		93.4			12.9			6.8			5.3	
Delay (s)		109.4			27.4			20.6			18.8	
Level of Service		F			C			C			B	
Approach Delay (s)		109.4			27.4			20.6			18.8	
Approach LOS		F			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	118.7%	ICU Level of Service	H
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)	396	1252	130	0	0	0	0	690	130	20	492	0
Future Volume (vph)	396	1252	130	0	0	0	0	690	130	20	492	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						0.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4095						1588	1260		1553	
Flt Permitted	0.95	1.00						1.00	1.00		0.80	
Satd. Flow (perm)	2830	4095						1588	1260		1241	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	421	1332	138	0	0	0	0	734	138	21	523	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	421	1456	0	0	0	0	0	734	138	0	544	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	custom	Perm	NA	
Protected Phases		2						8 7	7		4	
Permitted Phases	2									4		
Actuated Green, G (s)	35.5	35.5						44.5	18.5		44.5	
Effective Green, g (s)	37.0	37.0						46.0	20.0		46.0	
Actuated g/C Ratio	0.41	0.41						0.51	0.22		0.51	
Clearance Time (s)	5.0	5.0							5.0		5.0	
Lane Grp Cap (vph)	1163	1683						811	280		634	
v/s Ratio Prot		c0.36						c0.46	0.11			
v/s Ratio Perm	0.15										0.44	
v/c Ratio	0.36	0.87						0.91	0.49		0.86	
Uniform Delay, d1	18.3	24.2						20.0	30.6		19.2	
Progression Factor	1.01	1.14						1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.6						15.5	6.1		14.1	
Delay (s)	18.7	28.1						35.5	36.7		33.2	
Level of Service	B	C						D	D		C	
Approach Delay (s)		26.0			0.0			35.7			33.2	
Approach LOS		C			A			D			C	

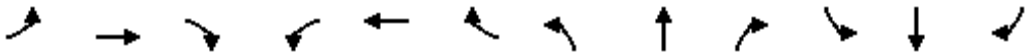
Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	630	1280	0	0	0	0	0	1901	498	0	0	0
Future Volume (vph)	630	1280	0	0	0	0	0	1901	498	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.94				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.97				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		5017						3687				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		5017						3687				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	656	1333	0	0	0	0	0	1980	519	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1989	0	0	0	0	0	2499	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1700						1044				
v/s Ratio Prot								c0.68				
v/s Ratio Perm		0.40										
v/c Ratio		1.38dl						2.39				
Uniform Delay, d1		29.8						32.2				
Progression Factor		0.33						1.00				
Incremental Delay, d2		79.8						630.1				
Delay (s)		89.6						662.4				
Level of Service		F						F				
Approach Delay (s)		89.6			0.0			662.4			0.0	
Approach LOS		F			A			F			A	

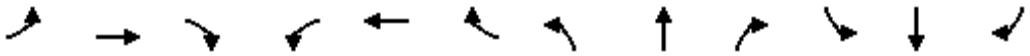
Intersection Summary			
HCM 2000 Control Delay	408.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	2010	140	394	1732	505	0	0	0
Future Volume (vph)	0	0	0	0	2010	140	394	1732	505	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.99			0.89				
Flpb, ped/bikes					1.00			1.00				
Frt					0.99			0.97				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					2720			3466				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					2720			3466				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	2138	149	419	1843	537	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2281	0	0	2799	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					952			1020				
v/s Ratio Prot					c0.84			c0.81				
v/s Ratio Perm												
v/c Ratio					2.40			2.74				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.52				
Incremental Delay, d2					631.5			785.1				
Delay (s)					660.8			801.7				
Level of Service					F			F				
Approach Delay (s)		0.0			660.8			801.7			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	738.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	141.2%	ICU Level of Service	H
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)	0	0	0	0	1640	430	350	1692	0	0	0	0
Future Volume (vph)	0	0	0	0	1640	430	350	1692	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.93			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3256			2898				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3256			2898				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1745	457	372	1800	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	52	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2150	0	0	2172	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1139			982				
v/s Ratio Prot					c0.66			c0.75				
v/s Ratio Perm												
v/c Ratio					1.89			2.21				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.42				
Incremental Delay, d2					402.8			545.6				
Delay (s)					432.0			558.1				
Level of Service					F			F				
Approach Delay (s)		0.0			432.0			558.1			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	494.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	127.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Traffic Volume (vph)	1420	350	0	120	585	140	38
Future Volume (vph)	1420	350	0	120	585	140	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00		1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.64	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5099	1212		903	2605	4113	1122
Flt Permitted	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5099	1212		903	2605	4113	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1560	385	0	132	643	154	42
RTOR Reduction (vph)	0	102	0	94	0	0	0
Lane Group Flow (vph)	1560	283	0	38	643	158	38
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0		24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0		26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350		260	752	1279	349
v/s Ratio Prot	c0.31				c0.25	c0.04	
v/s Ratio Perm		0.23		0.04			0.03
v/c Ratio	1.06	0.81		0.15	0.86	0.12	0.11
Uniform Delay, d1	32.0	29.7		23.8	30.2	22.2	22.1
Progression Factor	0.97	0.99		1.65	1.06	1.00	1.00
Incremental Delay, d2	28.4	1.9		0.9	9.2	0.2	0.6
Delay (s)	59.5	31.3		40.0	41.3	22.4	22.7
Level of Service	E	C		D	D	C	C
Approach Delay (s)	53.9				41.1	22.5	
Approach LOS	D				D	C	

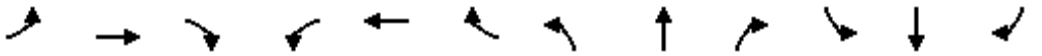
Intersection Summary			
HCM 2000 Control Delay	48.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	230	824	1480	475	760	250
Future Volume (vph)	230	824	1480	475	760	250
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.93	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1115		3864	2277	1013	1099
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1115		3864	2277	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	235	841	1510	485	776	255
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	211	0	2375	865	396	241
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1657	1095	521	565
v/s Ratio Prot				0.38		
v/s Ratio Perm	0.19		0.61		c0.39	0.22
v/c Ratio	0.44		1.49dl	0.79	0.76	0.43
Uniform Delay, d1	18.1		25.7	19.5	17.4	13.6
Progression Factor	1.36		1.18	1.33	1.44	1.61
Incremental Delay, d2	0.3		195.3	2.7	4.7	1.1
Delay (s)	24.9		225.7	28.7	29.7	22.9
Level of Service	C		F	C	C	C
Approach Delay (s)			209.3	28.0		
Approach LOS			F	C		

Intersection Summary			
HCM 2000 Control Delay	142.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		

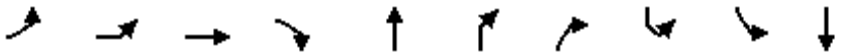
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	510	1540	0	0	0	0	0	895	660
Future Volume (vph)	0	0	0	510	1540	0	0	0	0	0	895	660
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	520	1571	0	0	0	0	0	913	673
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	520	1571	0	0	0	0	0	913	673
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				0.36	c0.37						0.32	
v/s Ratio Perm												c0.78
v/c Ratio				0.96	1.01						0.92	2.27
Uniform Delay, d1				27.6	28.2						28.3	29.5
Progression Factor				1.18	1.18						1.00	1.00
Incremental Delay, d2				5.3	8.8						14.6	580.3
Delay (s)				37.9	42.2						42.9	609.8
Level of Service				D	D						D	F
Approach Delay (s)		0.0			41.2			0.0			283.5	
Approach LOS		A			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	145.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	127.7%	ICU Level of Service	H
Analysis Period (min)	15		

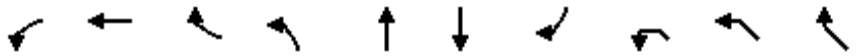
c Critical Lane Group



Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	90	290	1050	110	550	500	140	260	299	950
Future Volume (vph)	90	290	1050	110	550	500	140	260	299	950
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.73	1.00	0.84			1.00	1.00
Flpb, ped/bikes		0.88	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2143	2521	918	1535	1130			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.23	1.00
Satd. Flow (perm)		2143	2521	918	1535	1130			652	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	312	1129	118	591	538	151	280	322	1022
RTOR Reduction (vph)	0	0	0	20	0	20	0	0	0	0
Lane Group Flow (vph)	0	378	1160	98	591	669	0	0	602	1022
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		39.0	39.0	39.0	39.0	39.0			39.0	39.0
Effective Green, g (s)		39.0	41.5	41.0	40.5	41.0			40.5	40.5
Actuated g/C Ratio		0.43	0.46	0.46	0.45	0.46			0.45	0.45
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		928	1162	418	690	514			293	587
v/s Ratio Prot			c0.46		0.38					0.78
v/s Ratio Perm		0.18		0.11		0.59			c0.92	
v/c Ratio		0.41	1.00	0.24	0.86	1.30			2.05	1.74
Uniform Delay, d1		17.5	24.2	14.9	22.1	24.5			24.8	24.8
Progression Factor		1.00	1.00	1.00	1.00	1.00			0.78	0.78
Incremental Delay, d2		1.3	26.0	1.3	13.0	149.8			475.6	334.1
Delay (s)		18.9	50.2	16.3	35.1	174.3			495.1	353.5
Level of Service		B	D	B	D	F			F	F
Approach Delay (s)			40.6		110.0					406.0
Approach LOS			D		F					F

Intersection Summary			
HCM 2000 Control Delay	190.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

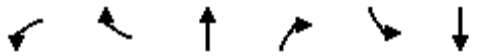
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	250	1050	150	100	570	770	340	419	1360	460
Future Volume (vph)	250	1050	150	100	570	770	340	419	1360	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.95			0.99	0.88
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.95			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5024			2866	2410			3418	985
Flt Permitted		0.99			0.52	1.00			0.95	1.00
Satd. Flow (perm)		5024			1500	2410			3418	985
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	272	1129	161	108	613	828	366	455	1462	495
RTOR Reduction (vph)	0	22	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	1540	0	0	721	1193	0	0	1967	445
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1618			466	749			1025	295
v/s Ratio Prot						c0.49				
v/s Ratio Perm		0.31			0.48				0.58	0.45
v/c Ratio		0.95			1.64dl	1.59			1.92	1.51
Uniform Delay, d1		29.8			31.0	31.0			31.5	31.5
Progression Factor		0.60			1.58	1.00			1.00	1.00
Incremental Delay, d2		1.8			253.0	272.8			417.2	245.7
Delay (s)		19.6			301.9	303.8			448.7	277.2
Level of Service		B			F	F			F	F
Approach Delay (s)		19.6			301.9	303.8			417.1	
Approach LOS		B			F	F			F	

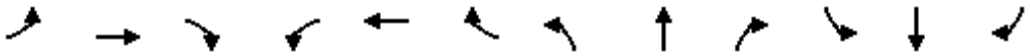
Intersection Summary			
HCM 2000 Control Delay	274.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	146.2%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



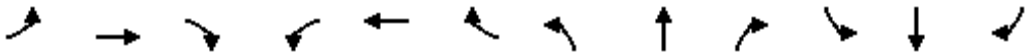
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	150	1800	90	57	399
Future Volume (vph)	10	150	1800	90	57	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3038		1534	3079
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1540	1378	3038		86	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	167	2000	100	63	443
RTOR Reduction (vph)	0	8	3	0	0	0
Lane Group Flow (vph)	11	159	2097	0	63	443
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2065		58	2093
v/s Ratio Prot	0.01		0.69			0.14
v/s Ratio Perm		c0.12			c0.73	
v/c Ratio	0.03	0.50	1.02		1.09	0.21
Uniform Delay, d1	32.6	36.6	17.6		17.6	6.6
Progression Factor	1.00	1.00	1.00		2.92	0.43
Incremental Delay, d2	0.2	5.4	23.7		61.1	0.0
Delay (s)	32.8	42.0	41.3		112.4	2.9
Level of Service	C	D	D		F	A
Approach Delay (s)	41.4		41.3			16.5
Approach LOS	D		D			B

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
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)	140	61	231	60	65	168	40	1582	171	5	474	50
Future Volume (vph)	140	61	231	60	65	168	40	1582	171	5	474	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1563	1342		1461		1459	2852		1540	3014	
Flt Permitted		0.50	1.00		0.87		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		809	1342		1277		1459	2852		1540	3014	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	157	69	260	67	73	189	45	1778	192	6	533	56
RTOR Reduction (vph)	0	0	177	0	49	0	0	8	0	0	8	0
Lane Group Flow (vph)	0	226	83	0	280	0	45	1962	0	6	581	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		259	430		409		215	1012		254	1130	
v/s Ratio Prot							0.03	c0.69		0.00	c0.19	
v/s Ratio Perm		c0.28	0.06		0.22							
v/c Ratio		0.87	0.19		0.68		0.21	1.94		0.02	0.51	
Uniform Delay, d1		32.0	24.6		29.5		37.5	32.2		35.0	24.2	
Progression Factor		1.00	1.00		1.00		1.53	0.71		1.00	1.00	
Incremental Delay, d2		30.9	1.0		9.0		0.2	422.6		0.2	1.7	
Delay (s)		62.9	25.6		38.5		57.4	445.6		35.2	25.9	
Level of Service		E	C		D		E	F		D	C	
Approach Delay (s)		43.0			38.5			436.9			26.0	
Approach LOS		D			D			F			C	

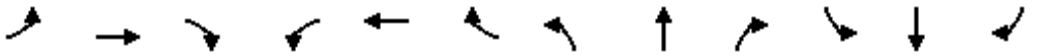
Intersection Summary			
HCM 2000 Control Delay	271.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	183	110	389	16	111	70	1575	87	105	690	10
Future Volume (vph)	70	183	110	389	16	111	70	1575	87	105	690	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1297			1495		1418	2793		1540	3068	
Flt Permitted		0.89			0.43		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1165			675		1418	2793		1540	3068	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	201	121	427	18	122	77	1731	96	115	758	11
RTOR Reduction (vph)	0	15	0	0	10	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	384	0	0	557	0	77	1823	0	115	768	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		380			220		212	1030		229	1132	
v/s Ratio Prot							0.05	c0.65		0.07	c0.25	
v/s Ratio Perm		0.33			c0.83							
v/c Ratio		1.01			2.53		0.36	1.77		0.50	0.68	
Uniform Delay, d1		33.6			33.6		38.2	31.6		39.1	26.6	
Progression Factor		1.00			1.00		1.28	0.96		0.78	0.75	
Incremental Delay, d2		48.5			702.4		0.4	346.9		6.8	2.9	
Delay (s)		82.2			736.0		49.3	377.1		37.2	22.8	
Level of Service		F			F		D	F		D	C	
Approach Delay (s)		82.2			736.0			363.8			24.7	
Approach LOS		F			F			F			C	

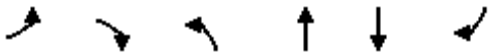
Intersection Summary			
HCM 2000 Control Delay	310.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	146.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	40	20	10	40	95	20	206	30	372	404	50
Future Volume (vph)	40	40	20	10	40	95	20	206	30	372	404	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.99	1.00	0.99		1.00	0.98	
Flpb, ped/bikes		0.99			1.00	1.00	0.91	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1297			1602	1358	1182	1329		1296	1312	
Flt Permitted		0.85			0.91	1.00	0.48	1.00		0.95	1.00	
Satd. Flow (perm)		1119			1480	1358	601	1329		1296	1312	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	43	22	11	43	103	22	224	33	404	439	54
RTOR Reduction (vph)	0	15	0	0	0	61	0	7	0	0	4	0
Lane Group Flow (vph)	0	93	0	0	54	42	22	250	0	404	489	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		8.0			8.0	20.8	15.0	15.0		12.8	32.8	
Effective Green, g (s)		8.0			8.0	20.8	15.0	15.0		12.8	32.8	
Actuated g/C Ratio		0.16			0.16	0.41	0.30	0.30		0.25	0.65	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		176			233	689	177	392		326	847	
v/s Ratio Prot						0.02		0.19		c0.31	c0.37	
v/s Ratio Perm		c0.08			0.04	0.02	0.04					
v/c Ratio		0.53			0.23	0.06	0.12	0.64		1.24	0.58	
Uniform Delay, d1		19.7			18.7	9.1	13.1	15.5		19.0	5.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.8			0.5	0.0	0.3	3.4		131.1	1.0	
Delay (s)		22.5			19.2	9.1	13.4	18.9		150.1	6.0	
Level of Service		C			B	A	B	B		F	A	
Approach Delay (s)		22.5			12.6			18.5			70.9	
Approach LOS		C			B			B			E	

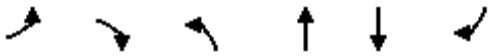
Intersection Summary			
HCM 2000 Control Delay	50.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	10	229	152	152	138	20
Future Volume (vph)	10	229	152	152	138	20
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	11	260	173	173	157	23

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	11	260	231	115	105	75
Volume Left (vph)	11	0	173	0	0	0
Volume Right (vph)	0	260	0	0	0	23
Hadj (s)	0.53	-0.67	0.41	0.03	0.03	-0.18
Departure Headway (s)	6.4	5.2	5.9	5.5	5.7	5.5
Degree Utilization, x	0.02	0.37	0.38	0.18	0.17	0.11
Capacity (veh/h)	530	658	591	624	594	617
Control Delay (s)	8.3	10.0	11.2	8.5	8.6	8.0
Approach Delay (s)	9.9		10.3		8.4	
Approach LOS	A		B		A	

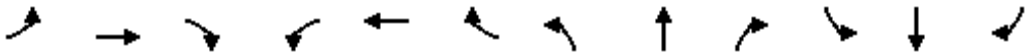
Intersection Summary			
Delay	9.7		
Level of Service	A		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	50	294	397	125
Future Volume (Veh/h)	25	25	50	294	397	125
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	30	30	60	354	478	151
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	866	328	641			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	866	328	641			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	95	94			
cM capacity (veh/h)	271	660	931			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	178	236	319	310
Volume Left	30	60	0	0	0
Volume Right	30	0	0	0	151
cSH	384	931	1700	1700	1700
Volume to Capacity	0.16	0.06	0.14	0.19	0.18
Queue Length 95th (ft)	14	5	0	0	0
Control Delay (s)	16.1	3.5	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	16.1	1.5		0.0	
Approach LOS	C				

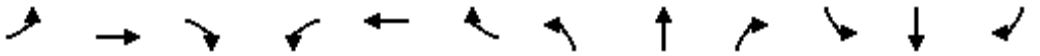
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	325	120	360	30	250	120	320	1217	10	70	1005	374
Future Volume (vph)	325	120	360	30	250	120	320	1217	10	70	1005	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1530	1378	1136	1532	1527		2987	3074		1540	2934	
Flt Permitted	0.33	1.00	1.00	0.67	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	535	1378	1136	1088	1527		2987	3074		1540	2934	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	346	128	383	32	266	128	340	1295	11	74	1069	398
RTOR Reduction (vph)	0	0	233	0	17	0	0	1	0	0	39	0
Lane Group Flow (vph)	346	128	150	32	377	0	340	1305	0	74	1428	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	184	475	391	375	526		418	1161		184	1050	
v/s Ratio Prot		0.09			0.25		0.11	c0.42		0.05	c0.49	
v/s Ratio Perm	c0.65		0.13	0.03								
v/c Ratio	1.88	0.27	0.38	0.09	0.72		0.81	1.12		0.40	1.36	
Uniform Delay, d1	32.8	23.6	24.7	22.1	28.5		41.7	31.1		40.7	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.62	0.81		0.90	0.84	
Incremental Delay, d2	416.1	1.4	2.9	0.4	8.1		1.7	57.2		0.6	162.8	
Delay (s)	448.8	25.0	27.6	22.5	36.6		27.7	82.3		37.3	189.9	
Level of Service	F	C	C	C	D		C	F		D	F	
Approach Delay (s)		197.3			35.6			71.0			182.6	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	130.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	131.1%	ICU Level of Service	H
Analysis Period (min)	15		

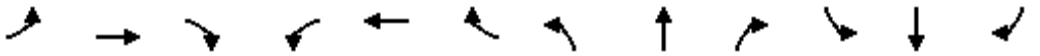
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	473	260	71	933	100	140	180	132	170	330	200
Future Volume (vph)	140	473	260	71	933	100	140	180	132	170	330	200
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Lane Width	8	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	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
Frt	1.00	1.00	0.85		0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1235	1232	1378		2544		1540	2884			3027	1133
Flt Permitted	0.95	1.00	1.00		0.87		0.36	1.00			0.70	1.00
Satd. Flow (perm)	1235	1232	1378		2232		588	2884			2155	1133
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	156	526	283	77	1037	111	152	196	143	189	359	222
RTOR Reduction (vph)	0	0	81	0	7	0	0	93	0	0	0	84
Lane Group Flow (vph)	156	526	202	0	1218	0	152	246	0	0	548	138
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6			8			4		4
Actuated Green, G (s)	4.0	45.4	45.4		36.4		29.6	29.6			28.6	28.6
Effective Green, g (s)	4.0	45.4	45.4		36.4		29.6	29.6			28.6	28.6
Actuated g/C Ratio	0.05	0.54	0.54		0.43		0.35	0.35			0.34	0.34
Clearance Time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	58	665	744		967		207	1016			733	385
v/s Ratio Prot	c0.13	0.43						0.09				
v/s Ratio Perm			0.15		c0.55		c0.26				0.25	0.12
v/c Ratio	2.69	0.79	0.27		1.26		0.73	0.24			0.75	0.36
Uniform Delay, d1	40.0	15.5	10.4		23.8		23.8	19.3			24.5	20.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	806.9	6.4	0.2		125.3		12.6	0.1			4.2	0.6
Delay (s)	846.9	21.9	10.6		149.1		36.4	19.4			28.7	21.4
Level of Service	F	C	B		F		D	B			C	C
Approach Delay (s)		151.9			149.1			24.7			26.6	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	104.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	116.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



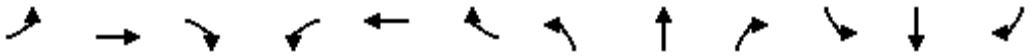
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	626	80	60	728	485	80	220	50	207	90	140
Future Volume (vph)	80	626	80	60	728	485	80	220	50	207	90	140
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.89	1.00	1.00	0.91	1.00	0.96	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1190	922		1402	1069	1337	1407	929	1337	1230	
Flt Permitted		0.41	1.00		0.61	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		491	922		858	1069	1337	1407	929	1337	1230	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	659	84	63	766	511	84	232	53	218	95	147
RTOR Reduction (vph)	0	0	39	0	0	64	0	0	44	0	57	0
Lane Group Flow (vph)	0	743	45	0	829	447	84	232	9	218	185	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		59.0	59.0		59.0	75.0	14.4	19.6	19.6	16.0	21.2	
Effective Green, g (s)		59.0	59.0		59.0	75.0	14.4	19.6	19.6	16.0	21.2	
Actuated g/C Ratio		0.54	0.54		0.54	0.68	0.13	0.18	0.18	0.15	0.19	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		264	496		461	780	175	251	166	195	237	
v/s Ratio Prot						0.08	0.06	c0.16		c0.16	0.15	
v/s Ratio Perm		c1.51	0.05		0.97	0.33			0.01			
v/c Ratio		2.81	0.09		1.80	0.57	0.48	0.92	0.06	1.12	0.78	
Uniform Delay, d1		25.3	12.3		25.3	9.0	44.1	44.3	37.3	46.8	42.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		826.9	0.1		367.8	1.0	2.1	36.7	0.1	99.7	14.9	
Delay (s)		852.2	12.4		393.1	10.0	46.2	81.0	37.5	146.5	56.9	
Level of Service		F	B		F	B	D	F	D	F	E	
Approach Delay (s)		766.9			247.0			66.8			99.3	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	345.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.13		
Actuated Cycle Length (s)	109.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	147.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	190	460	885	80	320	287
Future Volume (vph)	190	460	885	80	320	287
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1110	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1110	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	474	912	82	330	296
RTOR Reduction (vph)	0	390	0	14	0	0
Lane Group Flow (vph)	196	84	912	68	330	296
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	19.0	19.0	48.1	43.1	25.1	78.2
Effective Green, g (s)	19.0	19.0	48.1	43.1	25.1	78.2
Actuated g/C Ratio	0.18	0.18	0.45	0.40	0.23	0.73
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	272	429	857	498	303	796
v/s Ratio Prot	c0.13		c0.48	0.01	c0.25	0.27
v/s Ratio Perm		0.03		0.05		
v/c Ratio	0.72	0.20	1.06	0.14	1.09	0.37
Uniform Delay, d1	41.6	37.6	29.6	20.3	41.0	5.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.0	0.2	49.3	0.1	77.6	0.3
Delay (s)	50.6	37.8	78.8	20.4	118.7	5.7
Level of Service	D	D	E	C	F	A
Approach Delay (s)	41.6		74.0			65.2
Approach LOS	D		E			E

Intersection Summary			
HCM 2000 Control Delay	62.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	107.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

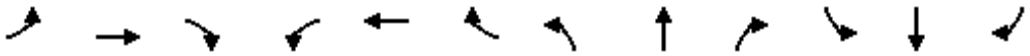
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	30	284	40	60	497	10	40	120	100	20	60	60
Future Volume (vph)	30	284	40	60	497	10	40	120	100	20	60	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	34	326	46	69	571	11	46	138	115	23	69	69

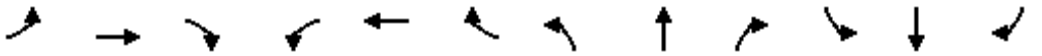
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	406	69	582	184	115	161
Volume Left (vph)	34	69	0	46	0	23
Volume Right (vph)	46	0	11	0	115	69
Hadj (s)	-0.02	0.53	0.02	0.16	-0.67	-0.19
Departure Headway (s)	7.4	7.8	7.3	8.3	7.5	8.4
Degree Utilization, x	0.84	0.15	1.17	0.42	0.24	0.38
Capacity (veh/h)	406	451	501	409	459	400
Control Delay (s)	38.2	10.9	120.9	16.0	11.6	16.4
Approach Delay (s)	38.2	109.3		14.3		16.4
Approach LOS	E	F		B		C

Intersection Summary				
Delay	61.7			
Level of Service	F			
Intersection Capacity Utilization	64.4%	ICU Level of Service		C
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	228	110	55	582	50	110	1191	76	30	952	413
Future Volume (vph)	265	228	110	55	582	50	110	1191	76	30	952	413
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95			0.99		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1774	1779			3351		1711	3372		1711	3231	
Flt Permitted	0.20	1.00			0.75		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	382	1779			2535		1711	3372		1711	3231	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	279	240	116	58	613	53	116	1254	80	32	1002	435
RTOR Reduction (vph)	0	18	0	0	6	0	0	5	0	0	49	0
Lane Group Flow (vph)	279	338	0	0	718	0	116	1329	0	32	1388	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	113	528			752		289	1345		254	1224	
v/s Ratio Prot		0.19					0.07	c0.39		0.02	c0.43	
v/s Ratio Perm	c0.73				0.28							
v/c Ratio	2.47	0.64			0.96		0.40	0.99		0.13	1.13	
Uniform Delay, d1	35.1	30.5			34.5		37.0	29.8		36.9	31.1	
Progression Factor	1.00	1.00			1.00		0.82	0.68		1.58	0.83	
Incremental Delay, d2	686.8	5.9			23.6		3.3	19.5		0.1	61.4	
Delay (s)	722.0	36.4			58.1		33.7	39.7		58.4	87.1	
Level of Service	F	D			E		C	D		E	F	
Approach Delay (s)		337.6			58.1			39.2			86.4	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	102.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	120.9%	ICU Level of Service	H
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)	30	140	0	0	1215	100	540	252	664	0	0	611
Future Volume (vph)	30	140	0	0	1215	100	540	252	664	0	0	611
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.99		1.00	0.89				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2854			4090		1350	3055				2694
Flt Permitted		0.69			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1999			4090		1350	3055				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	33	144	0	0	1253	109	557	274	685	0	0	664
RTOR Reduction (vph)	0	0	0	0	8	0	0	310	0	0	0	7
Lane Group Flow (vph)	0	177	0	0	1354	0	557	649	0	0	0	657
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		45.4			45.4		57.6	57.1				57.6
Effective Green, g (s)		45.4			45.4		57.6	57.1				57.6
Actuated g/C Ratio		0.41			0.41		0.52	0.52				0.52
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		825			1688		706	1585				1410
v/s Ratio Prot					c0.33		c0.41	0.21				
v/s Ratio Perm		0.09										0.24
v/c Ratio		0.21			0.80		0.79	0.41				0.47
Uniform Delay, d1		20.8			28.4		21.3	16.2				16.5
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.6			2.8		5.9	0.2				0.2
Delay (s)		21.4			31.2		27.1	16.3				16.8
Level of Service		C			C		C	B				B
Approach Delay (s)		21.4			31.2			20.3			16.8	
Approach LOS		C			C			C			B	

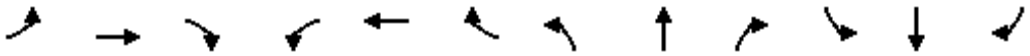
Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	124.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	160	430	1596	760	0	0
Future Volume (vph)	160	430	1596	760	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.97	0.94	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.93	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1171	1039	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1171	1039	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	443	1645	784	0	0
RTOR Reduction (vph)	13	13	0	0	0	0
Lane Group Flow (vph)	303	279	1645	784	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	19.7	19.7	37.3	65.0		
Effective Green, g (s)	19.7	19.7	37.3	65.0		
Actuated g/C Ratio	0.30	0.30	0.57	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	354	314	1443	1365		
v/s Ratio Prot	0.26		c0.65	0.57		
v/s Ratio Perm		c0.27				
v/c Ratio	0.86	0.89	1.14	0.57		
Uniform Delay, d1	21.3	21.6	13.9	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	17.9	24.6	71.9	0.6		
Delay (s)	39.2	46.2	85.7	0.6		
Level of Service	D	D	F	A		
Approach Delay (s)	42.6			58.3	0.0	
Approach LOS	D			E	A	

Intersection Summary			
HCM 2000 Control Delay	55.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

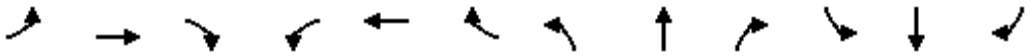
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	20	60	60	50	70	0	1177	130	0	937	40
Future Volume (vph)	40	20	60	60	50	70	0	1177	130	0	937	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.97			0.97			0.99			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.93			0.95			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1249			1270			2811			2855	
Flt Permitted		0.81			0.84			1.00			1.00	
Satd. Flow (perm)		1026			1081			2811			2855	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	41	20	61	61	51	71	0	1201	133	0	956	41
RTOR Reduction (vph)	0	40	0	0	26	0	0	6	0	0	2	0
Lane Group Flow (vph)	0	82	0	0	157	0	0	1328	0	0	995	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.1			19.1			71.0			71.0	
Effective Green, g (s)		19.1			19.1			71.0			71.0	
Actuated g/C Ratio		0.19			0.19			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			206			1995			2027	
v/s Ratio Prot								c0.47			0.35	
v/s Ratio Perm		0.08			c0.15							
v/c Ratio		0.42			0.76			0.67			0.49	
Uniform Delay, d1		35.6			38.3			8.0			6.5	
Progression Factor		1.00			1.00			0.82			0.34	
Incremental Delay, d2		1.5			15.3			0.2			0.1	
Delay (s)		37.0			53.6			6.7			2.3	
Level of Service		D			D			A			A	
Approach Delay (s)		37.0			53.6			6.7			2.3	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

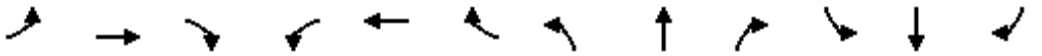
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	351	190	220	10	210	20	220	1096	40	260	718	178
Future Volume (vph)	351	190	220	10	210	20	220	1096	40	260	718	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.92		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1539	2634		1538	1598		1540	3061		1540	2944	
Flt Permitted	0.30	1.00		0.50	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	491	2634		810	1598		1540	3061		1540	2944	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	369	200	232	11	221	21	232	1154	42	274	756	187
RTOR Reduction (vph)	0	159	0	0	4	0	0	2	0	0	22	0
Lane Group Flow (vph)	369	273	0	11	238	0	232	1194	0	274	921	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	31.6	31.6		19.6	19.6		14.9	41.6		10.5	37.2	
Effective Green, g (s)	31.6	31.6		19.6	19.6		14.9	41.6		10.5	37.2	
Actuated g/C Ratio	0.32	0.32		0.20	0.20		0.15	0.42		0.10	0.37	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	225	832		158	313		229	1273		161	1095	
v/s Ratio Prot	c0.11	0.10			0.15		0.15	c0.39		c0.18	0.31	
v/s Ratio Perm	c0.41			0.01								
v/c Ratio	1.64	0.33		0.07	0.76		1.01	0.94		1.70	0.84	
Uniform Delay, d1	33.7	26.1		32.8	38.0		42.5	28.0		44.8	28.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.87	
Incremental Delay, d2	307.2	0.2		0.2	10.4		62.9	14.1		339.0	7.3	
Delay (s)	340.9	26.3		33.0	48.4		105.4	42.1		379.4	32.2	
Level of Service	F	C		C	D		F	D		F	C	
Approach Delay (s)		171.2			47.7			52.4			110.3	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	96.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
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)	73	20	401	90	100	20	303	787	3	71	1102	173
Future Volume (vph)	73	20	401	90	100	20	303	787	3	71	1102	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			1.00		1.00	1.00		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1514	1348			1555		1540	2843		1540	3079	976
Flt Permitted	0.60	1.00			0.38		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	958	1348			605		1540	2843		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	21	422	95	105	21	319	828	3	75	1160	182
RTOR Reduction (vph)	0	250	0	0	3	0	0	0	0	0	0	69
Lane Group Flow (vph)	77	193	0	0	218	0	319	831	0	75	1160	113
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	331	466			209		231	969		211	1030	326
v/s Ratio Prot		0.14					c0.21	0.29		0.05	c0.38	
v/s Ratio Perm	0.08				c0.36							0.12
v/c Ratio	0.23	0.41			1.04		1.38	0.86		0.36	1.13	0.35
Uniform Delay, d1	25.6	27.4			36.0		46.8	33.8		43.0	36.6	27.6
Progression Factor	1.00	1.00			1.00		0.85	0.84		1.00	1.00	1.00
Incremental Delay, d2	1.6	2.7			73.6		183.9	4.9		4.6	69.5	2.9
Delay (s)	27.2	30.2			109.6		223.4	33.2		47.7	106.1	30.5
Level of Service	C	C			F		F	C		D	F	C
Approach Delay (s)		29.7			109.6			86.0			93.3	
Approach LOS		C			F			F			F	

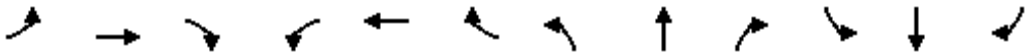
Intersection Summary			
HCM 2000 Control Delay	81.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	137.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	156	40	50	1070	1	992	445
Future Volume (vph)	156	40	50	1070	1	992	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00	1.00	1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079	1540	3079	1018
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079	1540	3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	168	43	54	1151	1	1067	478
RTOR Reduction (vph)	0	17	0	0	0	0	161
Lane Group Flow (vph)	168	26	54	1151	1	1067	317
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226	140	1035	342
v/s Ratio Prot	c0.13		0.04	c0.37	0.00	c0.35	
v/s Ratio Perm		0.02					0.31
v/c Ratio	0.37	0.07	0.25	0.94	0.01	1.03	0.93
Uniform Delay, d1	27.0	24.1	42.2	31.8	45.5	36.5	35.2
Progression Factor	1.00	1.00	0.57	0.63	0.90	0.69	0.66
Incremental Delay, d2	2.3	0.4	1.4	8.5	0.0	22.4	11.6
Delay (s)	29.3	24.4	25.4	28.6	41.0	47.6	35.0
Level of Service	C	C	C	C	D	D	C
Approach Delay (s)	28.3			28.4		43.7	
Approach LOS	C			C		D	

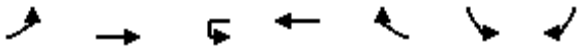
Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	10	33	10	16	10	70	1040	10	13	913	180
Future Volume (vph)	110	10	33	10	16	10	70	1040	10	13	913	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	0.96	
Flpb, ped/bikes		0.98			0.99		1.00	1.00		1.00	1.00	
Frt		0.97			0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1470			1512		1540	3069		1540	2873	
Flt Permitted		0.76			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1161			1417		1540	3069		1540	2873	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	10	34	10	17	10	73	1083	10	14	951	188
RTOR Reduction (vph)	0	9	0	0	7	0	0	1	0	0	15	0
Lane Group Flow (vph)	0	150	0	0	30	0	73	1092	0	14	1124	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		401			489		210	1199		128	982	
v/s Ratio Prot							0.05	c0.36		0.01	c0.39	
v/s Ratio Perm		c0.13			0.02							
v/c Ratio		0.37			0.06		0.35	0.91		0.11	1.14	
Uniform Delay, d1		27.1			24.1		43.1	31.7		46.6	36.2	
Progression Factor		1.00			1.00		0.86	0.81		1.30	0.17	
Incremental Delay, d2		2.7			0.2		1.3	4.0		0.5	69.2	
Delay (s)		29.7			24.3		38.5	29.6		61.3	75.4	
Level of Service		C			C		D	C		E	E	
Approach Delay (s)		29.7			24.3			30.2			75.2	
Approach LOS		C			C			C			E	

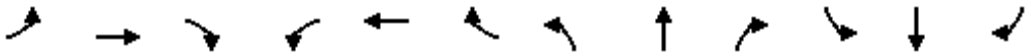
Intersection Summary			
HCM 2000 Control Delay	50.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	240	1190	5	1023	53	91	342
Future Volume (vph)	240	1190	5	1023	53	91	342
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98		1.00	0.69
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1459	2917	1540	2846		1459	894
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1459	2917	1540	2846		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	247	1227	5	1055	55	94	353
RTOR Reduction (vph)	0	0	0	3	0	0	230
Lane Group Flow (vph)	247	1227	5	1107	0	94	123
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188	117	941		506	310
v/s Ratio Prot	0.17	c0.42	0.00	c0.39		0.06	
v/s Ratio Perm							c0.14
v/c Ratio	1.21	1.03	0.04	1.18		0.19	0.40
Uniform Delay, d1	47.3	32.6	47.1	36.8		25.0	27.2
Progression Factor	1.43	0.78	1.59	1.70		1.00	1.00
Incremental Delay, d2	108.7	24.0	0.2	82.3		0.8	3.7
Delay (s)	176.5	49.4	74.9	144.9		25.9	30.9
Level of Service	F	D	E	F		C	C
Approach Delay (s)		70.7		144.6		29.8	
Approach LOS		E		F		C	

Intersection Summary			
HCM 2000 Control Delay	91.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		

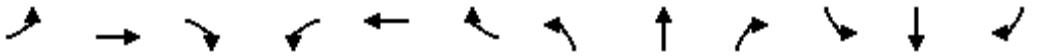
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	850	133	599	950	52	90	1630	530	0	0	0
Future Volume (vph)	930	850	133	599	950	52	90	1630	530	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.98		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.98		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	2970		2987	3015			5542	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	2970		2987	3015			5542	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	989	904	141	637	1011	55	96	1734	564	0	0	0
RTOR Reduction (vph)	0	11	0	0	1	0	0	0	213	0	0	0
Lane Group Flow (vph)	989	1034	0	637	1065	0	0	1830	351	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1004		358	923			1974	451			
v/s Ratio Prot	c0.23	0.35		c0.21	c0.35							
v/s Ratio Perm								0.33	0.28			
v/c Ratio	1.38	1.03		1.78	1.15			0.93	0.78			
Uniform Delay, d1	45.9	36.4		48.4	38.1			34.0	31.5			
Progression Factor	1.07	1.10		0.70	0.94			1.25	1.77			
Incremental Delay, d2	170.7	17.6		356.1	75.8			3.6	3.4			
Delay (s)	219.9	57.5		390.2	111.5			46.0	59.2			
Level of Service	F	E		F	F			D	E			
Approach Delay (s)		136.5			215.7			49.1			0.0	
Approach LOS		F			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	124.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
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)	350	1650	35	40	980	35	74	312	140	138	917	736
Future Volume (vph)	350	1650	35	40	980	35	74	312	140	138	917	736
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00		1.00	0.98			1.00	0.71	1.00	0.97	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.87	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3699		1459	2845			1507	911	1272	1397	698
Flt Permitted	0.95	1.00		0.95	1.00			0.06	1.00	0.32	1.00	1.00
Satd. Flow (perm)	1296	3699		1459	2845			95	911	434	1397	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	376	1774	38	43	1054	38	80	335	151	148	986	791
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	99	0	3	113
Lane Group Flow (vph)	376	1810	0	43	1090	0	0	415	52	148	1062	599
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1445		118	928			32	316	154	497	248
v/s Ratio Prot	c0.29	c0.49		0.03	c0.38						0.76	
v/s Ratio Perm								c4.37	0.06	0.34		0.86
v/c Ratio	2.22	1.25		0.36	1.17			12.97	0.17	0.96	2.14	2.41
Uniform Delay, d1	47.8	33.5		47.9	37.0			35.9	24.9	34.7	35.4	35.4
Progression Factor	1.25	0.69		0.53	0.46			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	552.9	114.3		0.2	79.7			5446.2	0.2	60.6	518.7	648.5
Delay (s)	612.9	137.5		25.5	96.8			5482.1	25.1	95.2	554.1	683.9
Level of Service	F	F		C	F			F	C	F	F	F
Approach Delay (s)		219.2			94.1			4026.3			566.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	680.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	6.27		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	190.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1860	183	0	1382	90	27
Future Volume (vph)	1860	183	0	1382	90	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3028			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3028			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1958	193	0	1455	95	28
RTOR Reduction (vph)	7	0	0	0	0	5
Lane Group Flow (vph)	2144	0	0	1455	95	23
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1709			1738	512	451
v/s Ratio Prot	c0.71			0.47	c0.06	
v/s Ratio Perm						0.02
v/c Ratio	1.25			0.84	0.19	0.05
Uniform Delay, d1	23.9			19.8	26.1	24.9
Progression Factor	1.00			1.67	1.00	1.00
Incremental Delay, d2	119.6			0.5	0.8	0.2
Delay (s)	143.6			33.5	26.9	25.1
Level of Service	F			C	C	C
Approach Delay (s)	143.6			33.5	26.5	
Approach LOS	F			C	C	

Intersection Summary			
HCM 2000 Control Delay	96.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		

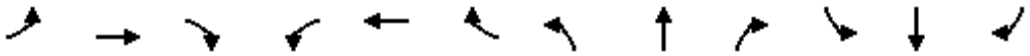
c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	90	120	30	4	30	79	135	53	13	20	10	31
Future Volume (vph)	90	120	30	4	30	79	135	53	13	20	10	31
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.99					0.99				0.97	
Flpb, ped/bikes		0.99					0.98				0.94	
Frt		0.98					0.98				0.94	
Flt Protected		0.98					0.98				0.98	
Satd. Flow (prot)		1446					1217				1101	
Flt Permitted		0.70					0.72				0.76	
Satd. Flow (perm)		1028					893				852	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	105	140	35	5	35	92	157	62	15	23	12	36
RTOR Reduction (vph)	0	0	0	0	0	0	8	0	0	0	21	0
Lane Group Flow (vph)	0	285	0	0	0	0	338	0	0	0	65	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		27.0					27.0				38.0	
Effective Green, g (s)		27.0					27.0				38.0	
Actuated g/C Ratio		0.30					0.30				0.42	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		308					267				359	
v/s Ratio Prot												
v/s Ratio Perm		0.28					c0.38				0.08	
v/c Ratio		0.93					1.26				0.18	
Uniform Delay, d1		30.5					31.5				16.3	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		35.3					145.4				0.2	
Delay (s)		65.8					176.9				16.5	
Level of Service		E					F				B	
Approach Delay (s)		65.8					176.9				16.5	
Approach LOS		E					F				B	

Intersection Summary			
HCM 2000 Control Delay	204.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	124	35	166	356	20	119	213	90
Future Volume (vph)	124	35	166	356	20	119	213	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	1.00	
Frpb, ped/bikes		0.80		0.67		1.00	0.78	
Flpb, ped/bikes		1.00		1.00		0.88	1.00	
Frt		0.92		0.85		1.00	0.85	
Flt Protected		0.98		1.00		0.95	1.00	
Satd. Flow (prot)		1057		829		1281	1014	
Flt Permitted		0.85		1.00		0.95	1.00	
Satd. Flow (perm)		918		829		1281	1014	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	144	41	193	414	23	138	248	105
RTOR Reduction (vph)	0	5	0	118	0	0	76	0
Lane Group Flow (vph)	0	414	0	255	0	161	277	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		38.0		38.0		10.0	10.0	
Effective Green, g (s)		38.0		38.0		10.0	10.0	
Actuated g/C Ratio		0.42		0.42		0.11	0.11	
Clearance Time (s)		5.0		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		387		350		142	112	
v/s Ratio Prot								
v/s Ratio Perm		c0.45		0.31		0.13	c0.27	
v/c Ratio		1.07		0.73		1.13	2.48	
Uniform Delay, d1		26.0		21.7		40.0	40.0	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		65.9		7.4		116.0	690.7	
Delay (s)		91.9		29.0		156.0	730.7	
Level of Service		F		C		F	F	
Approach Delay (s)		62.3				550.7		
Approach LOS		E				F		

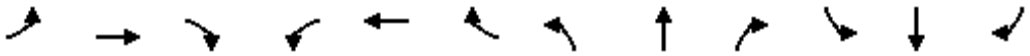
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	112	0	0	890	52	172	200	345	15	0	286
Future Volume (vph)	50	112	0	0	890	52	172	200	345	15	0	286
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.98			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.91			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1283			2047	702	1459	2589			1319	
Flt Permitted		0.63			1.00	1.00	0.51	1.00			0.96	
Satd. Flow (perm)		817			2047	702	788	2589			1270	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	118	0	0	937	55	181	211	363	16	0	301
RTOR Reduction (vph)	0	0	0	0	0	0	0	230	0	0	0	0
Lane Group Flow (vph)	0	171	0	0	937	55	181	344	0	0	317	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		381			955	327	288	949			465	
v/s Ratio Prot					c0.46			0.13				
v/s Ratio Perm		0.21				0.08	0.23				c0.25	
v/c Ratio		0.45			0.98	0.17	0.63	0.36			0.68	
Uniform Delay, d1		10.8			15.7	9.3	15.6	13.9			16.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		3.8			24.9	1.1	10.0	1.1			7.9	
Delay (s)		14.6			40.7	10.4	25.6	15.0			23.9	
Level of Service		B			D	B	C	B			C	
Approach Delay (s)		14.6			39.0			17.5			23.9	
Approach LOS		B			D			B			C	

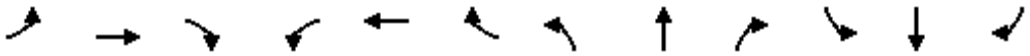
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



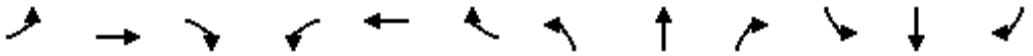
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	417	254	29	165	171	12	230	149	385	118	2
Future Volume (vph)	221	417	254	29	165	171	12	230	149	385	118	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0	3.0		3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		1.00	1.00	
Frpb, ped/bikes		0.94			1.00	0.87		0.91		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		0.96			1.00	0.85		0.94		1.00	1.00	
Flt Protected		0.99			0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1128			1471	1092		2492		1459	1532	
Flt Permitted		0.99			0.79	1.00		0.95		0.40	1.00	
Satd. Flow (perm)		1128			1176	1092		2361		620	1532	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	235	444	270	31	176	182	13	245	159	410	126	2
RTOR Reduction (vph)	0	16	0	0	0	106	0	106	0	0	1	0
Lane Group Flow (vph)	0	933	0	0	207	76	0	311	0	410	127	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA		Perm	NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8		4	2			6		
Actuated Green, G (s)		24.0			24.0	24.0		24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0	27.0		27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29	0.30		0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)		338			339	327		708		192	476	
v/s Ratio Prot		c0.83									0.08	
v/s Ratio Perm					c0.18	0.07		0.13		c0.66		
v/c Ratio		2.76			0.61	0.23		0.44		2.14	0.27	
Uniform Delay, d1		31.5			27.6	23.7		25.4		31.0	23.3	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		800.3			8.0	1.7		2.0		528.0	1.4	
Delay (s)		831.8			35.6	25.4		27.4		559.0	24.7	
Level of Service		F			D	C		C		F	C	
Approach Delay (s)		831.8			30.8			27.4			431.9	
Approach LOS		F			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	455.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	129.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



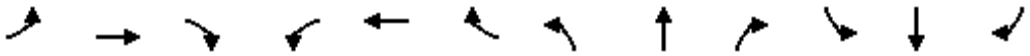
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	370	256	110	470	120	50	580	190	64	456	190
Future Volume (vph)	205	370	256	110	470	120	50	580	190	64	456	190
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.85			0.91			0.93			0.92	
Flpb, ped/bikes		0.96			0.98			0.99			0.99	
Frt		0.95			0.97			0.97			0.96	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		2076			2342			2570			2332	
Flt Permitted		0.61			0.68			0.88			0.79	
Satd. Flow (perm)		1284			1615			2259			1852	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	216	389	269	116	495	126	53	611	200	67	480	200
RTOR Reduction (vph)	0	10	0	0	7	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	864	0	0	730	0	0	864	0	0	737	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		599			753			1054			833	
v/s Ratio Prot												
v/s Ratio Perm		c0.67			0.45			0.38			c0.40	
v/c Ratio		1.44			0.97			0.82			0.88	
Uniform Delay, d1		16.0			15.6			13.8			15.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		208.3			26.2			7.1			13.2	
Delay (s)		224.3			41.7			21.0			28.2	
Level of Service		F			D			C			C	
Approach Delay (s)		224.3			41.7			21.0			28.2	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	82.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	126.2%	ICU Level of Service	H
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)	396	1278	142	0	0	0	0	704	130	25	590	0
Future Volume (vph)	396	1278	142	0	0	0	0	704	130	25	590	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						0.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4089						1588	1260		1553	
Flt Permitted	0.95	1.00						1.00	1.00		0.72	
Satd. Flow (perm)	2830	4089						1588	1260		1125	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	421	1360	151	0	0	0	0	749	138	27	628	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	421	1496	0	0	0	0	0	749	138	0	655	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	custom	Perm	NA	
Protected Phases		2						8 7	7		4	
Permitted Phases	2									4		
Actuated Green, G (s)	35.5	35.5						44.5	18.5		44.5	
Effective Green, g (s)	37.0	37.0						46.0	20.0		46.0	
Actuated g/C Ratio	0.41	0.41						0.51	0.22		0.51	
Clearance Time (s)	5.0	5.0							5.0		5.0	
Lane Grp Cap (vph)	1163	1681						811	280		575	
v/s Ratio Prot		c0.37						0.47	0.11			
v/s Ratio Perm	0.15										c0.58	
v/c Ratio	0.36	0.89						0.92	0.49		1.14	
Uniform Delay, d1	18.3	24.6						20.4	30.6		22.0	
Progression Factor	1.09	1.20						1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.8						17.7	6.1		82.1	
Delay (s)	20.0	30.3						38.1	36.7		104.1	
Level of Service	C	C						D	D		F	
Approach Delay (s)		28.1			0.0			37.9			104.1	
Approach LOS		C			A			D			F	

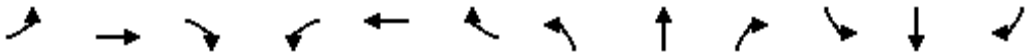
Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	630	1280	0	0	0	0	0	1901	608	0	0	0
Future Volume (vph)	630	1280	0	0	0	0	0	1901	608	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.93				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.96				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		5017						3629				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		5017						3629				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	656	1333	0	0	0	0	0	1980	633	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1989	0	0	0	0	0	2613	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1700						1028				
v/s Ratio Prot								c0.72				
v/s Ratio Perm		0.40										
v/c Ratio		1.38dl						2.54				
Uniform Delay, d1		29.8						32.2				
Progression Factor		0.31						1.00				
Incremental Delay, d2		79.3						696.7				
Delay (s)		88.6						728.9				
Level of Service		F						F				
Approach Delay (s)		88.6			0.0			728.9			0.0	
Approach LOS		F			A			F			A	

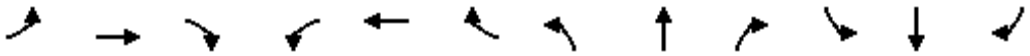
Intersection Summary			
HCM 2000 Control Delay	452.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	2010	140	395	1732	505	0	0	0
Future Volume (vph)	0	0	0	0	2010	140	395	1732	505	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.99			0.89				
Flpb, ped/bikes					1.00			1.00				
Frt					0.99			0.97				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					2720			3466				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					2720			3466				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	2138	149	420	1843	537	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2281	0	0	2800	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					952			1020				
v/s Ratio Prot					c0.84			c0.81				
v/s Ratio Perm												
v/c Ratio					2.40			2.75				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.52				
Incremental Delay, d2					631.5			785.5				
Delay (s)					660.8			802.2				
Level of Service					F			F				
Approach Delay (s)		0.0			660.8			802.2			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	738.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	141.2%	ICU Level of Service	H
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)	0	0	0	0	1640	430	350	1692	0	0	0	0
Future Volume (vph)	0	0	0	0	1640	430	350	1692	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.92			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3224			2898				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3224			2898				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1745	457	372	1800	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	52	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2150	0	0	2172	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1128			982				
v/s Ratio Prot					c0.67			c0.75				
v/s Ratio Perm												
v/c Ratio					1.91			2.21				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.42				
Incremental Delay, d2					411.0			545.6				
Delay (s)					440.3			558.0				
Level of Service					F			F				
Approach Delay (s)		0.0			440.3			558.0			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	498.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	127.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Traffic Volume (vph)	1454	392	0	123	711	140	56
Future Volume (vph)	1454	392	0	123	711	140	56
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00		1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.64	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.99	0.85
Flt Protected	1.00	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	5099	1212		903	2605	4093	1122
Flt Permitted	1.00	1.00		0.95	1.00	0.96	1.00
Satd. Flow (perm)	5099	1212		903	2605	4093	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1598	431	0	135	781	154	62
RTOR Reduction (vph)	0	111	0	96	0	0	0
Lane Group Flow (vph)	1598	320	0	39	781	166	50
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0		24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0		26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350		260	752	1273	349
v/s Ratio Prot	c0.31				c0.30	0.04	
v/s Ratio Perm		0.26		0.04			c0.04
v/c Ratio	1.08	0.91		0.15	1.04	0.13	0.14
Uniform Delay, d1	32.0	30.9		23.8	32.0	22.3	22.4
Progression Factor	1.00	1.02		1.55	1.04	1.00	1.00
Incremental Delay, d2	39.5	4.4		1.0	40.4	0.2	0.9
Delay (s)	71.4	35.9		37.8	73.8	22.5	23.2
Level of Service	E	D		D	E	C	C
Approach Delay (s)	63.9				68.5	22.6	
Approach LOS	E				E	C	

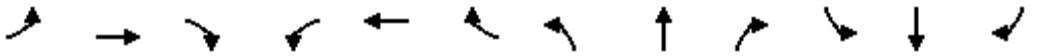
Intersection Summary			
HCM 2000 Control Delay	62.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	230	1040	1480	475	760	250
Future Volume (vph)	230	1040	1480	475	760	250
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.93	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1115		3854	2277	1013	1099
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1115		3854	2277	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	235	1061	1510	485	776	255
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	211	0	2595	865	396	241
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1652	1095	521	565
v/s Ratio Prot				0.38		
v/s Ratio Perm	0.19		0.67		c0.39	0.22
v/c Ratio	0.44		1.86dl	0.79	0.76	0.43
Uniform Delay, d1	18.1		25.7	19.5	17.4	13.6
Progression Factor	1.33		1.16	1.33	1.44	1.61
Incremental Delay, d2	0.3		257.1	2.7	4.7	1.1
Delay (s)	24.4		286.8	28.7	29.7	22.9
Level of Service	C		F	C	C	C
Approach Delay (s)			267.1	28.0		
Approach LOS			F	C		

Intersection Summary			
HCM 2000 Control Delay	183.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

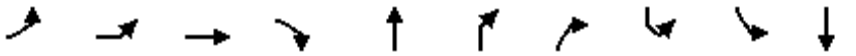
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	510	1540	0	0	0	0	0	895	675
Future Volume (vph)	0	0	0	510	1540	0	0	0	0	0	895	675
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	520	1571	0	0	0	0	0	913	689
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	520	1571	0	0	0	0	0	913	689
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				0.36	c0.37						0.32	
v/s Ratio Perm												c0.80
v/c Ratio				0.96	1.01						0.92	2.32
Uniform Delay, d1				27.6	28.2						28.3	29.5
Progression Factor				1.18	1.18						1.00	1.00
Incremental Delay, d2				5.3	8.8						14.6	604.4
Delay (s)				37.9	42.3						42.9	633.9
Level of Service				D	D						D	F
Approach Delay (s)		0.0			41.2			0.0			297.1	
Approach LOS		A			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	152.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	127.7%	ICU Level of Service	H
Analysis Period (min)	15		

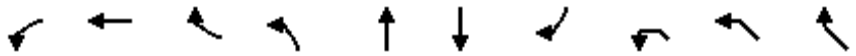
c Critical Lane Group



Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	102	290	1165	128	550	516	154	260	299	950
Future Volume (vph)	102	290	1165	128	550	516	154	260	299	950
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.73	1.00	0.84			1.00	1.00
Flpb, ped/bikes		0.88	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2143	2521	918	1535	1130			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.23	1.00
Satd. Flow (perm)		2143	2521	918	1535	1130			652	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	110	312	1253	138	591	555	166	280	322	1022
RTOR Reduction (vph)	0	0	0	20	0	20	0	0	0	0
Lane Group Flow (vph)	0	391	1284	118	591	701	0	0	602	1022
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		39.0	39.0	39.0	39.0	39.0			39.0	39.0
Effective Green, g (s)		39.0	41.5	41.0	40.5	41.0			40.5	40.5
Actuated g/C Ratio		0.43	0.46	0.46	0.45	0.46			0.45	0.45
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		928	1162	418	690	514			293	587
v/s Ratio Prot			c0.51		0.38					0.78
v/s Ratio Perm		0.18		0.13		0.62			c0.92	
v/c Ratio		0.42	1.10	0.28	0.86	1.36			2.05	1.74
Uniform Delay, d1		17.7	24.2	15.3	22.1	24.5			24.8	24.8
Progression Factor		1.00	1.00	1.00	1.00	1.00			0.76	0.76
Incremental Delay, d2		1.4	60.1	1.7	13.0	176.3			475.6	334.1
Delay (s)		19.1	84.3	17.0	35.1	200.8			494.4	352.8
Level of Service		B	F	B	D	F			F	F
Approach Delay (s)			65.1		126.1					405.3
Approach LOS			E		F					F

Intersection Summary			
HCM 2000 Control Delay	198.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	114.3%	ICU Level of Service	H
Analysis Period (min)	15		

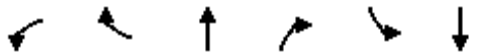
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	250	1050	150	100	570	894	340	482	1360	460
Future Volume (vph)	250	1050	150	100	570	894	340	482	1360	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.95			0.99	0.88
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5024			2866	2435			3419	985
Flt Permitted		0.99			0.52	1.00			0.95	1.00
Satd. Flow (perm)		5024			1500	2435			3419	985
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	272	1129	161	108	613	961	366	524	1462	495
RTOR Reduction (vph)	0	22	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	1540	0	0	721	1326	0	0	2036	445
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1618			466	757			1025	295
v/s Ratio Prot						c0.54				
v/s Ratio Perm		0.31			0.48				0.60	0.45
v/c Ratio		0.95			1.64dl	1.75			1.99	1.51
Uniform Delay, d1		29.8			31.0	31.0			31.5	31.5
Progression Factor		0.60			1.57	1.00			1.00	1.00
Incremental Delay, d2		1.8			252.8	343.5			447.4	245.7
Delay (s)		19.6			301.5	374.5			478.9	277.2
Level of Service		B			F	F			F	F
Approach Delay (s)		19.6			301.5	374.5			442.7	
Approach LOS		B			F	F			F	

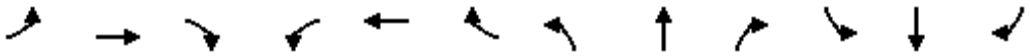
Intersection Summary			
HCM 2000 Control Delay	302.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	151.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



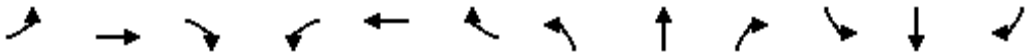
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	150	1800	137	57	568
Future Volume (vph)	10	150	1800	137	57	568
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3018		1535	3079
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1540	1378	3018		86	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	167	2000	152	63	631
RTOR Reduction (vph)	0	8	5	0	0	0
Lane Group Flow (vph)	11	159	2147	0	63	631
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2052		58	2093
v/s Ratio Prot	0.01		0.71			0.20
v/s Ratio Perm		c0.12			c0.73	
v/c Ratio	0.03	0.50	1.05		1.09	0.30
Uniform Delay, d1	32.6	36.6	17.6		17.6	7.1
Progression Factor	1.00	1.00	1.00		2.82	0.80
Incremental Delay, d2	0.2	5.4	33.2		61.1	0.0
Delay (s)	32.8	42.0	50.8		110.8	5.7
Level of Service	C	D	D		F	A
Approach Delay (s)	41.4		50.8			15.3
Approach LOS	D		D			B

Intersection Summary			
HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
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)	203	61	243	60	65	168	43	1582	209	5	597	66
Future Volume (vph)	203	61	243	60	65	168	43	1582	209	5	597	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.98		1.00	0.99	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1557	1342		1462		1459	2839		1540	3011	
Flt Permitted		0.48	1.00		0.75		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		772	1342		1109		1459	2839		1540	3011	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	228	69	273	67	73	189	48	1778	235	6	671	74
RTOR Reduction (vph)	0	0	185	0	49	0	0	10	0	0	8	0
Lane Group Flow (vph)	0	297	88	0	280	0	48	2003	0	6	737	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		247	430		355		215	1007		254	1129	
v/s Ratio Prot							0.03	c0.71		0.00	c0.24	
v/s Ratio Perm		c0.38	0.07		0.25							
v/c Ratio		1.20	0.20		0.79		0.22	1.99		0.02	0.65	
Uniform Delay, d1		34.0	24.7		30.9		37.5	32.2		35.0	25.9	
Progression Factor		1.00	1.00		1.00		1.48	0.71		1.00	1.00	
Incremental Delay, d2		123.1	1.1		16.2		0.2	445.3		0.2	2.9	
Delay (s)		157.1	25.7		47.1		55.9	468.3		35.2	28.8	
Level of Service		F	C		D		E	F		D	C	
Approach Delay (s)		94.2			47.1			458.7			28.9	
Approach LOS		F			D			F			C	

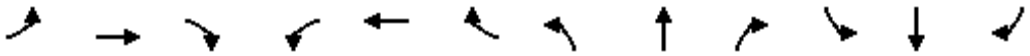
Intersection Summary			
HCM 2000 Control Delay	279.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	115.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	190	118	400	47	188	134	1575	110	252	690	23
Future Volume (vph)	70	190	118	400	47	188	134	1575	110	252	690	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1296			1482		1418	2783		1540	3055	
Flt Permitted		0.88			0.46		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1149			705		1418	2783		1540	3055	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	209	130	440	52	207	147	1731	121	277	758	25
RTOR Reduction (vph)	0	16	0	0	15	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	400	0	0	684	0	147	1847	0	277	780	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		375			230		212	1026		229	1127	
v/s Ratio Prot							0.10	c0.66		c0.18	0.26	
v/s Ratio Perm		0.35			c0.97							
v/c Ratio		1.07			2.97		0.69	1.80		1.21	0.69	
Uniform Delay, d1		33.6			33.6		40.3	31.6		42.5	26.7	
Progression Factor		1.00			1.00		1.26	0.96		0.85	0.89	
Incremental Delay, d2		65.2			899.0		1.7	360.4		122.9	2.9	
Delay (s)		98.8			932.6		52.6	390.8		158.9	26.7	
Level of Service		F			F		D	F		F	C	
Approach Delay (s)		98.8			932.6			365.9			61.2	
Approach LOS		F			F			F			E	

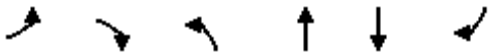
Intersection Summary			
HCM 2000 Control Delay	356.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.15		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	158.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	43	33	10	45	109	57	377	38	414	418	61
Future Volume (vph)	54	43	33	10	45	109	57	377	38	414	418	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.98	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.99			1.00	1.00	0.90	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1282			1604	1351	1162	1339		1296	1298	
Flt Permitted		0.84			0.94	1.00	0.47	1.00		0.95	1.00	
Satd. Flow (perm)		1096			1520	1351	576	1339		1296	1298	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	47	36	11	49	118	62	410	41	450	454	66
RTOR Reduction (vph)	0	20	0	0	0	77	0	4	0	0	4	0
Lane Group Flow (vph)	0	122	0	0	60	41	62	447	0	450	516	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		10.1			10.1	21.3	25.7	25.7		11.2	41.9	
Effective Green, g (s)		10.1			10.1	21.3	25.7	25.7		11.2	41.9	
Actuated g/C Ratio		0.16			0.16	0.34	0.41	0.41		0.18	0.68	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		178			247	573	238	555		234	877	
v/s Ratio Prot						0.01		c0.33		c0.35	0.40	
v/s Ratio Perm		c0.11			0.04	0.02	0.11					
v/c Ratio		0.68			0.24	0.07	0.26	0.81		1.92	0.59	
Uniform Delay, d1		24.5			22.6	13.7	11.9	16.0		25.4	5.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		10.4			0.5	0.1	0.6	8.3		430.8	1.0	
Delay (s)		34.9			23.1	13.7	12.5	24.3		456.2	6.4	
Level of Service		C			C	B	B	C		F	A	
Approach Delay (s)		34.9			16.9			22.9			215.1	
Approach LOS		C			B			C			F	

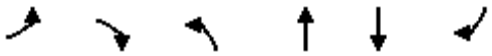
Intersection Summary			
HCM 2000 Control Delay	126.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	26	233	269	152	138	148
Future Volume (vph)	26	233	269	152	138	148
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	30	265	306	173	157	168

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	30	265	364	115	105	220
Volume Left (vph)	30	0	306	0	0	0
Volume Right (vph)	0	265	0	0	0	168
Hadj (s)	0.53	-0.67	0.45	0.03	0.03	-0.50
Departure Headway (s)	7.1	5.9	6.3	5.9	6.1	5.6
Degree Utilization, x	0.06	0.43	0.64	0.19	0.18	0.34
Capacity (veh/h)	475	576	552	587	557	615
Control Delay (s)	9.3	12.0	18.5	9.0	9.3	10.3
Approach Delay (s)	11.8		16.2		9.9	
Approach LOS	B		C		A	

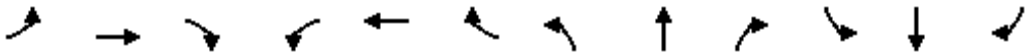
Intersection Summary			
Delay	13.2		
Level of Service	B		
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	50	392	404	125
Future Volume (Veh/h)	25	25	50	392	404	125
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	30	30	60	472	487	151
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	934	333	650			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	934	333	650			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	95	94			
cM capacity (veh/h)	245	656	924			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	217	315	325	313
Volume Left	30	60	0	0	0
Volume Right	30	0	0	0	151
cSH	356	924	1700	1700	1700
Volume to Capacity	0.17	0.06	0.19	0.19	0.18
Queue Length 95th (ft)	15	5	0	0	0
Control Delay (s)	17.1	3.0	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	17.1	1.2		0.0	
Approach LOS	C				

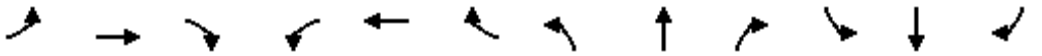
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	367	141	365	31	295	144	367	1312	22	71	1005	455
Future Volume (vph)	367	141	365	31	295	144	367	1312	22	71	1005	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	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	0.95		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1532	1378	1136	1532	1527		2987	3069		1540	2897	
Flt Permitted	0.24	1.00	1.00	0.65	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	394	1378	1136	1053	1527		2987	3069		1540	2897	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	390	150	388	33	314	153	390	1396	23	76	1069	484
RTOR Reduction (vph)	0	0	233	0	18	0	0	1	0	0	53	0
Lane Group Flow (vph)	390	150	155	33	449	0	390	1418	0	76	1500	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	135	475	391	363	526		418	1160		184	1037	
v/s Ratio Prot		0.11			0.29		0.13	c0.46		0.05	c0.52	
v/s Ratio Perm	c0.99		0.14	0.03								
v/c Ratio	2.89	0.32	0.40	0.09	0.85		0.93	1.22		0.41	1.45	
Uniform Delay, d1	32.8	24.1	24.9	22.1	30.4		42.5	31.1		40.7	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.71	0.81		0.92	0.88	
Incremental Delay, d2	869.9	1.7	3.0	0.5	16.1		4.7	100.8		0.6	201.6	
Delay (s)	902.7	25.8	27.9	22.6	46.5		34.8	126.0		38.1	229.7	
Level of Service	F	C	C	C	D		C	F		D	F	
Approach Delay (s)		395.2			44.9			106.4			220.8	
Approach LOS		F			D			F			F	

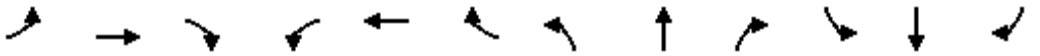
Intersection Summary			
HCM 2000 Control Delay	193.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.03		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	134.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	514	260	71	1082	126	140	180	132	177	330	213
Future Volume (vph)	148	514	260	71	1082	126	140	180	132	177	330	213
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.98	1.00
Satd. Flow (prot)	1377	1232	1378	1540	1365	1131	1540	2884			3026	1133
Flt Permitted	0.95	1.00	1.00	0.40	1.00	1.00	0.36	1.00			0.70	1.00
Satd. Flow (perm)	1377	1232	1378	646	1365	1131	581	2884			2146	1133
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	164	571	283	77	1202	140	152	196	143	197	359	237
RTOR Reduction (vph)	0	0	75	0	0	43	0	92	0	0	0	77
Lane Group Flow (vph)	164	571	208	77	1202	97	152	247	0	0	556	160
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	4.0	45.5	45.5	36.5	36.5	36.5	30.1	30.1			29.1	29.1
Effective Green, g (s)	4.0	45.5	45.5	36.5	36.5	36.5	30.1	30.1			29.1	29.1
Actuated g/C Ratio	0.05	0.54	0.54	0.43	0.43	0.43	0.36	0.36			0.34	0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	65	662	741	278	588	487	206	1026			738	389
v/s Ratio Prot	c0.12	0.46			c0.88			0.09				
v/s Ratio Perm			0.15	0.12		0.09	c0.26				0.26	0.14
v/c Ratio	2.52	0.86	0.28	0.28	2.04	0.20	0.74	0.24			0.75	0.41
Uniform Delay, d1	40.3	16.9	10.6	15.5	24.0	15.0	23.8	19.2			24.6	21.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	728.5	11.2	0.2	0.5	475.8	0.2	12.9	0.1			4.4	0.7
Delay (s)	768.8	28.1	10.9	16.1	499.9	15.2	36.7	19.3			28.9	21.9
Level of Service	F	C	B	B	F	B	D	B			C	C
Approach Delay (s)		142.6			425.8			24.7			26.8	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	210.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	84.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	129.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



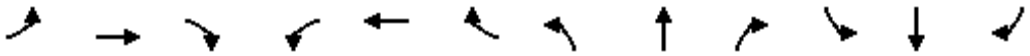
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	676	94	63	807	562	80	328	56	222	90	140
Future Volume (vph)	80	676	94	63	807	562	80	328	56	222	90	140
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.88	1.00	1.00	0.93	1.00	0.96	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1190	922		1402	1053	1337	1407	949	1337	1230	
Flt Permitted		0.28	1.00		0.53	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		333	922		739	1053	1337	1407	949	1337	1230	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	712	99	66	849	592	84	345	59	234	95	147
RTOR Reduction (vph)	0	0	46	0	0	72	0	0	44	0	57	0
Lane Group Flow (vph)	0	796	53	0	915	520	84	345	15	234	185	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		59.0	59.0		59.0	67.0	14.8	28.0	28.0	8.0	21.2	
Effective Green, g (s)		59.0	59.0		59.0	67.0	14.8	28.0	28.0	8.0	21.2	
Actuated g/C Ratio		0.54	0.54		0.54	0.61	0.13	0.25	0.25	0.07	0.19	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		178	494		396	689	179	358	241	97	237	
v/s Ratio Prot						0.05	0.06	c0.25		c0.18	0.15	
v/s Ratio Perm		c2.39	0.06		1.24	0.44			0.02			
v/c Ratio		4.47	0.11		2.31	0.75	0.47	0.96	0.06	2.41	0.78	
Uniform Delay, d1		25.5	12.5		25.5	15.6	44.0	40.5	31.1	51.0	42.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1575.3	0.1		597.7	4.7	1.9	37.7	0.1	665.8	14.9	
Delay (s)		1600.8	12.6		623.2	20.3	45.9	78.2	31.2	716.8	57.1	
Level of Service		F	B		F	C	D	E	C	F	E	
Approach Delay (s)		1425.1			386.3			67.0			381.4	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	615.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.25		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	164.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	203	501	1040	88	334	287
Future Volume (vph)	203	501	1040	88	334	287
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1111	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1111	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	209	516	1072	91	344	296
RTOR Reduction (vph)	0	419	0	13	0	0
Lane Group Flow (vph)	209	97	1072	78	344	296
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	20.3	20.3	50.1	45.1	23.1	78.2
Effective Green, g (s)	20.3	20.3	50.1	45.1	23.1	78.2
Actuated g/C Ratio	0.19	0.19	0.46	0.42	0.21	0.72
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	288	453	882	513	275	787
v/s Ratio Prot	c0.14		c0.56	0.01	c0.27	0.27
v/s Ratio Perm		0.04		0.06		
v/c Ratio	0.73	0.21	1.22	0.15	1.25	0.38
Uniform Delay, d1	41.5	37.3	29.2	19.8	42.7	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	0.2	107.3	0.1	139.3	0.3
Delay (s)	50.2	37.6	136.5	19.9	182.0	6.1
Level of Service	D	D	F	B	F	A
Approach Delay (s)	41.2		127.4			100.7
Approach LOS	D		F			F

Intersection Summary			
HCM 2000 Control Delay	95.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	108.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

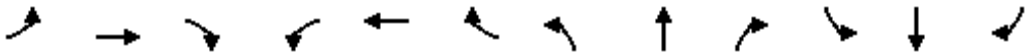
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	46	461	87	90	516	26	64	136	100	28	127	60
Future Volume (vph)	46	461	87	90	516	26	64	136	100	28	127	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	53	530	100	103	593	30	74	156	115	32	146	69

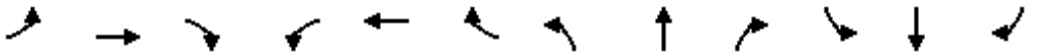
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	683	103	623	230	115	247
Volume Left (vph)	53	103	0	74	0	32
Volume Right (vph)	100	0	30	0	115	69
Hadj (s)	-0.04	0.53	0.00	0.19	-0.67	-0.11
Departure Headway (s)	8.3	8.7	8.2	9.1	8.2	9.1
Degree Utilization, x	1.58	0.25	1.41	0.58	0.26	0.63
Capacity (veh/h)	439	409	452	384	428	378
Control Delay (s)	293.4	13.4	220.6	22.6	12.9	26.2
Approach Delay (s)	293.4	191.2		19.4		26.2
Approach LOS	F	F		C		D

Intersection Summary				
Delay	176.1			
Level of Service	F			
Intersection Capacity Utilization	98.0%	ICU Level of Service		F
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	465	110	55	609	60	110	1191	76	36	952	413
Future Volume (vph)	370	465	110	55	609	60	110	1191	76	36	952	413
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97			0.99		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1777	1826			3347		1711	3372		1711	3231	
Flt Permitted	0.18	1.00			0.51		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	339	1826			1714		1711	3372		1711	3231	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	389	489	116	58	641	63	116	1254	80	38	1002	435
RTOR Reduction (vph)	0	8	0	0	7	0	0	5	0	0	49	0
Lane Group Flow (vph)	389	597	0	0	755	0	116	1329	0	38	1388	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	100	542			509		289	1345		254	1224	
v/s Ratio Prot		0.33					0.07	c0.39		0.02	c0.43	
v/s Ratio Perm	c1.15				0.44							
v/c Ratio	3.89	1.10			1.48		0.40	0.99		0.15	1.13	
Uniform Delay, d1	35.1	35.1			35.1		37.0	29.8		37.0	31.1	
Progression Factor	1.00	1.00			1.00		0.85	0.72		1.57	0.83	
Incremental Delay, d2	1324.3	69.1			227.8		3.2	18.9		0.1	61.4	
Delay (s)	1359.4	104.3			263.0		34.7	40.4		58.2	87.3	
Level of Service	F	F			F		C	D		E	F	
Approach Delay (s)		595.5			263.0			39.9			86.5	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	208.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	126.1%	ICU Level of Service	H
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)	30	149	0	0	1270	100	625	252	1132	0	0	611
Future Volume (vph)	30	149	0	0	1270	100	625	252	1132	0	0	611
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.99		1.00	0.88				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2856			4092		1350	3006				2694
Flt Permitted		0.68			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1945			4092		1350	3006				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	33	154	0	0	1309	109	644	274	1167	0	0	664
RTOR Reduction (vph)	0	0	0	0	8	0	0	271	0	0	0	4
Lane Group Flow (vph)	0	187	0	0	1410	0	644	1170	0	0	0	660
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		42.1			42.1		60.9	60.4				60.9
Effective Green, g (s)		42.1			42.1		60.9	60.4				60.9
Actuated g/C Ratio		0.38			0.38		0.55	0.55				0.55
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		744			1566		747	1650				1491
v/s Ratio Prot					c0.34		c0.48	0.39				
v/s Ratio Perm		0.10										0.25
v/c Ratio		0.25			0.90		0.86	1.05dr				0.44
Uniform Delay, d1		23.2			32.0		21.0	18.3				14.5
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.8			7.5		10.1	1.4				0.2
Delay (s)		24.0			39.5		31.0	19.7				14.7
Level of Service		C			D		C	B				B
Approach Delay (s)		24.0			39.5			23.2			14.7	
Approach LOS		C			D			C			B	

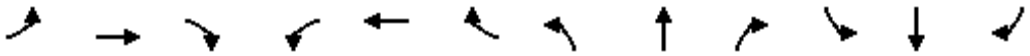
Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	131.5%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	167	480	1596	913	0	0
Future Volume (vph)	167	480	1596	913	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.97	0.94	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.92	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1166	1041	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1166	1041	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	172	495	1645	941	0	0
RTOR Reduction (vph)	14	14	0	0	0	0
Lane Group Flow (vph)	331	308	1645	941	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	22.2	22.2	39.8	70.0		
Effective Green, g (s)	22.2	22.2	39.8	70.0		
Actuated g/C Ratio	0.32	0.32	0.57	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	369	330	1429	1365		
v/s Ratio Prot	0.28		c0.65	0.69		
v/s Ratio Perm		c0.30				
v/c Ratio	0.90	0.93	1.15	0.69		
Uniform Delay, d1	22.8	23.2	15.1	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	23.4	32.7	76.5	1.5		
Delay (s)	46.2	55.9	91.6	1.5		
Level of Service	D	E	F	A		
Approach Delay (s)	50.9			58.8	0.0	
Approach LOS	D			E	A	

Intersection Summary			
HCM 2000 Control Delay	57.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

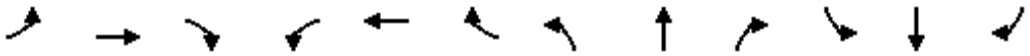
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	33	60	63	54	75	0	1209	130	0	937	44
Future Volume (vph)	50	33	60	63	54	75	0	1209	130	0	937	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.97			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.94			0.95			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1268			1270			2813			2852	
Flt Permitted		0.78			0.82			1.00			1.00	
Satd. Flow (perm)		1001			1056			2813			2852	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	51	34	61	64	55	77	0	1234	133	0	956	45
RTOR Reduction (vph)	0	29	0	0	26	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	117	0	0	170	0	0	1361	0	0	998	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.1			20.1			70.0			70.0	
Effective Green, g (s)		20.1			20.1			70.0			70.0	
Actuated g/C Ratio		0.20			0.20			0.70			0.70	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		201			212			1969			1996	
v/s Ratio Prot								c0.48			0.35	
v/s Ratio Perm		0.12			c0.16							
v/c Ratio		0.58			0.80			0.69			0.50	
Uniform Delay, d1		36.2			38.0			8.7			6.9	
Progression Factor		1.00			1.00			0.76			0.29	
Incremental Delay, d2		4.3			19.1			0.2			0.1	
Delay (s)		40.4			57.1			6.8			2.1	
Level of Service		D			E			A			A	
Approach Delay (s)		40.4			57.1			6.8			2.1	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	71.2%	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)	366	214	220	11	228	23	243	1170	40	268	718	178
Future Volume (vph)	366	214	220	11	228	23	243	1170	40	268	718	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.92		1.00	0.99		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1539	2648		1538	1596		1540	3062		1540	2944	
Flt Permitted	0.28	1.00		0.49	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	457	2648		791	1596		1540	3062		1540	2944	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	385	225	232	12	240	24	256	1232	42	282	756	187
RTOR Reduction (vph)	0	156	0	0	4	0	0	2	0	0	22	0
Lane Group Flow (vph)	385	301	0	12	260	0	256	1272	0	282	921	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.6	32.6		20.6	20.6		13.9	40.6		10.5	37.2	
Effective Green, g (s)	32.6	32.6		20.6	20.6		13.9	40.6		10.5	37.2	
Actuated g/C Ratio	0.33	0.33		0.21	0.21		0.14	0.41		0.10	0.37	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	863		162	328		214	1243		161	1095	
v/s Ratio Prot	c0.12	0.11			0.16		0.17	c0.42		c0.18	0.31	
v/s Ratio Perm	c0.45			0.02								
v/c Ratio	1.74	0.35		0.07	0.79		1.20	1.02		1.75	0.84	
Uniform Delay, d1	33.1	25.6		32.0	37.7		43.0	29.7		44.8	28.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.87	
Incremental Delay, d2	352.1	0.2		0.2	12.3		124.6	31.5		360.5	7.2	
Delay (s)	385.1	25.9		32.2	50.0		167.7	61.2		400.8	32.0	
Level of Service	F	C		C	D		F	E		F	C	
Approach Delay (s)		190.1			49.2			79.0			116.9	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	113.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		

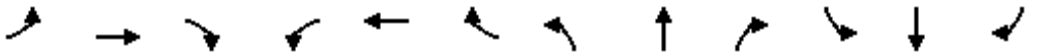
c Critical Lane Group

Intersection LOS Calculations

Cumulative Plus Project

Maximum Residential Scenario

FEHR PEERS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	20	210	0	40	20	135	1194	40	100	1060	60
Future Volume (vph)	120	20	210	0	40	20	135	1194	40	100	1060	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			0.99		1.00	0.99		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1359			1529		1540	2804		1540	3079	976
Flt Permitted	0.72	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1134	1359			1529		1540	2804		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	21	221	0	42	21	142	1257	42	105	1116	63
RTOR Reduction (vph)	0	144	0	0	14	0	0	2	0	0	0	42
Lane Group Flow (vph)	126	98	0	0	49	0	142	1297	0	105	1116	21
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	392	470			529		231	955		211	1030	326
v/s Ratio Prot		0.07			0.03		0.09	c0.46		0.07	c0.36	
v/s Ratio Perm	c0.11											0.02
v/c Ratio	0.32	0.21			0.09		0.61	1.36		0.50	1.08	0.06
Uniform Delay, d1	26.4	25.3			24.3		43.8	36.2		43.9	36.6	24.9
Progression Factor	1.00	1.00			1.00		0.92	0.87		1.00	1.00	1.00
Incremental Delay, d2	2.2	1.0			0.3		3.7	163.3		8.2	53.5	0.4
Delay (s)	28.6	26.3			24.6		43.9	194.7		52.1	90.1	25.3
Level of Service	C	C			C		D	F		D	F	C
Approach Delay (s)		27.1			24.6			179.8			83.8	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	119.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

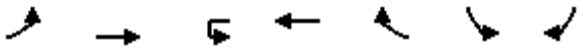
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	210	30	20	1189	0	1121	180
Future Volume (vph)	210	30	20	1189	0	1121	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00		1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079		3079	1018
Flt Permitted	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079		3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	226	32	22	1278	0	1205	194
RTOR Reduction (vph)	0	9	0	0	0	0	58
Lane Group Flow (vph)	226	23	22	1278	0	1205	136
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8		37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8		37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40		0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226		1035	342
v/s Ratio Prot	c0.17		0.01	c0.42		c0.39	
v/s Ratio Perm		0.02					0.13
v/c Ratio	0.50	0.06	0.10	1.04		1.16	0.40
Uniform Delay, d1	28.4	24.0	41.3	33.1		36.5	28.0
Progression Factor	1.00	1.00	0.58	0.64		0.59	0.37
Incremental Delay, d2	3.9	0.3	0.3	27.8		78.2	1.3
Delay (s)	32.3	24.3	24.3	48.9		99.6	11.6
Level of Service	C	C	C	D		F	B
Approach Delay (s)	31.3			48.5		87.4	
Approach LOS	C			D		F	

Intersection Summary			
HCM 2000 Control Delay	65.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	10	20	10	10	10	30	1149	10	30	1061	120
Future Volume (vph)	60	10	20	10	10	10	30	1149	10	30	1061	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	0.97	
Flpb, ped/bikes		0.98			0.99		1.00	1.00		1.00	1.00	
Frt		0.97			0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1473			1486		1540	3070		1540	2952	
Flt Permitted		0.80			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1218			1395		1540	3070		1540	2952	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	62	10	21	10	10	10	31	1197	10	31	1105	125
RTOR Reduction (vph)	0	9	0	0	7	0	0	1	0	0	8	0
Lane Group Flow (vph)	0	85	0	0	23	0	31	1206	0	31	1222	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		420			481		210	1200		128	1009	
v/s Ratio Prot							0.02	c0.39		0.02	c0.41	
v/s Ratio Perm		c0.07			0.02							
v/c Ratio		0.20			0.05		0.15	1.01		0.24	1.21	
Uniform Delay, d1		25.3			24.0		41.9	33.5		47.1	36.2	
Progression Factor		1.00			1.00		0.89	0.87		1.28	0.14	
Incremental Delay, d2		1.1			0.2		0.6	17.8		0.4	96.0	
Delay (s)		26.4			24.2		37.8	47.1		60.6	101.0	
Level of Service		C			C		D	D		E	F	
Approach Delay (s)		26.4			24.2			46.9			100.0	
Approach LOS		C			C			D			F	

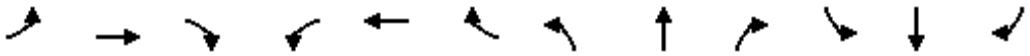
Intersection Summary			
HCM 2000 Control Delay	71.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	140	1119	0	1021	30	10	502
Future Volume (vph)	140	1119	0	1021	30	10	502
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2		6.6		6.8	6.8
Lane Util. Factor	1.00	0.95		0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00		0.99		1.00	0.69
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		1.00		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1459	2917		2876		1459	894
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1459	2917		2876		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1154	0	1053	31	10	518
RTOR Reduction (vph)	0	0	0	2	0	0	236
Lane Group Flow (vph)	144	1154	0	1082	0	10	282
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8		36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8		36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41		0.33		0.35	0.35
Clearance Time (s)	6.6	5.2		6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188		951		506	310
v/s Ratio Prot	0.10	c0.40		c0.38		0.01	
v/s Ratio Perm							c0.32
v/c Ratio	0.71	0.97		1.14		0.02	0.91
Uniform Delay, d1	45.1	32.0		36.8		23.6	34.3
Progression Factor	1.43	0.79		1.82		1.00	1.00
Incremental Delay, d2	7.7	10.8		63.4		0.1	32.7
Delay (s)	72.2	36.2		130.2		23.7	67.0
Level of Service	E	D		F		C	E
Approach Delay (s)		40.2		130.2		66.1	
Approach LOS		D		F		E	

Intersection Summary			
HCM 2000 Control Delay	78.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

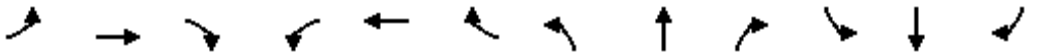
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	720	850	50	532	890	40	80	1360	559	0	0	0
Future Volume (vph)	720	850	50	532	890	40	80	1360	559	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3034		2987	3025			5540	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3034		2987	3025			5540	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	766	904	53	566	947	43	85	1447	595	0	0	0
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	213	0	0	0
Lane Group Flow (vph)	766	953	0	566	989	0	0	1532	382	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1026		358	926			1974	451			
v/s Ratio Prot	c0.18	0.31		c0.19	c0.33							
v/s Ratio Perm								0.28	c0.30			
v/c Ratio	1.07	0.93		1.58	1.07			0.78	0.85			
Uniform Delay, d1	45.9	35.1		48.4	38.1			31.5	32.6			
Progression Factor	1.09	1.13		0.71	0.90			1.21	1.64			
Incremental Delay, d2	33.3	1.9		262.7	33.0			0.6	4.3			
Delay (s)	83.3	41.7		297.1	67.4			38.7	57.9			
Level of Service	F	D		F	E			D	E			
Approach Delay (s)		60.2			150.9			44.1			0.0	
Approach LOS		E			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	80.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
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)	230	1520	58	60	850	60	49	130	40	80	811	250
Future Volume (vph)	230	1520	58	60	850	60	49	130	40	80	811	250
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	0.99		1.00	0.96			1.00	0.71	1.00	0.99	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98	1.00	0.79	1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3680		1459	2780			1490	911	1152	1433	698
Flt Permitted	0.95	1.00		0.95	1.00			0.13	1.00	0.61	1.00	1.00
Satd. Flow (perm)	1296	3680		1459	2780			202	911	736	1433	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	247	1634	62	65	914	65	53	140	43	86	872	269
RTOR Reduction (vph)	0	3	0	0	5	0	0	0	28	0	1	113
Lane Group Flow (vph)	247	1693	0	65	974	0	0	193	15	86	898	129
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	40.0		11.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	40.0		11.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.36		0.11	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1338		157	907			70	316	262	510	248
v/s Ratio Prot	0.19	c0.46		0.04	c0.35						0.63	
v/s Ratio Perm								c0.95	0.02	0.12		0.18
v/c Ratio	1.46	1.27		0.41	1.07			2.76	0.05	0.33	1.76	0.52
Uniform Delay, d1	47.8	35.0		45.8	37.0			35.9	23.8	25.8	35.4	28.0
Progression Factor	1.28	0.80		0.53	0.45			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	210.7	119.9		0.2	35.8			829.2	0.1	0.7	350.1	1.8
Delay (s)	271.8	148.0		24.6	52.6			865.1	23.9	26.5	385.5	29.8
Level of Service	F	F		C	D			F	C	C	F	C
Approach Delay (s)		163.7			50.9			711.8			290.2	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	201.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	146.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1778	110	0	979	120	10
Future Volume (vph)	1778	110	0	979	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3046			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3046			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1872	116	0	1031	126	11
RTOR Reduction (vph)	4	0	0	0	0	6
Lane Group Flow (vph)	1984	0	0	1031	126	5
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1719			1738	512	451
v/s Ratio Prot	c0.65			0.33	c0.08	
v/s Ratio Perm						0.00
v/c Ratio	1.15			0.59	0.25	0.01
Uniform Delay, d1	23.9			15.7	26.7	24.6
Progression Factor	1.00			2.21	1.00	1.00
Incremental Delay, d2	76.5			0.1	1.1	0.0
Delay (s)	100.5			34.8	27.8	24.6
Level of Service	F			C	C	C
Approach Delay (s)	100.5			34.8	27.6	
Approach LOS	F			C	C	

Intersection Summary			
HCM 2000 Control Delay	75.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

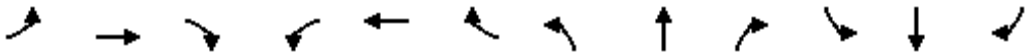
c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	160	330	40	60	10	20	65	10	10	10	10	40
Future Volume (vph)	160	330	40	60	10	20	65	10	10	10	10	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.98					0.99				0.97	
Flpb, ped/bikes		0.99					1.00				0.95	
Frt		0.98					0.99				0.92	
Flt Protected		0.99					0.99				0.99	
Satd. Flow (prot)		1445					1257				1095	
Flt Permitted		0.88					0.73				0.89	
Satd. Flow (perm)		1287					934				984	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	186	384	47	70	12	23	76	12	12	12	12	47
RTOR Reduction (vph)	0	0	0	0	0	0	5	0	0	0	27	0
Lane Group Flow (vph)	0	687	0	0	0	0	118	0	0	0	56	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		24.0					24.0				32.0	
Effective Green, g (s)		24.0					24.0				32.0	
Actuated g/C Ratio		0.32					0.32				0.43	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		411					298				419	
v/s Ratio Prot												
v/s Ratio Perm		c0.53					0.13				0.06	
v/c Ratio		1.67					0.39				0.13	
Uniform Delay, d1		25.5					19.8				13.1	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		312.7					0.9				0.1	
Delay (s)		338.2					20.7				13.2	
Level of Service		F					C				B	
Approach Delay (s)		338.2					20.7				13.2	
Approach LOS		F					C				B	

Intersection Summary			
HCM 2000 Control Delay	222.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	160	10	50	80	10	90	140	10
Future Volume (vph)	160	10	50	80	10	90	140	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	1.00	
Frpb, ped/bikes		0.92		0.72		1.00	0.81	
Flpb, ped/bikes		1.00		1.00		0.90	1.00	
Frt		0.96		0.85		1.00	0.85	
Flt Protected		0.97		1.00		0.95	1.00	
Satd. Flow (prot)		1252		888		1311	1058	
Flt Permitted		0.74		1.00		0.95	1.00	
Satd. Flow (perm)		958		888		1311	1058	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	186	12	58	93	12	105	163	12
RTOR Reduction (vph)	0	2	0	48	0	0	97	0
Lane Group Flow (vph)	0	263	0	36	0	117	78	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		32.0		32.0		4.0	4.0	
Effective Green, g (s)		32.0		32.0		4.0	4.0	
Actuated g/C Ratio		0.43		0.43		0.05	0.05	
Clearance Time (s)		5.0		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		408		378		69	56	
v/s Ratio Prot								
v/s Ratio Perm		c0.27		0.04		0.09	0.07	
v/c Ratio		0.65		0.09		1.70	1.40	
Uniform Delay, d1		17.0		12.8		35.5	35.5	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		3.5		0.1		367.2	258.7	
Delay (s)		20.5		13.0		402.7	294.2	
Level of Service		C		B		F	F	
Approach Delay (s)		18.7				337.7		
Approach LOS		B				F		

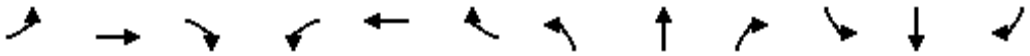
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	140	0	0	530	50	252	350	310	10	0	80
Future Volume (vph)	140	140	0	0	530	50	252	350	310	10	0	80
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.88	
Flt Protected		0.98			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1267			2047	702	1459	2672			1329	
Flt Permitted		0.55			1.00	1.00	0.70	1.00			0.91	
Satd. Flow (perm)		711			2047	702	1068	2672			1221	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	147	0	0	558	53	265	368	326	11	0	84
RTOR Reduction (vph)	0	0	0	0	0	0	0	206	0	0	0	0
Lane Group Flow (vph)	0	294	0	0	558	53	265	488	0	0	95	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		331			955	327	391	979			447	
v/s Ratio Prot					0.27			0.18				
v/s Ratio Perm		c0.41				0.08	c0.25				0.08	
v/c Ratio		0.89			0.58	0.16	0.68	0.50			0.21	
Uniform Delay, d1		14.6			11.7	9.2	16.0	14.7			13.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		27.8			2.6	1.1	9.1	1.8			1.1	
Delay (s)		42.4			14.3	10.3	25.1	16.5			14.1	
Level of Service		D			B	B	C	B			B	
Approach Delay (s)		42.4			14.0			18.9			14.1	
Approach LOS		D			B			B			B	

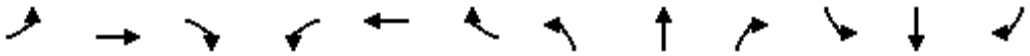
Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	450	20	0	60	30	10	410	140	730	130	0
Future Volume (vph)	340	450	20	0	60	30	10	410	140	730	130	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0	3.0		3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.87		0.94		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		1.00			1.00	0.85		0.96		1.00	1.00	
Flt Protected		0.98			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1224			1482	1092		2635		1459	1535	
Flt Permitted		0.98			1.00	1.00		0.95		0.27	1.00	
Satd. Flow (perm)		1224			1482	1092		2505		414	1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	362	479	21	0	64	32	11	436	149	777	138	0
RTOR Reduction (vph)	0	1	0	0	0	22	0	36	0	0	0	0
Lane Group Flow (vph)	0	861	0	0	64	10	0	560	0	777	138	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA			NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases						4	2			6		
Actuated Green, G (s)		24.0			24.0	24.0		24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0	27.0		27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29	0.30		0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)		367			428	327		751		128	477	
v/s Ratio Prot		c0.70			c0.04						0.09	
v/s Ratio Perm						0.01		0.22		c1.88		
v/c Ratio		2.35			0.15	0.03		0.75		6.07	0.29	
Uniform Delay, d1		31.5			23.8	22.2		28.4		31.0	23.5	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		614.5			0.7	0.2		6.6		2298.4	1.5	
Delay (s)		646.0			24.5	22.4		35.0		2329.4	25.0	
Level of Service		F			C	C		D		F	C	
Approach Delay (s)		646.0			23.8			35.0			1981.8	
Approach LOS		F			C			D			F	

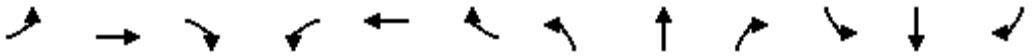
Intersection Summary			
HCM 2000 Control Delay	969.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	135.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	320	60	60	260	70	20	290	60	70	412	160
Future Volume (vph)	260	320	60	60	260	70	20	290	60	70	412	160
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.95			0.91			0.95			0.93	
Flpb, ped/bikes		0.89			0.97			0.99			0.98	
Frt		0.99			0.97			0.98			0.96	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		2226			2311			2657			2325	
Flt Permitted		0.66			0.81			0.91			0.87	
Satd. Flow (perm)		1490			1886			2430			2032	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	337	63	63	274	74	21	305	63	74	434	168
RTOR Reduction (vph)	0	12	0	0	18	0	0	0	0	0	20	0
Lane Group Flow (vph)	0	662	0	0	393	0	0	389	0	0	656	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		695			880			1134			914	
v/s Ratio Prot												
v/s Ratio Perm		c0.44			0.21			0.16			c0.32	
v/c Ratio		1.08dl			0.45			0.34			0.72	
Uniform Delay, d1		15.4			10.8			10.2			13.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		24.4			1.6			0.8			4.8	
Delay (s)		39.7			12.4			11.0			18.2	
Level of Service		D			B			B			B	
Approach Delay (s)		39.7			12.4			11.0			18.2	
Approach LOS		D			B			B			B	

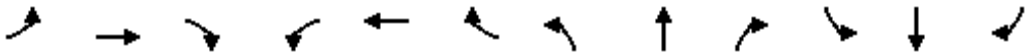
Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	586	779	60	0	0	0	0	510	110	50	642	0
Future Volume (vph)	586	779	60	0	0	0	0	510	110	50	642	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						3.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	0.65		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		0.99	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4118						1588	823		1537	
Flt Permitted	0.95	1.00						1.00	1.00		0.93	
Satd. Flow (perm)	2830	4118						1588	823		1442	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	623	829	64	0	0	0	0	543	117	53	683	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	623	883	0	0	0	0	0	543	117	0	736	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2								4	4		
Actuated Green, G (s)	27.0	27.0						53.0	53.0		53.0	
Effective Green, g (s)	28.5	28.5						54.5	54.5		54.5	
Actuated g/C Ratio	0.32	0.32						0.61	0.61		0.61	
Clearance Time (s)	5.0	5.0						5.0	5.0		5.0	
Lane Grp Cap (vph)	896	1304						961	498		873	
v/s Ratio Prot		0.21						0.34				
v/s Ratio Perm	c0.22								0.14		c0.51	
v/c Ratio	0.70	0.68						0.57	0.23		0.84	
Uniform Delay, d1	26.9	26.8						10.6	8.2		14.3	
Progression Factor	0.76	0.76						1.00	1.00		1.00	
Incremental Delay, d2	0.4	0.3						2.4	1.1		9.7	
Delay (s)	20.9	20.6						13.0	9.3		24.0	
Level of Service	C	C						B	A		C	
Approach Delay (s)		20.7			0.0			12.4			24.0	
Approach LOS		C			A			B			C	

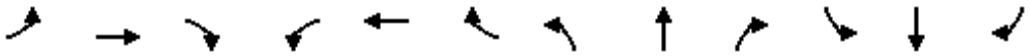
Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1100	1340	0	0	0	0	0	1485	345	0	0	0
Future Volume (vph)	1100	1340	0	0	0	0	0	1485	345	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.95				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.97				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		4987						3720				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		4987						3720				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1146	1396	0	0	0	0	0	1547	359	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2542	0	0	0	0	0	1906	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1690						1054				
v/s Ratio Prot								c0.51				
v/s Ratio Perm		0.51										
v/c Ratio		2.40dl						1.81				
Uniform Delay, d1		29.8						32.2				
Progression Factor		1.04						1.00				
Incremental Delay, d2		227.9						367.5				
Delay (s)		258.8						399.8				
Level of Service		F						F				
Approach Delay (s)		258.8			0.0			399.8			0.0	
Approach LOS		F			A			F			A	

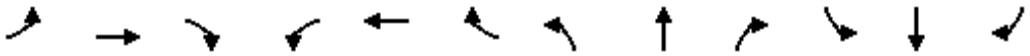
Intersection Summary			
HCM 2000 Control Delay	319.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	123.2%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1240	170	204	1849	142	0	0	0
Future Volume (vph)	0	0	0	0	1240	170	204	1849	142	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.97			0.96				
Flpb, ped/bikes					1.00			1.00				
Frt					0.98			0.99				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					2662			3839				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					2662			3839				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1319	181	217	1967	151	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1488	0	0	2335	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					931			1130				
v/s Ratio Prot					c0.56			c0.61				
v/s Ratio Perm												
v/c Ratio					1.60			2.07				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.81				
Incremental Delay, d2					274.4			480.1				
Delay (s)					303.7			506.0				
Level of Service					F			F				
Approach Delay (s)		0.0			303.7			506.0			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	426.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
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)	0	0	0	0	1160	300	200	1609	0	0	0	0
Future Volume (vph)	0	0	0	0	1160	300	200	1609	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.93			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3227			2907				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3227			2907				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1234	319	213	1712	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	51	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1502	0	0	1925	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1129			985				
v/s Ratio Prot					c0.47			c0.66				
v/s Ratio Perm												
v/c Ratio					1.33			1.95				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.38				
Incremental Delay, d2					154.7			429.8				
Delay (s)					184.0			441.0				
Level of Service					F			F				
Approach Delay (s)		0.0			184.0			441.0			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	326.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Traffic Volume (vph)	1130	471	0	100	626	1280	77
Future Volume (vph)	1130	471	0	100	626	1280	77
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00		1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.64	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5099	1212		903	2605	4121	1122
Flt Permitted	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5099	1212		903	2605	4121	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1242	518	0	110	688	1407	85
RTOR Reduction (vph)	0	172	0	78	0	0	0
Lane Group Flow (vph)	1242	346	0	32	688	1416	76
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0		24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0		26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350		260	752	1282	349
v/s Ratio Prot	0.24				c0.26	c0.34	
v/s Ratio Perm		c0.29		0.04			0.07
v/c Ratio	0.84	0.99		0.12	0.91	1.10	0.22
Uniform Delay, d1	30.1	31.8		23.6	30.9	31.0	22.9
Progression Factor	1.00	1.00		0.95	0.92	1.00	1.00
Incremental Delay, d2	6.1	45.3		1.0	17.3	58.9	1.4
Delay (s)	36.1	77.1		23.4	45.6	89.9	24.3
Level of Service	D	E		C	D	F	C
Approach Delay (s)	48.2				42.6	86.5	
Approach LOS	D				D	F	

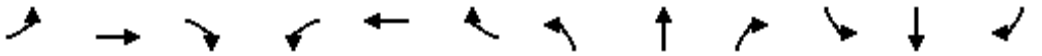
Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	150	804	630	316	450	160
Future Volume (vph)	150	804	630	316	450	160
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.94	0.85	0.85
Flt Protected	0.95		0.97	1.00	1.00	1.00
Satd. Flow (prot)	1115		3827	2295	1013	1099
Flt Permitted	0.95		0.97	1.00	1.00	1.00
Satd. Flow (perm)	1115		3827	2295	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	153	820	643	322	459	163
RTOR Reduction (vph)	0	0	0	0	0	74
Lane Group Flow (vph)	138	0	1478	538	243	89
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1641	1104	521	565
v/s Ratio Prot				0.23		
v/s Ratio Perm	0.12		0.39		c0.24	0.08
v/c Ratio	0.29		1.43dl	0.49	0.47	0.16
Uniform Delay, d1	16.8		23.9	15.8	14.0	11.5
Progression Factor	1.43		1.23	1.23	1.32	3.04
Incremental Delay, d2	0.1		0.9	1.3	2.6	0.5
Delay (s)	24.1		30.2	20.8	21.1	35.6
Level of Service	C		C	C	C	D
Approach Delay (s)			29.7	23.4		
Approach LOS			C	C		

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	400	960	0	0	0	0	0	416	200
Future Volume (vph)	0	0	0	400	960	0	0	0	0	0	416	200
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	408	980	0	0	0	0	0	424	204
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	408	980	0	0	0	0	0	424	204
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				c0.28	0.23						0.15	
v/s Ratio Perm												c0.24
v/c Ratio				0.75	0.63						0.43	0.69
Uniform Delay, d1				24.6	23.2						22.7	25.3
Progression Factor				1.15	1.14						1.00	1.00
Incremental Delay, d2				0.9	0.2						1.3	12.2
Delay (s)				29.2	26.6						24.0	37.6
Level of Service				C	C						C	D
Approach Delay (s)		0.0			27.4			0.0			28.4	
Approach LOS		A			C			A			C	

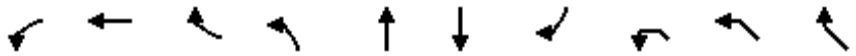
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	150	450	870	180	460	320	110	270	291	1020
Future Volume (vph)	150	450	870	180	460	320	110	270	291	1020
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.77	1.00	0.86			1.00	1.00
Flpb, ped/bikes		0.87	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2098	2518	968	1535	1164			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.35	1.00
Satd. Flow (perm)		2098	2518	968	1535	1164			1003	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	161	484	935	194	495	344	118	290	313	1097
RTOR Reduction (vph)	0	0	0	26	0	22	0	0	0	0
Lane Group Flow (vph)	0	597	983	168	495	440	0	0	603	1097
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		28.0	28.0	28.0	35.0	35.0			35.0	35.0
Effective Green, g (s)		28.0	30.5	30.0	36.5	37.0			36.5	36.5
Actuated g/C Ratio		0.37	0.41	0.40	0.49	0.49			0.49	0.49
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		783	1023	387	747	574			488	635
v/s Ratio Prot			c0.39		0.32					c0.84
v/s Ratio Perm		0.28		0.17		0.38			0.60	
v/c Ratio		0.76	0.96	0.43	0.66	0.77			1.24	1.73
Uniform Delay, d1		20.6	21.7	16.3	14.6	15.5			19.2	19.2
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.36	1.36
Incremental Delay, d2		6.9	20.2	3.5	4.6	9.4			107.8	328.0
Delay (s)		27.5	41.8	19.8	19.2	24.9			133.9	354.1
Level of Service		C	D	B	B	C			F	F
Approach Delay (s)			34.6		21.9					276.0
Approach LOS			C		C					F

Intersection Summary			
HCM 2000 Control Delay	124.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



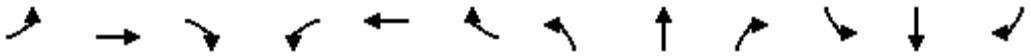
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	60	680	160	60	440	760	270	431	690	450
Future Volume (vph)	60	680	160	60	440	760	270	431	690	450
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.98			1.00	0.95			0.98	0.87
Flpb, ped/bikes		1.00			1.00	1.00			0.83	1.00
Frt		0.97			1.00	0.96			0.99	0.85
Flt Protected		1.00			0.99	1.00			0.96	1.00
Satd. Flow (prot)		4974			2871	2444			3366	979
Flt Permitted		1.00			0.56	1.00			0.96	1.00
Satd. Flow (perm)		4974			1611	2444			3366	979
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	65	731	172	65	473	817	290	468	742	484
RTOR Reduction (vph)	0	31	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	937	0	0	538	1096	0	0	1302	392
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		22.0			20.0	20.0			19.0	19.0
Effective Green, g (s)		24.0			23.0	23.0			22.0	22.0
Actuated g/C Ratio		0.32			0.31	0.31			0.29	0.29
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1591			494	749			987	287
v/s Ratio Prot						c0.45				
v/s Ratio Perm		0.19			0.33				0.39	c0.40
v/c Ratio		0.59			1.09	1.46			1.32	1.37
Uniform Delay, d1		21.4			26.0	26.0			26.5	26.5
Progression Factor		1.00			0.72	1.00			1.00	1.00
Incremental Delay, d2		1.6			61.0	215.8			150.8	185.4
Delay (s)		23.0			79.6	241.8			177.3	211.9
Level of Service		C			E	F			F	F
Approach Delay (s)		23.0			79.6	241.8			185.3	
Approach LOS		C			E	F			F	

Intersection Summary			
HCM 2000 Control Delay	150.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	114.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	260	1759	80	69	513
Future Volume (vph)	10	260	1759	80	69	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3041		1534	3079
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1540	1378	3041		86	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	289	1954	89	77	570
RTOR Reduction (vph)	0	10	3	0	0	0
Lane Group Flow (vph)	11	279	2040	0	77	570
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2067		58	2093
v/s Ratio Prot	0.01		0.67			0.19
v/s Ratio Perm		c0.20			c0.89	
v/c Ratio	0.03	0.87	0.99		1.33	0.27
Uniform Delay, d1	32.6	40.6	17.1		17.6	6.9
Progression Factor	1.00	1.00	1.00		2.83	0.60
Incremental Delay, d2	0.2	26.3	17.0		158.0	0.0
Delay (s)	32.8	66.9	34.1		207.9	4.2
Level of Service	C	E	C		F	A
Approach Delay (s)	65.7		34.1			28.4
Approach LOS	E		C			C

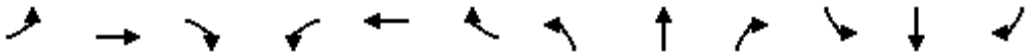
Intersection Summary			
HCM 2000 Control Delay	36.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	68	203	27	31	95	40	1554	253	6	477	40
Future Volume (vph)	190	68	203	27	31	95	40	1554	253	6	477	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.98		1.00	0.99	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1558	1342		1453		1459	2824		1540	3026	
Flt Permitted		0.64	1.00		0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1034	1342		1334		1459	2824		1540	3026	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	213	76	228	30	35	107	45	1746	284	7	536	45
RTOR Reduction (vph)	0	0	155	0	59	0	0	13	0	0	6	0
Lane Group Flow (vph)	0	289	73	0	113	0	45	2017	0	7	575	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		331	430		428		215	1002		254	1134	
v/s Ratio Prot							0.03	c0.71		0.00	c0.19	
v/s Ratio Perm		c0.28	0.05		0.08							
v/c Ratio		0.87	0.17		0.26		0.21	2.01		0.03	0.51	
Uniform Delay, d1		32.0	24.4		25.2		37.5	32.2		35.0	24.1	
Progression Factor		1.00	1.00		1.00		1.50	1.02		1.00	1.00	
Incremental Delay, d2		25.8	0.9		1.5		0.2	456.2		0.2	1.6	
Delay (s)		57.8	25.2		26.7		56.3	489.2		35.2	25.7	
Level of Service		E	C		C		E	F		D	C	
Approach Delay (s)		43.4			26.7			479.8			25.8	
Approach LOS		D			C			F			C	

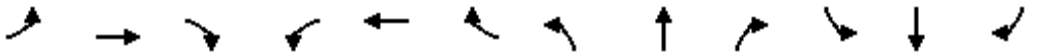
Intersection Summary			
HCM 2000 Control Delay	309.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	118.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	212	70	166	8	79	30	1798	125	140	527	30
Future Volume (vph)	30	212	70	166	8	79	30	1798	125	140	527	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.96		1.00	0.99		1.00	0.99	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1320			1475		1418	2785		1540	3039	
Flt Permitted		0.95			0.48		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1259			734		1418	2785		1540	3039	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	33	233	77	182	9	87	33	1976	137	154	579	33
RTOR Reduction (vph)	0	10	0	0	16	0	0	5	0	0	4	0
Lane Group Flow (vph)	0	333	0	0	262	0	33	2108	0	154	608	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		7.0	50.8		1.0	44.9	
Effective Green, g (s)		32.7			32.7		7.0	50.8		1.0	44.9	
Actuated g/C Ratio		0.33			0.33		0.07	0.51		0.01	0.45	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		411			240		99	1414		15	1364	
v/s Ratio Prot							0.02	c0.76		c0.10	0.20	
v/s Ratio Perm		0.26			c0.36							
v/c Ratio		0.81			1.09		0.33	1.49		10.27	0.45	
Uniform Delay, d1		30.8			33.6		44.3	24.6		49.5	19.0	
Progression Factor		1.00			1.00		1.15	0.74		0.74	0.79	
Incremental Delay, d2		15.8			84.5		0.8	221.2		4286.2	0.9	
Delay (s)		46.6			118.2		51.6	239.4		4323.0	16.0	
Level of Service		D			F		D	F		F	B	
Approach Delay (s)		46.6			118.2			236.6			881.9	
Approach LOS		D			F			F			F	

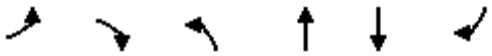
Intersection Summary			
HCM 2000 Control Delay	348.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	145.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	130	10	20	30	111	20	108	30	271	258	190
Future Volume (vph)	20	130	10	20	30	111	20	108	30	271	258	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.99	1.00	0.99		1.00	0.91	
Flpb, ped/bikes		1.00			1.00	1.00	0.91	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.97		1.00	0.94	
Flt Protected		0.99			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1352			1585	1358	1175	1302		1296	1162	
Flt Permitted		0.95			0.87	1.00	0.49	1.00		0.95	1.00	
Satd. Flow (perm)		1299			1413	1358	601	1302		1296	1162	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	141	11	22	33	121	22	117	33	295	280	207
RTOR Reduction (vph)	0	4	0	0	0	59	0	14	0	0	26	0
Lane Group Flow (vph)	0	170	0	0	55	62	22	136	0	295	461	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		10.5			10.5	27.4	10.9	10.9		16.9	32.8	
Effective Green, g (s)		10.5			10.5	27.4	10.9	10.9		16.9	32.8	
Actuated g/C Ratio		0.20			0.20	0.51	0.20	0.20		0.32	0.62	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		255			278	825	122	266		410	715	
v/s Ratio Prot						0.02		0.10		0.23	c0.40	
v/s Ratio Perm		c0.13			0.04	0.02	0.04					
v/c Ratio		0.67			0.20	0.08	0.18	0.51		0.72	0.64	
Uniform Delay, d1		19.8			17.9	6.5	17.5	18.8		16.1	6.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.4			0.4	0.0	0.7	1.7		6.0	2.0	
Delay (s)		26.2			18.2	6.6	18.2	20.5		22.1	8.5	
Level of Service		C			B	A	B	C		C	A	
Approach Delay (s)		26.2			10.2			20.2			13.6	
Approach LOS		C			B			C			B	

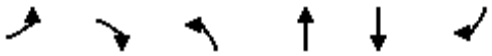
Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	20	135	178	327	110	10
Future Volume (vph)	20	135	178	327	110	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	23	153	202	372	125	11

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	23	153	326	248	83	53
Volume Left (vph)	23	0	202	0	0	0
Volume Right (vph)	0	153	0	0	0	11
Hadj (s)	0.53	-0.67	0.34	0.03	0.03	-0.11
Departure Headway (s)	6.7	5.5	5.5	5.2	5.7	5.5
Degree Utilization, x	0.04	0.23	0.50	0.36	0.13	0.08
Capacity (veh/h)	501	611	639	674	601	616
Control Delay (s)	8.8	8.9	12.7	9.9	8.3	7.8
Approach Delay (s)	8.9		11.5		8.1	
Approach LOS	A		B		A	

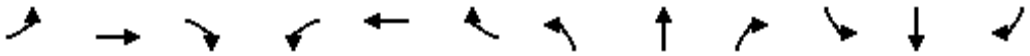
Intersection Summary				
Delay	10.4			
Level of Service	B			
Intersection Capacity Utilization	30.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	100	25	100	595	185	50
Future Volume (Veh/h)	100	25	100	595	185	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	120	30	120	717	223	60
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	866	156	295			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	866	156	295			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	54	96	90			
cM capacity (veh/h)	261	853	1252			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	150	359	478	149	134
Volume Left	120	120	0	0	0
Volume Right	30	0	0	0	60
cSH	303	1252	1700	1700	1700
Volume to Capacity	0.49	0.10	0.28	0.09	0.08
Queue Length 95th (ft)	65	8	0	0	0
Control Delay (s)	27.9	3.3	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	27.9	1.4		0.0	
Approach LOS	D				

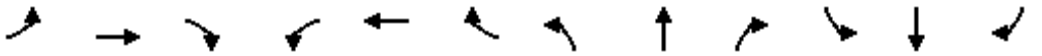
Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	220	190	30	130	140	440	1506	90	90	340	294
Future Volume (vph)	347	220	190	30	130	140	440	1506	90	90	340	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.99	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	0.92		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1527	1378	1136	1533	1472		2987	3044		1540	2810	
Flt Permitted	0.47	1.00	1.00	0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	750	1378	1136	866	1472		2987	3044		1540	2810	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	369	234	202	32	138	149	468	1602	96	96	362	313
RTOR Reduction (vph)	0	0	132	0	39	0	0	4	0	0	157	0
Lane Group Flow (vph)	369	234	70	32	248	0	468	1694	0	96	518	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		12.0	45.8		4.0	37.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		12.0	45.8		4.0	37.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.12	0.46		0.04	0.38	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	258	475	391	298	507		358	1394		61	1062	
v/s Ratio Prot		0.17			0.17		0.16	c0.56		c0.06	0.18	
v/s Ratio Perm	c0.49		0.06	0.04								
v/c Ratio	1.43	0.49	0.18	0.11	0.49		1.31	1.21		1.57	0.49	
Uniform Delay, d1	32.8	25.8	22.9	22.3	25.8		44.0	27.1		48.0	23.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.84	0.90		0.83	0.68	
Incremental Delay, d2	214.5	3.6	1.0	0.7	3.4		140.2	97.4		310.9	1.3	
Delay (s)	247.3	29.5	23.9	23.0	29.2		177.0	121.9		350.6	17.4	
Level of Service	F	C	C	C	C		F	F		F	B	
Approach Delay (s)		127.9			28.6			133.8			58.9	
Approach LOS		F			C			F			E	

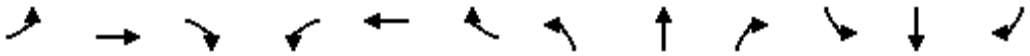
Intersection Summary			
HCM 2000 Control Delay	110.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	804	200	131	533	180	120	360	143	80	240	80
Future Volume (vph)	340	804	200	131	533	180	120	360	143	80	240	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1540	1378	1378	1540	1621	1331	1540	2948			3040	1341
Flt Permitted	0.95	1.00	1.00	0.11	1.00	1.00	0.54	1.00			0.99	1.00
Satd. Flow (perm)	1540	1378	1378	180	1621	1331	878	2948			3040	1341
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	378	893	217	142	592	200	130	391	155	89	261	89
RTOR Reduction (vph)	0	0	28	0	0	62	0	25	0	0	0	75
Lane Group Flow (vph)	378	893	189	142	592	138	130	521	0	0	350	14
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases	5	2			6			8		4	4	
Permitted Phases			2	6		6	8					4
Actuated Green, G (s)	27.8	68.8	68.8	36.0	36.0	36.0	39.3	39.3			22.9	22.9
Effective Green, g (s)	27.8	68.8	68.8	36.0	36.0	36.0	39.3	39.3			22.9	22.9
Actuated g/C Ratio	0.19	0.47	0.47	0.25	0.25	0.25	0.27	0.27			0.16	0.16
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	295	653	653	44	402	330	237	799			480	211
v/s Ratio Prot	0.25	c0.65			0.37			c0.18			c0.12	
v/s Ratio Perm			0.14	c0.79		0.10	0.15					0.01
v/c Ratio	1.28	1.37	0.29	3.23	1.47	0.42	0.55	0.65			0.73	0.07
Uniform Delay, d1	58.6	38.1	23.2	54.5	54.5	45.7	45.3	46.8			58.1	52.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	150.1	175.1	1.1	1058.4	225.8	0.9	2.6	1.9			5.5	0.1
Delay (s)	208.7	213.2	24.3	1112.9	280.3	46.6	47.8	48.7			63.6	52.1
Level of Service	F	F	C	F	F	D	D	D			E	D
Approach Delay (s)		184.5			356.8			48.6			61.3	
Approach LOS		F			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	188.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



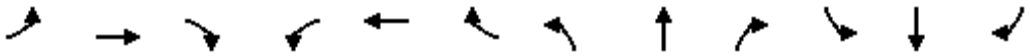
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	873	90	60	374	299	60	320	150	321	80	50
Future Volume (vph)	150	873	90	60	374	299	60	320	150	321	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1890	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.88	1.00	1.00	0.93	1.00	0.97	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1358	1063		1609	1217	1540	1612	1085	1540	1482	
Flt Permitted		0.70	1.00		0.19	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		956	1063		309	1217	1540	1612	1085	1540	1482	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	919	95	63	394	315	63	337	158	338	84	53
RTOR Reduction (vph)	0	0	43	0	0	56	0	0	54	0	25	0
Lane Group Flow (vph)	0	1077	52	0	457	259	63	337	104	338	112	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.0	60.0		60.0	70.0	21.0	24.4	24.4	10.0	13.4	
Effective Green, g (s)		60.0	60.0		60.0	70.0	21.0	24.4	24.4	10.0	13.4	
Actuated g/C Ratio		0.55	0.55		0.55	0.64	0.19	0.22	0.22	0.09	0.12	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		524	582		169	834	295	359	241	140	181	
v/s Ratio Prot						0.03	0.04	c0.21		c0.22	0.08	
v/s Ratio Perm		1.13	0.05		c1.48	0.18			0.10			
v/c Ratio		2.06	0.09		2.70	0.31	0.21	0.94	0.43	2.41	0.62	
Uniform Delay, d1		24.7	11.7		24.7	8.9	37.2	41.8	36.6	49.7	45.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		481.5	0.1		783.4	0.2	0.4	31.7	1.2	657.7	6.1	
Delay (s)		506.2	11.8		808.1	9.1	37.6	73.5	37.8	707.4	51.7	
Level of Service		F	B		F	A	D	E	D	F	D	
Approach Delay (s)		466.1			482.1			59.3			518.3	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	402.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.21		
Actuated Cycle Length (s)	109.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	141.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	230	739	230	390	581
Future Volume (vph)	50	230	739	230	390	581
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1109	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1109	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	237	762	237	402	599
RTOR Reduction (vph)	0	215	0	49	0	0
Lane Group Flow (vph)	52	22	762	188	402	599
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.9	8.9	41.0	36.0	32.0	78.0
Effective Green, g (s)	8.9	8.9	41.0	36.0	32.0	78.0
Actuated g/C Ratio	0.09	0.09	0.42	0.37	0.33	0.80
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	141	222	808	469	427	879
v/s Ratio Prot	c0.03		c0.40	0.02	c0.31	0.55
v/s Ratio Perm		0.01		0.15		
v/c Ratio	0.37	0.10	0.94	0.40	0.94	0.68
Uniform Delay, d1	41.4	40.3	26.8	22.5	31.5	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.2	19.1	0.6	29.1	2.2
Delay (s)	43.0	40.5	45.9	23.0	60.7	6.3
Level of Service	D	D	D	C	E	A
Approach Delay (s)	41.0		40.5			28.1
Approach LOS	D		D			C

Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	96.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

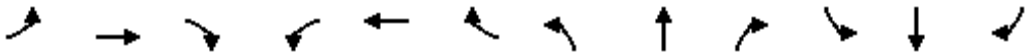
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	90	525	40	40	165	10	30	20	190	10	60	10
Future Volume (vph)	90	525	40	40	165	10	30	20	190	10	60	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	103	603	46	46	190	11	34	23	218	11	69	11

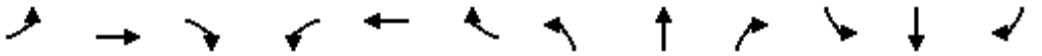
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	752	46	201	57	218	91
Volume Left (vph)	103	46	0	34	0	11
Volume Right (vph)	46	0	11	0	218	11
Hadj (s)	0.02	0.53	0.00	0.33	-0.67	-0.01
Departure Headway (s)	6.2	7.2	6.6	7.5	6.5	7.6
Degree Utilization, x	1.30	0.09	0.37	0.12	0.39	0.19
Capacity (veh/h)	565	483	524	465	537	446
Control Delay (s)	166.7	9.7	12.3	10.3	12.5	12.4
Approach Delay (s)	166.7	11.8		12.0		12.4
Approach LOS	F	B		B		B

Intersection Summary				
Delay	97.2			
Level of Service	F			
Intersection Capacity Utilization	66.8%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	512	633	80	15	180	30	100	1504	142	40	341	179
Future Volume (vph)	512	633	80	15	180	30	100	1504	142	40	341	179
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.96	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98			0.98		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1734	1855			3311		1711	3352		1711	3206	
Flt Permitted	0.60	1.00			0.68		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1103	1855			2257		1711	3352		1711	3206	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	539	666	84	16	189	32	105	1583	149	42	359	188
RTOR Reduction (vph)	0	5	0	0	12	0	0	7	0	0	68	0
Lane Group Flow (vph)	539	745	0	0	225	0	105	1725	0	42	479	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.7	32.7			32.7		12.1	48.3		3.5	39.7	
Effective Green, g (s)	32.7	32.7			32.7		12.1	48.3		3.5	39.7	
Actuated g/C Ratio	0.33	0.33			0.33		0.12	0.48		0.04	0.40	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	360	606			738		207	1619		59	1272	
v/s Ratio Prot		0.40					0.06	c0.51		c0.02	0.15	
v/s Ratio Perm	c0.49				0.10							
v/c Ratio	1.50	1.23			0.30		0.51	1.07		0.71	0.38	
Uniform Delay, d1	33.6	33.6			25.2		41.2	25.9		47.8	21.4	
Progression Factor	1.00	1.00			1.00		0.81	0.72		1.23	0.66	
Incremental Delay, d2	237.9	117.4			1.1		8.2	41.5		49.0	0.8	
Delay (s)	271.6	151.1			26.2		41.4	60.3		107.8	15.0	
Level of Service	F	F			C		D	E		F	B	
Approach Delay (s)		201.5			26.2			59.2			21.6	
Approach LOS		F			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	98.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	128.3%	ICU Level of Service	H
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)	70	200	0	0	430	160	900	713	1235	0	0	171
Future Volume (vph)	70	200	0	0	430	160	900	713	1235	0	0	171
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.96		1.00	0.91				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2843			3964		1350	3102				2694
Flt Permitted		0.64			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1842			3964		1350	3102				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	76	206	0	0	443	174	928	775	1273	0	0	186
RTOR Reduction (vph)	0	0	0	0	64	0	0	128	0	0	0	60
Lane Group Flow (vph)	0	282	0	0	553	0	928	1920	0	0	0	126
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		28.5			28.5		74.5	74.0				74.5
Effective Green, g (s)		28.5			28.5		74.5	74.0				74.5
Actuated g/C Ratio		0.26			0.26		0.68	0.67				0.68
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		477			1027		914	2086				1824
v/s Ratio Prot					0.14		c0.69	0.62				
v/s Ratio Perm		c0.15										0.05
v/c Ratio		0.59			0.54		1.02	1.10dr				0.07
Uniform Delay, d1		35.7			35.1		17.8	15.5				6.0
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		5.3			0.5		33.6	7.3				0.0
Delay (s)		41.0			35.6		51.4	22.7				6.0
Level of Service		D			D		D	C				A
Approach Delay (s)		41.0			35.6			31.7			6.0	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	142.3%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	260	150	580	910	0	0
Future Volume (vph)	260	150	580	910	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	1.00	0.96	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.99	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1283	1057	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1283	1057	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	268	155	598	938	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	284	139	598	938	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	18.8	18.8	13.2	40.0		
Effective Green, g (s)	18.8	18.8	13.2	40.0		
Actuated g/C Ratio	0.47	0.47	0.33	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	603	496	829	1365		
v/s Ratio Prot	0.22		0.24	c0.69		
v/s Ratio Perm		0.13				
v/c Ratio	0.47	0.28	0.72	0.69		
Uniform Delay, d1	7.2	6.5	11.8	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.6	0.3	3.1	1.5		
Delay (s)	7.8	6.8	14.9	1.5		
Level of Service	A	A	B	A		
Approach Delay (s)	7.5			6.7	0.0	
Approach LOS	A			A	A	

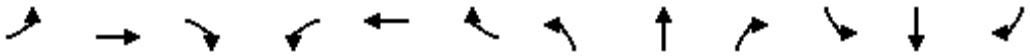
Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	40	60	100	50	30	0	1006	150	0	445	30
Future Volume (vph)	50	40	60	100	50	30	0	1006	150	0	445	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.95			0.98			0.98			0.99	
Flt Protected		0.98			0.97			1.00			1.00	
Satd. Flow (prot)		1274			1310			2788			2838	
Flt Permitted		0.84			0.71			1.00			1.00	
Satd. Flow (perm)		1089			956			2788			2838	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	51	41	61	102	51	31	0	1027	153	0	454	31
RTOR Reduction (vph)	0	27	0	0	9	0	0	9	0	0	4	0
Lane Group Flow (vph)	0	126	0	0	175	0	0	1171	0	0	481	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		22.4			22.4			67.7			67.7	
Effective Green, g (s)		22.4			22.4			67.7			67.7	
Actuated g/C Ratio		0.22			0.22			0.68			0.68	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		243			214			1887			1921	
v/s Ratio Prot								c0.42			0.17	
v/s Ratio Perm		0.12			c0.18							
v/c Ratio		0.52			0.82			0.62			0.25	
Uniform Delay, d1		34.1			36.9			9.0			6.3	
Progression Factor		1.00			1.00			1.03			0.30	
Incremental Delay, d2		1.9			21.1			0.6			0.3	
Delay (s)		35.9			58.0			9.8			2.1	
Level of Service		D			E			A			A	
Approach Delay (s)		35.9			58.0			9.8			2.1	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

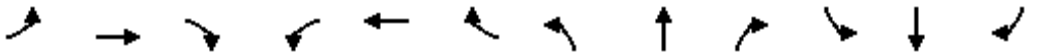
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	524	540	430	10	110	20	270	872	20	30	418	148
Future Volume (vph)	524	540	430	10	110	20	270	872	20	30	418	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1538	2678		1539	1580		1540	3068		1540	2901	
Flt Permitted	0.48	1.00		0.25	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	783	2678		409	1580		1540	3068		1540	2901	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	552	568	453	11	116	21	284	918	21	32	440	156
RTOR Reduction (vph)	0	147	0	0	7	0	0	2	0	0	38	0
Lane Group Flow (vph)	552	874	0	11	130	0	284	937	0	32	558	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	38.0	38.0		18.8	18.8		17.7	42.5		3.2	28.0	
Effective Green, g (s)	38.0	38.0		18.8	18.8		17.7	42.5		3.2	28.0	
Actuated g/C Ratio	0.38	0.38		0.19	0.19		0.18	0.42		0.03	0.28	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	402	1017		76	297		272	1303		49	812	
v/s Ratio Prot	c0.19	0.33			0.08		c0.18	c0.31		0.02	c0.19	
v/s Ratio Perm	c0.33			0.03								
v/c Ratio	1.37	0.86		0.14	0.44		1.04	0.72		0.65	0.69	
Uniform Delay, d1	29.4	28.5		33.9	35.9		41.1	23.8		47.9	32.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.02	1.09	
Incremental Delay, d2	183.0	7.4		0.9	1.0		66.6	3.4		26.3	4.5	
Delay (s)	212.4	35.9		34.8	36.9		107.7	27.3		75.3	39.4	
Level of Service	F	D		C	D		F	C		E	D	
Approach Delay (s)		97.9			36.8			45.9			41.2	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	67.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
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)	50	20	403	90	100	20	301	772	0	60	1111	100
Future Volume (vph)	50	20	403	90	100	20	301	772	0	60	1111	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			1.00		1.00	1.00		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1514	1348			1555		1540	2848		1540	3079	976
Flt Permitted	0.60	1.00			0.38		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	958	1348			600		1540	2848		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	21	424	95	105	21	317	813	0	63	1169	105
RTOR Reduction (vph)	0	250	0	0	3	0	0	0	0	0	0	69
Lane Group Flow (vph)	53	195	0	0	218	0	317	813	0	63	1169	36
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	331	466			207		231	970		211	1030	326
v/s Ratio Prot		0.14					c0.21	0.29		0.04	c0.38	
v/s Ratio Perm	0.06				c0.36							0.04
v/c Ratio	0.16	0.42			1.05		1.37	0.84		0.30	1.13	0.11
Uniform Delay, d1	24.9	27.5			36.0		46.8	33.4		42.7	36.6	25.3
Progression Factor	1.00	1.00			1.00		0.84	0.83		1.00	1.00	1.00
Incremental Delay, d2	1.0	2.8			76.9		180.3	4.3		3.6	73.0	0.7
Delay (s)	25.9	30.2			112.8		219.5	32.3		46.3	109.6	26.0
Level of Service	C	C			F		F	C		D	F	C
Approach Delay (s)		29.8			112.8			84.8			100.0	
Approach LOS		C			F			F			F	

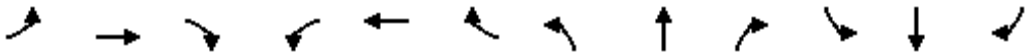
Intersection Summary			
HCM 2000 Control Delay	84.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	137.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	140	40	50	1063	0	954	400
Future Volume (vph)	140	40	50	1063	0	954	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00		1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079		3079	1018
Flt Permitted	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079		3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	43	54	1143	0	1026	430
RTOR Reduction (vph)	0	19	0	0	0	0	151
Lane Group Flow (vph)	151	24	54	1143	0	1026	279
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8		37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8		37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40		0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2		6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226		1035	342
v/s Ratio Prot	c0.12		0.04	c0.37		c0.33	
v/s Ratio Perm		0.02					0.27
v/c Ratio	0.33	0.06	0.25	0.93		0.99	0.81
Uniform Delay, d1	26.6	24.0	42.2	31.7		36.3	33.4
Progression Factor	1.00	1.00	0.57	0.63		0.69	0.65
Incremental Delay, d2	2.0	0.3	1.4	8.1		6.6	2.0
Delay (s)	28.5	24.4	25.3	28.0		31.5	23.7
Level of Service	C	C	C	C		C	C
Approach Delay (s)	27.6			27.9		29.2	
Approach LOS	C			C		C	

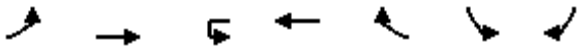
Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	10	20	10	10	10	70	1033	10	10	924	180
Future Volume (vph)	110	10	20	10	10	10	70	1033	10	10	924	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.98		1.00	1.00		1.00	0.96	
Flpb, ped/bikes		0.97			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1481			1487		1540	3069		1540	2875	
Flt Permitted		0.75			0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1156			1380		1540	3069		1540	2875	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	10	21	10	10	10	73	1076	10	10	962	188
RTOR Reduction (vph)	0	5	0	0	7	0	0	1	0	0	14	0
Lane Group Flow (vph)	0	141	0	0	23	0	73	1085	0	10	1137	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		399			476		210	1199		128	982	
v/s Ratio Prot							0.05	c0.35		0.01	c0.40	
v/s Ratio Perm		c0.12			0.02							
v/c Ratio		0.35			0.05		0.35	0.91		0.08	1.16	
Uniform Delay, d1		26.8			24.0		43.1	31.6		46.5	36.2	
Progression Factor		1.00			1.00		0.86	0.81		1.28	0.22	
Incremental Delay, d2		2.4			0.2		1.3	3.7		0.5	76.4	
Delay (s)		29.3			24.2		38.3	29.3		60.2	84.2	
Level of Service		C			C		D	C		E	F	
Approach Delay (s)		29.3			24.2			29.9			84.0	
Approach LOS		C			C			C			F	

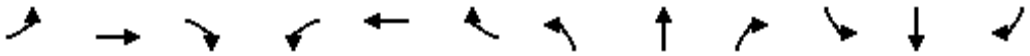
Intersection Summary			
HCM 2000 Control Delay	55.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	240	1183	0	1034	30	80	345
Future Volume (vph)	240	1183	0	1034	30	80	345
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2		6.6		6.8	6.8
Lane Util. Factor	1.00	0.95		0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00		0.99		1.00	0.69
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		1.00		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1459	2917		2876		1459	894
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1459	2917		2876		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	247	1220	0	1066	31	82	356
RTOR Reduction (vph)	0	0	0	2	0	0	232
Lane Group Flow (vph)	247	1220	0	1095	0	82	124
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8		36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8		36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41		0.33		0.35	0.35
Clearance Time (s)	6.6	5.2		6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188		951		506	310
v/s Ratio Prot	0.17	c0.42		c0.38		0.06	
v/s Ratio Perm							c0.14
v/c Ratio	1.21	1.03		1.15		0.16	0.40
Uniform Delay, d1	47.3	32.6		36.8		24.8	27.2
Progression Factor	1.45	0.76		1.73		1.00	1.00
Incremental Delay, d2	113.2	24.5		69.4		0.7	3.8
Delay (s)	181.8	49.2		132.9		25.5	31.0
Level of Service	F	D		F		C	C
Approach Delay (s)		71.6		132.9		30.0	
Approach LOS		E		F		C	

Intersection Summary			
HCM 2000 Control Delay	87.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

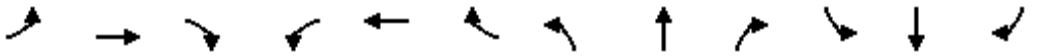
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	850	50	459	950	40	90	1727	523	0	0	0
Future Volume (vph)	930	850	50	459	950	40	90	1727	523	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.99		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	3034		2987	3029			5544	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	3034		2987	3029			5544	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	989	904	53	488	1011	43	96	1837	556	0	0	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	213	0	0	0
Lane Group Flow (vph)	989	953	0	488	1054	0	0	1933	343	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1026		358	927			1975	451			
v/s Ratio Prot	c0.23	0.31		0.16	c0.35							
v/s Ratio Perm								0.35	0.27			
v/c Ratio	1.38	0.93		1.36	1.14			0.98	0.76			
Uniform Delay, d1	45.9	35.1		48.4	38.1			35.0	31.3			
Progression Factor	1.10	1.14		0.67	0.93			1.26	1.82			
Incremental Delay, d2	170.7	1.9		169.4	66.6			8.9	3.3			
Delay (s)	221.3	42.1		201.8	102.0			52.9	60.2			
Level of Service	F	D		F	F			D	E			
Approach Delay (s)		133.2			133.6			54.6			0.0	
Approach LOS		F			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	100.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
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)	350	1650	144	30	980	30	186	250	110	50	922	600
Future Volume (vph)	350	1650	144	30	980	30	186	250	110	50	922	600
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	0.98		1.00	0.98			1.00	0.71	1.00	0.97	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98	1.00	0.89	1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3625		1459	2856			1472	911	1296	1407	698
Flt Permitted	0.95	1.00		0.95	1.00			0.07	1.00	0.26	1.00	1.00
Satd. Flow (perm)	1296	3625		1459	2856			112	911	356	1407	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	376	1774	155	32	1054	32	200	269	118	54	991	645
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	77	0	2	113
Lane Group Flow (vph)	376	1920	0	32	1084	0	0	469	41	54	1054	467
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1417		118	932			38	316	126	501	248
v/s Ratio Prot	c0.29	c0.53		0.02	c0.38						0.75	
v/s Ratio Perm								c4.18	0.05	0.15		0.67
v/c Ratio	2.22	1.36		0.27	1.16			12.34	0.13	0.43	2.10	1.88
Uniform Delay, d1	47.8	33.5		47.5	37.0			35.9	24.5	26.9	35.4	35.4
Progression Factor	1.26	0.66		0.52	0.45			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	552.9	160.3		0.1	74.6			5155.0	0.2	2.3	503.5	411.8
Delay (s)	613.0	182.5		24.6	91.4			5190.9	24.7	29.2	538.9	447.2
Level of Service	F	F		C	F			F	C	C	F	F
Approach Delay (s)		252.7			89.5			4152.4			491.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	693.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	6.08		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	186.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1974	170	0	1496	90	10
Future Volume (vph)	1974	170	0	1496	90	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3034			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3034			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2078	179	0	1575	95	11
RTOR Reduction (vph)	6	0	0	0	0	3
Lane Group Flow (vph)	2251	0	0	1575	95	8
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1712			1738	512	451
v/s Ratio Prot	c0.74			0.51	c0.06	
v/s Ratio Perm						0.01
v/c Ratio	1.32			0.91	0.19	0.02
Uniform Delay, d1	23.9			21.4	26.1	24.6
Progression Factor	1.00			1.65	1.00	1.00
Incremental Delay, d2	146.0			0.9	0.8	0.1
Delay (s)	170.0			36.2	26.9	24.7
Level of Service	F			D	C	C
Approach Delay (s)	170.0			36.2	26.7	
Approach LOS	F			D	C	

Intersection Summary			
HCM 2000 Control Delay	112.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		

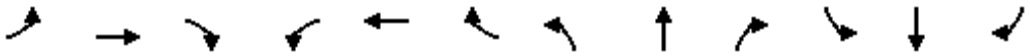
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	90	120	30	30	40	111	30	20	10	20	113	30
Future Volume (vph)	90	120	30	30	40	111	30	20	10	20	113	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0				5.0			5.0			5.0
Lane Util. Factor		1.00				1.00			1.00			0.95
Frpb, ped/bikes		0.99				0.99			0.97			0.81
Flpb, ped/bikes		0.99				0.99			0.94			1.00
Frt		0.98				0.98			0.95			0.92
Flt Protected		0.98				0.98			0.98			0.98
Satd. Flow (prot)		1449				1230			1107			1069
Flt Permitted		0.74				0.77			0.83			0.86
Satd. Flow (perm)		1097				969			936			936
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	105	140	35	35	47	129	35	23	12	23	131	35
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	13	0	0	5
Lane Group Flow (vph)	0	280	0	0	0	240	0	0	45	0	0	354
Confl. Peds. (#/hr)	27		46	46			27	206		61		
Confl. Bikes (#/hr)			3							4		
Parking (#/hr)				10	10	10	10	10	10	10		
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2			6	6			8			4	
Actuated Green, G (s)		27.0				27.0			38.0			38.0
Effective Green, g (s)		27.0				27.0			38.0			38.0
Actuated g/C Ratio		0.30				0.30			0.42			0.42
Clearance Time (s)		5.0				5.0			5.0			5.0
Vehicle Extension (s)		3.0				3.0			3.0			3.0
Lane Grp Cap (vph)		329				290			395			395
v/s Ratio Prot												
v/s Ratio Perm		c0.26				0.25			0.05			c0.38
v/c Ratio		0.85				0.83			0.11			0.90
Uniform Delay, d1		29.6				29.3			15.8			24.2
Progression Factor		1.00				1.00			1.00			1.00
Incremental Delay, d2		23.2				17.2			0.1			22.0
Delay (s)		52.8				46.6			15.9			46.1
Level of Service		D				D			B			D
Approach Delay (s)		52.8				46.6			15.9			34.9
Approach LOS		D				D			B			C

Intersection Summary			
HCM 2000 Control Delay	144.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	130	330	20	110	180	90
Future Volume (vph)	130	330	20	110	180	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0	5.0	
Lane Util. Factor		0.95		1.00	1.00	
Frpb, ped/bikes		0.67		1.00	0.78	
Flpb, ped/bikes		1.00		0.88	1.00	
Frt		0.85		1.00	0.85	
Flt Protected		1.00		0.95	1.00	
Satd. Flow (prot)		829		1281	1014	
Flt Permitted		1.00		0.95	1.00	
Satd. Flow (perm)		829		1281	1014	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	151	384	23	128	209	105
RTOR Reduction (vph)	0	129	0	0	76	0
Lane Group Flow (vph)	0	213	0	151	238	0
Confl. Peds. (#/hr)		206		27		46
Confl. Bikes (#/hr)	30	30				
Parking (#/hr)						
Turn Type		Perm	Perm	Prot	Perm	
Protected Phases				5		
Permitted Phases		4	5		5	
Actuated Green, G (s)		38.0		10.0	10.0	
Effective Green, g (s)		38.0		10.0	10.0	
Actuated g/C Ratio		0.42		0.11	0.11	
Clearance Time (s)		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0	3.0	
Lane Grp Cap (vph)		350		142	112	
v/s Ratio Prot						
v/s Ratio Perm		0.26		0.12	c0.24	
v/c Ratio		0.61		1.06	2.13	
Uniform Delay, d1		20.2		40.0	40.0	
Progression Factor		1.00		1.00	1.00	
Incremental Delay, d2		3.0		93.4	536.7	
Delay (s)		23.2		133.4	576.7	
Level of Service		C		F	F	
Approach Delay (s)				432.8		
Approach LOS				F		

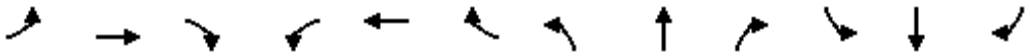
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	100	0	0	890	50	95	170	150	10	0	210
Future Volume (vph)	50	100	0	0	890	50	95	170	150	10	0	210
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.93			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1281			2047	702	1459	2673			1318	
Flt Permitted		0.61			1.00	1.00	0.61	1.00			0.98	
Satd. Flow (perm)		799			2047	702	933	2673			1293	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	105	0	0	937	53	100	179	158	11	0	221
RTOR Reduction (vph)	0	0	0	0	0	0	0	100	0	0	0	0
Lane Group Flow (vph)	0	158	0	0	937	53	100	237	0	0	232	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		372			955	327	342	980			474	
v/s Ratio Prot					c0.46			0.09				
v/s Ratio Perm		0.20				0.08	0.11				c0.18	
v/c Ratio		0.42			0.98	0.16	0.29	0.24			0.49	
Uniform Delay, d1		10.6			15.7	9.2	13.5	13.2			14.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		3.5			24.9	1.1	2.2	0.6			3.6	
Delay (s)		14.2			40.7	10.3	15.6	13.8			18.2	
Level of Service		B			D	B	B	B			B	
Approach Delay (s)		14.2			39.0			14.2			18.2	
Approach LOS		B			D			B			B	

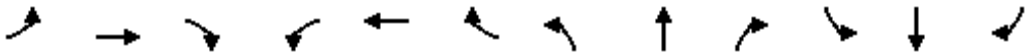
Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



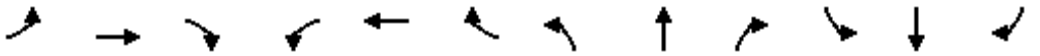
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	380	180	20	160	150	10	230	110	342	90	0
Future Volume (vph)	210	380	180	20	160	150	10	230	110	342	90	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0	3.0		3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		1.00	1.00	
Frpb, ped/bikes		0.95			1.00	0.87		0.92		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		0.97			1.00	0.85		0.95		1.00	1.00	
Flt Protected		0.99			0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1147			1474	1092		2564		1459	1535	
Flt Permitted		0.99			0.87	1.00		0.95		0.44	1.00	
Satd. Flow (perm)		1147			1286	1092		2434		677	1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	223	404	191	21	170	160	11	245	117	364	96	0
RTOR Reduction (vph)	0	12	0	0	0	101	0	60	0	0	0	0
Lane Group Flow (vph)	0	806	0	0	191	59	0	314	0	364	96	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA		Perm	NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8		4	2			6		
Actuated Green, G (s)		24.0			24.0	24.0		24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0	27.0		27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29	0.30		0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)		344			371	327		730		210	477	
v/s Ratio Prot		c0.70									0.06	
v/s Ratio Perm					c0.15	0.05		0.13		c0.54		
v/c Ratio		2.34			0.51	0.18		0.43		1.73	0.20	
Uniform Delay, d1		31.5			26.7	23.3		25.3		31.0	22.8	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		613.5			5.0	1.2		1.8		349.1	0.9	
Delay (s)		645.0			31.8	24.5		27.2		380.1	23.7	
Level of Service		F			C	C		C		F	C	
Approach Delay (s)		645.0			28.5			27.2			305.8	
Approach LOS		F			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	343.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



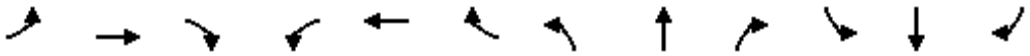
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	280	240	110	430	120	50	580	190	40	415	190
Future Volume (vph)	170	280	240	110	430	120	50	580	190	40	415	190
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.83			0.91			0.93			0.91	
Flpb, ped/bikes		0.96			0.97			0.99			1.00	
Frt		0.95			0.97			0.97			0.96	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		2009			2308			2568			2310	
Flt Permitted		0.64			0.73			0.88			0.87	
Satd. Flow (perm)		1311			1688			2275			2014	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	295	253	116	453	126	53	611	200	42	437	200
RTOR Reduction (vph)	0	11	0	0	7	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	716	0	0	688	0	0	864	0	0	667	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		611			787			1061			906	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.41			c0.38			0.33	
v/c Ratio		1.17			0.87			0.81			0.74	
Uniform Delay, d1		16.0			14.4			13.8			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		93.8			12.9			6.9			5.3	
Delay (s)		109.8			27.4			20.6			18.9	
Level of Service		F			C			C			B	
Approach Delay (s)		109.8			27.4			20.6			18.9	
Approach LOS		F			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	43.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	118.8%	ICU Level of Service	H
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)	401	1252	130	0	0	0	0	690	130	20	495	0
Future Volume (vph)	401	1252	130	0	0	0	0	690	130	20	495	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						0.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.99						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4095						1588	1260		1553	
Flt Permitted	0.95	1.00						1.00	1.00		0.80	
Satd. Flow (perm)	2830	4095						1588	1260		1241	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	427	1332	138	0	0	0	0	734	138	21	527	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	427	1456	0	0	0	0	0	734	138	0	548	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	custom	Perm	NA	
Protected Phases		2						8 7	7		4	
Permitted Phases	2									4		
Actuated Green, G (s)	35.5	35.5						44.5	18.5		44.5	
Effective Green, g (s)	37.0	37.0						46.0	20.0		46.0	
Actuated g/C Ratio	0.41	0.41						0.51	0.22		0.51	
Clearance Time (s)	5.0	5.0							5.0		5.0	
Lane Grp Cap (vph)	1163	1683						811	280		634	
v/s Ratio Prot		c0.36						c0.46	0.11			
v/s Ratio Perm	0.15										0.44	
v/c Ratio	0.37	0.87						0.91	0.49		0.86	
Uniform Delay, d1	18.4	24.2						20.0	30.6		19.3	
Progression Factor	1.02	1.14						1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.6						15.5	6.1		14.6	
Delay (s)	18.8	28.2						35.5	36.7		33.9	
Level of Service	B	C						D	D		C	
Approach Delay (s)		26.1			0.0			35.7			33.9	
Approach LOS		C			A			D			C	

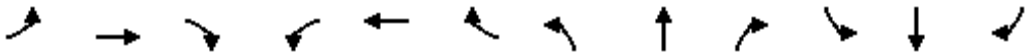
Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	630	1280	0	0	0	0	0	1994	503	0	0	0
Future Volume (vph)	630	1280	0	0	0	0	0	1994	503	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.94				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.97				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		5017						3698				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		5017						3698				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	656	1333	0	0	0	0	0	2077	524	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1989	0	0	0	0	0	2601	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1700						1047				
v/s Ratio Prot								c0.70				
v/s Ratio Perm		0.40										
v/c Ratio		1.38dl						2.48				
Uniform Delay, d1		29.8						32.2				
Progression Factor		0.26						1.00				
Incremental Delay, d2		77.2						670.8				
Delay (s)		84.9						703.0				
Level of Service		F						F				
Approach Delay (s)		84.9			0.0			703.0			0.0	
Approach LOS		F			A			F			A	

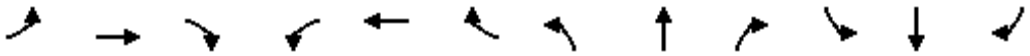
Intersection Summary			
HCM 2000 Control Delay	435.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	2010	140	410	1804	510	0	0	0
Future Volume (vph)	0	0	0	0	2010	140	410	1804	510	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.99			0.89				
Flpb, ped/bikes					1.00			1.00				
Frt					0.99			0.97				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					2720			3478				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					2720			3478				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	2138	149	436	1919	543	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2281	0	0	2898	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					952			1024				
v/s Ratio Prot					c0.84			c0.83				
v/s Ratio Perm												
v/c Ratio					2.40			2.83				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.51				
Incremental Delay, d2					631.5			823.8				
Delay (s)					660.8			839.9				
Level of Service					F			F				
Approach Delay (s)		0.0			660.8			839.9			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	760.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	143.3%	ICU Level of Service	H
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)	0	0	0	0	1640	430	350	1764	0	0	0	0
Future Volume (vph)	0	0	0	0	1640	430	350	1764	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.93			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3256			2899				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3256			2899				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1745	457	372	1877	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	52	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2150	0	0	2249	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1139			982				
v/s Ratio Prot					c0.66			c0.78				
v/s Ratio Perm												
v/c Ratio					1.89			2.29				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.41				
Incremental Delay, d2					402.8			580.9				
Delay (s)					432.0			593.2				
Level of Service					F			F				
Approach Delay (s)		0.0			432.0			593.2			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	513.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	129.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Traffic Volume (vph)	1617	200	0	120	656	140	67
Future Volume (vph)	1617	200	0	120	656	140	67
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00		1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.64	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.98	0.85
Flt Protected	1.00	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	5099	1212		903	2605	4072	1122
Flt Permitted	1.00	1.00		0.95	1.00	0.96	1.00
Satd. Flow (perm)	5099	1212		903	2605	4072	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1777	220	0	132	721	154	74
RTOR Reduction (vph)	0	78	0	94	0	0	0
Lane Group Flow (vph)	1777	142	0	38	721	175	53
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0		24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0		26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350		260	752	1266	349
v/s Ratio Prot	c0.35				c0.28	0.04	
v/s Ratio Perm		0.12		0.04			c0.05
v/c Ratio	1.21	0.41		0.15	0.96	0.14	0.15
Uniform Delay, d1	32.0	25.8		23.8	31.5	22.3	22.4
Progression Factor	0.97	1.05		1.76	1.08	1.00	1.00
Incremental Delay, d2	93.5	0.3		0.8	19.4	0.2	0.9
Delay (s)	124.4	27.4		42.7	53.5	22.5	23.3
Level of Service	F	C		D	D	C	C
Approach Delay (s)	113.8				51.8	22.7	
Approach LOS	F				D	C	

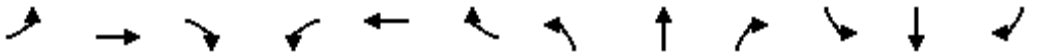
Intersection Summary			
HCM 2000 Control Delay	89.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	230	840	1480	546	760	250
Future Volume (vph)	230	840	1480	546	760	250
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.94	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1115		3863	2300	1013	1099
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1115		3863	2300	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	235	857	1510	557	776	255
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	211	0	2391	914	419	241
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1656	1106	521	565
v/s Ratio Prot				0.40		
v/s Ratio Perm	0.19		0.62		c0.41	0.22
v/c Ratio	0.44		1.51dl	0.83	0.80	0.43
Uniform Delay, d1	18.1		25.7	20.1	18.1	13.6
Progression Factor	1.35		1.17	1.36	1.46	1.65
Incremental Delay, d2	0.3		200.0	2.7	4.9	0.9
Delay (s)	24.8		230.1	30.0	31.3	23.3
Level of Service	C		F	C	C	C
Approach Delay (s)			213.4	29.2		
Approach LOS			F	C		

Intersection Summary			
HCM 2000 Control Delay	143.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	510	1540	0	0	0	0	0	966	660
Future Volume (vph)	0	0	0	510	1540	0	0	0	0	0	966	660
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	520	1571	0	0	0	0	0	986	673
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	520	1571	0	0	0	0	0	986	673
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				0.36	c0.37						0.34	
v/s Ratio Perm												c0.78
v/c Ratio				0.96	1.01						0.99	2.27
Uniform Delay, d1				27.6	28.2						29.4	29.5
Progression Factor				1.18	1.18						1.00	1.00
Incremental Delay, d2				5.3	8.8						26.7	580.3
Delay (s)				37.9	42.2						56.1	609.8
Level of Service				D	D						E	F
Approach Delay (s)		0.0			41.2			0.0			280.7	
Approach LOS		A			D			A			F	

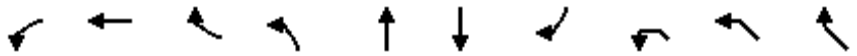
Intersection Summary			
HCM 2000 Control Delay	147.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	129.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	90	290	1050	110	550	500	140	260	347	950
Future Volume (vph)	90	290	1050	110	550	500	140	260	347	950
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.73	1.00	0.84			1.00	1.00
Flpb, ped/bikes		0.88	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2143	2521	918	1535	1130			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.23	1.00
Satd. Flow (perm)		2143	2521	918	1535	1130			652	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	312	1129	118	591	538	151	280	373	1022
RTOR Reduction (vph)	0	0	0	20	0	20	0	0	0	0
Lane Group Flow (vph)	0	378	1160	98	591	669	0	0	653	1022
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		39.0	39.0	39.0	39.0	39.0			39.0	39.0
Effective Green, g (s)		39.0	41.5	41.0	40.5	41.0			40.5	40.5
Actuated g/C Ratio		0.43	0.46	0.46	0.45	0.46			0.45	0.45
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		928	1162	418	690	514			293	587
v/s Ratio Prot			c0.46		0.38					0.78
v/s Ratio Perm		0.18		0.11		0.59			c1.00	
v/c Ratio		0.41	1.00	0.24	0.86	1.30			2.23	1.74
Uniform Delay, d1		17.5	24.2	14.9	22.1	24.5			24.8	24.8
Progression Factor		1.00	1.00	1.00	1.00	1.00			0.81	0.81
Incremental Delay, d2		1.3	26.0	1.3	13.0	149.8			553.9	334.1
Delay (s)		18.9	50.2	16.3	35.1	174.3			574.0	354.2
Level of Service		B	D	B	D	F			F	F
Approach Delay (s)			40.6		110.0					439.9
Approach LOS			D		F					F

Intersection Summary			
HCM 2000 Control Delay	204.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	111.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



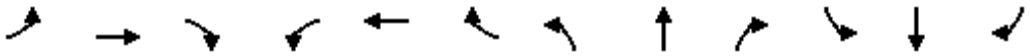
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	250	1050	150	100	570	770	340	467	1360	460
Future Volume (vph)	250	1050	150	100	570	770	340	467	1360	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.95			0.99	0.88
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.95			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5024			2866	2410			3419	985
Flt Permitted		0.99			0.52	1.00			0.95	1.00
Satd. Flow (perm)		5024			1500	2410			3419	985
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	272	1129	161	108	613	828	366	508	1462	495
RTOR Reduction (vph)	0	22	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	1540	0	0	721	1193	0	0	2020	445
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1618			466	749			1025	295
v/s Ratio Prot						c0.49				
v/s Ratio Perm		0.31			0.48				0.59	0.45
v/c Ratio		0.95			1.64dl	1.59			1.97	1.51
Uniform Delay, d1		29.8			31.0	31.0			31.5	31.5
Progression Factor		0.60			1.58	1.00			1.00	1.00
Incremental Delay, d2		1.8			253.0	272.8			440.4	245.7
Delay (s)		19.7			301.9	303.8			471.9	277.2
Level of Service		B			F	F			F	F
Approach Delay (s)		19.7			301.9	303.8			436.7	
Approach LOS		B			F	F			F	

Intersection Summary			
HCM 2000 Control Delay	284.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	147.3%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

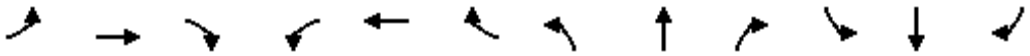
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	150	1890	20	80	389
Future Volume (vph)	10	150	1890	20	80	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3070		1534	3079
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1540	1378	3070		86	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	167	2100	22	89	432
RTOR Reduction (vph)	0	7	1	0	0	0
Lane Group Flow (vph)	11	160	2121	0	89	432
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2087		58	2093
v/s Ratio Prot	0.01		0.69			0.14
v/s Ratio Perm		c0.12			c1.03	
v/c Ratio	0.03	0.50	1.02		1.53	0.21
Uniform Delay, d1	32.6	36.6	17.6		17.6	6.6
Progression Factor	1.00	1.00	1.00		2.85	0.41
Incremental Delay, d2	0.2	5.5	23.9		248.3	0.0
Delay (s)	32.8	42.1	41.5		298.5	2.7
Level of Service	C	D	D		F	A
Approach Delay (s)	41.6		41.5			53.3
Approach LOS	D		D			D

Intersection Summary			
HCM 2000 Control Delay	43.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
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)	70	197	231	55	54	152	40	1687	139	82	467	50
Future Volume (vph)	70	197	231	55	54	152	40	1687	139	82	467	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1598	1342		1459		1459	2866		1540	3013	
Flt Permitted		0.79	1.00		0.76		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1278	1342		1122		1459	2866		1540	3013	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	79	221	260	62	61	171	45	1896	156	92	525	56
RTOR Reduction (vph)	0	0	177	0	50	0	0	6	0	0	8	0
Lane Group Flow (vph)	0	300	83	0	244	0	45	2046	0	92	573	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		410	430		360		215	1017		254	1129	
v/s Ratio Prot							0.03	c0.71		0.06	c0.19	
v/s Ratio Perm		c0.23	0.06		0.22							
v/c Ratio		0.73	0.19		0.68		0.21	2.01		0.36	0.51	
Uniform Delay, d1		30.1	24.6		29.5		37.5	32.2		37.1	24.1	
Progression Factor		1.00	1.00		1.00		1.37	0.74		1.00	1.00	
Incremental Delay, d2		11.0	1.0		9.8		0.2	455.7		4.0	1.6	
Delay (s)		41.1	25.6		39.3		51.6	479.5		41.0	25.8	
Level of Service		D	C		D		D	F		D	C	
Approach Delay (s)		33.9			39.3			470.3			27.8	
Approach LOS		C			D			F			C	

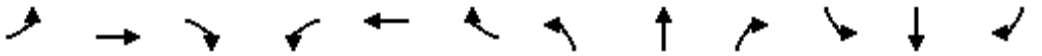
Intersection Summary			
HCM 2000 Control Delay	285.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	142.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	379	110	254	142	427	70	1459	127	98	685	10
Future Volume (vph)	70	379	110	254	142	427	70	1459	127	98	685	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.97		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.93		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1326			1445		1418	2771		1540	3068	
Flt Permitted		0.80			0.47		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1068			688		1418	2771		1540	3068	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	416	121	279	156	469	77	1603	140	108	753	11
RTOR Reduction (vph)	0	9	0	0	39	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	605	0	0	865	0	77	1737	0	108	763	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		349			224		212	1022		229	1132	
v/s Ratio Prot							0.05	c0.63		0.07	c0.25	
v/s Ratio Perm		0.57			c1.26							
v/c Ratio		1.73			3.86		0.36	1.70		0.47	0.67	
Uniform Delay, d1		33.6			33.6		38.2	31.6		38.9	26.5	
Progression Factor		1.00			1.00		1.30	0.96		0.77	0.74	
Incremental Delay, d2		342.2			1298.4		0.4	315.1		6.1	2.9	
Delay (s)		375.8			1332.1		50.0	345.2		36.1	22.5	
Level of Service		F			F		D	F		D	C	
Approach Delay (s)		375.8			1332.1			332.8			24.2	
Approach LOS		F			F			F			C	

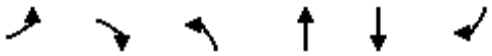
Intersection Summary			
HCM 2000 Control Delay	489.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	172.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	40	20	10	40	84	20	332	30	438	599	50
Future Volume (vph)	40	40	20	10	40	84	20	332	30	438	599	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.98	1.00	1.00		1.00	0.98	
Flpb, ped/bikes		0.99			1.00	1.00	0.92	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1295			1602	1353	1195	1341		1296	1325	
Flt Permitted		0.85			0.93	1.00	0.40	1.00		0.95	1.00	
Satd. Flow (perm)		1117			1498	1353	500	1341		1296	1325	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	43	22	11	43	91	22	361	33	476	651	54
RTOR Reduction (vph)	0	15	0	0	0	61	0	3	0	0	2	0
Lane Group Flow (vph)	0	93	0	0	54	30	22	391	0	476	703	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		8.5			8.5	19.7	25.5	25.5		11.2	41.7	
Effective Green, g (s)		8.5			8.5	19.7	25.5	25.5		11.2	41.7	
Actuated g/C Ratio		0.14			0.14	0.33	0.42	0.42		0.19	0.69	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		157			211	555	211	568		241	917	
v/s Ratio Prot						0.01		0.29		c0.37	c0.53	
v/s Ratio Perm		c0.08			0.04	0.01	0.04					
v/c Ratio		0.59			0.26	0.05	0.10	0.69		1.98	0.77	
Uniform Delay, d1		24.2			23.0	13.9	10.5	14.1		24.5	6.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.6			0.6	0.0	0.2	3.5		453.4	3.9	
Delay (s)		29.8			23.7	13.9	10.7	17.6		477.9	9.9	
Level of Service		C			C	B	B	B		F	A	
Approach Delay (s)		29.8			17.5			17.2			198.6	
Approach LOS		C			B			B			F	

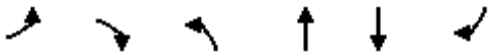
Intersection Summary			
HCM 2000 Control Delay	133.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	60.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	10	68	52	154	136	20
Future Volume (vph)	10	68	52	154	136	20
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	11	77	59	175	155	23

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	11	77	117	117	103	75
Volume Left (vph)	11	0	59	0	0	0
Volume Right (vph)	0	77	0	0	0	23
Hadj (s)	0.53	-0.67	0.29	0.03	0.03	-0.18
Departure Headway (s)	6.0	4.8	5.2	4.9	5.0	4.8
Degree Utilization, x	0.02	0.10	0.17	0.16	0.14	0.10
Capacity (veh/h)	562	700	679	713	700	734
Control Delay (s)	7.9	7.1	8.0	7.6	7.6	7.1
Approach Delay (s)	7.2		7.8		7.4	
Approach LOS	A		A		A	

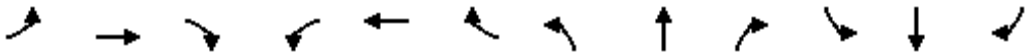
Intersection Summary				
Delay	7.6			
Level of Service	A			
Intersection Capacity Utilization	28.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	25	50	189	227	132
Future Volume (Veh/h)	33	25	50	189	227	132
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	40	30	60	228	273	159
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	602	230	444			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	602	230	444			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	96	95			
cM capacity (veh/h)	403	764	1102			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	70	136	152	182	250
Volume Left	40	60	0	0	0
Volume Right	30	0	0	0	159
cSH	506	1102	1700	1700	1700
Volume to Capacity	0.14	0.05	0.09	0.11	0.15
Queue Length 95th (ft)	12	4	0	0	0
Control Delay (s)	13.3	4.0	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	13.3	1.9		0.0	
Approach LOS	B				

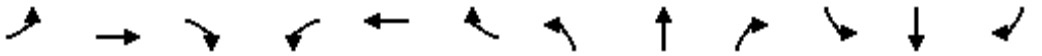
Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	128	360	30	257	120	320	1183	10	70	956	282
Future Volume (vph)	282	128	360	30	257	120	320	1183	10	70	956	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1530	1378	1136	1532	1529		2987	3074		1540	2957	
Flt Permitted	0.32	1.00	1.00	0.67	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	521	1378	1136	1080	1529		2987	3074		1540	2957	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	300	136	383	32	273	128	340	1259	11	74	1017	300
RTOR Reduction (vph)	0	0	234	0	17	0	0	1	0	0	28	0
Lane Group Flow (vph)	300	136	149	32	384	0	340	1269	0	74	1289	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	179	475	391	372	527		418	1161		184	1058	
v/s Ratio Prot		0.10			0.25		0.11	c0.41		0.05	c0.44	
v/s Ratio Perm	c0.58		0.13	0.03								
v/c Ratio	1.68	0.29	0.38	0.09	0.73		0.81	1.09		0.40	1.22	
Uniform Delay, d1	32.8	23.8	24.7	22.1	28.7		41.7	31.1		40.7	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.60	0.78		0.81	0.72	
Incremental Delay, d2	327.4	1.5	2.8	0.5	8.6		4.1	45.8		0.6	99.3	
Delay (s)	360.1	25.3	27.5	22.6	37.2		29.2	70.1		33.7	122.5	
Level of Service	F	C	C	C	D		C	E		C	F	
Approach Delay (s)		149.0			36.1			61.4			117.7	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	94.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	126.3%	ICU Level of Service	H
Analysis Period (min)	15		

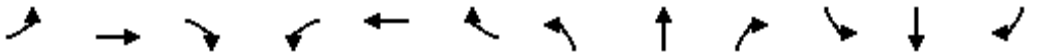
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	391	260	106	813	100	140	180	179	170	330	200
Future Volume (vph)	140	391	260	106	813	100	140	180	179	170	330	200
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Lane Width	8	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		0.95		1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	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
Frt	1.00	1.00	0.85		0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1235	1232	1378		2536		1540	2849			3027	1133
Flt Permitted	0.95	1.00	1.00		0.84		0.37	1.00			0.67	1.00
Satd. Flow (perm)	1235	1232	1378		2137		592	2849			2075	1133
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	156	434	283	115	903	111	152	196	195	189	359	222
RTOR Reduction (vph)	0	0	99	0	7	0	0	125	0	0	0	91
Lane Group Flow (vph)	156	434	184	0	1122	0	152	266	0	0	548	131
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6			8			4		4
Actuated Green, G (s)	4.0	45.4	45.4		36.4		30.3	30.3			29.3	29.3
Effective Green, g (s)	4.0	45.4	45.4		36.4		30.3	30.3			29.3	29.3
Actuated g/C Ratio	0.05	0.54	0.54		0.43		0.36	0.36			0.35	0.35
Clearance Time (s)	5.0	5.0	5.0		5.0		4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	58	660	738		918		211	1019			717	391
v/s Ratio Prot	c0.13	0.35						0.09				
v/s Ratio Perm			0.13		c0.52		0.26				c0.26	0.12
v/c Ratio	2.69	0.66	0.25		1.22		0.72	0.26			0.76	0.34
Uniform Delay, d1	40.4	14.1	10.5		24.2		23.5	19.3			24.6	20.5
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	806.9	2.4	0.2		109.6		11.4	0.1			4.9	0.5
Delay (s)	847.2	16.5	10.7		133.8		35.0	19.4			29.5	21.0
Level of Service	F	B	B		F		C	B			C	C
Approach Delay (s)		163.0			133.8			23.8			27.0	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	98.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



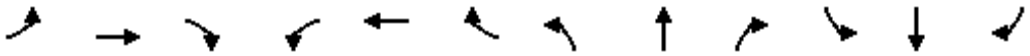
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	555	80	60	626	467	80	220	50	196	90	140
Future Volume (vph)	80	555	80	60	626	467	80	220	50	196	90	140
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.89	1.00	1.00	0.91	1.00	0.96	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1186	922		1400	1069	1337	1407	929	1337	1230	
Flt Permitted		0.54	1.00		0.69	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		645	922		974	1069	1337	1407	929	1337	1230	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	584	84	63	659	492	84	232	53	206	95	147
RTOR Reduction (vph)	0	0	39	0	0	64	0	0	44	0	57	0
Lane Group Flow (vph)	0	668	45	0	722	428	84	232	9	206	185	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		59.0	59.0		59.0	75.0	14.4	19.6	19.6	16.0	21.2	
Effective Green, g (s)		59.0	59.0		59.0	75.0	14.4	19.6	19.6	16.0	21.2	
Actuated g/C Ratio		0.54	0.54		0.54	0.68	0.13	0.18	0.18	0.15	0.19	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		347	496		524	780	175	251	166	195	237	
v/s Ratio Prot						0.08	0.06	c0.16		c0.15	0.15	
v/s Ratio Perm		c1.04	0.05		0.74	0.32			0.01			
v/c Ratio		1.93	0.09		1.38	0.55	0.48	0.92	0.06	1.06	0.78	
Uniform Delay, d1		25.3	12.3		25.3	8.7	44.1	44.3	37.3	46.8	42.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		426.8	0.1		181.8	0.8	2.1	36.7	0.1	80.1	14.9	
Delay (s)		452.1	12.4		207.1	9.5	46.2	81.0	37.5	126.9	56.9	
Level of Service		F	B		F	A	D	F	D	F	E	
Approach Delay (s)		403.0			127.0			66.8			89.1	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	187.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	109.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	134.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	190	460	867	80	320	276
Future Volume (vph)	190	460	867	80	320	276
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1110	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1110	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	474	894	82	330	285
RTOR Reduction (vph)	0	390	0	15	0	0
Lane Group Flow (vph)	196	84	894	67	330	285
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	19.0	19.0	48.1	43.1	25.1	78.2
Effective Green, g (s)	19.0	19.0	48.1	43.1	25.1	78.2
Actuated g/C Ratio	0.18	0.18	0.45	0.40	0.23	0.73
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	272	429	857	498	303	796
v/s Ratio Prot	c0.13		c0.47	0.01	c0.25	0.26
v/s Ratio Perm		0.03		0.05		
v/c Ratio	0.72	0.20	1.04	0.13	1.09	0.36
Uniform Delay, d1	41.6	37.6	29.6	20.3	41.0	5.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.0	0.2	42.6	0.1	77.6	0.3
Delay (s)	50.6	37.8	72.1	20.4	118.7	5.6
Level of Service	D	D	E	C	F	A
Approach Delay (s)	41.6		67.8			66.3
Approach LOS	D		E			E

Intersection Summary			
HCM 2000 Control Delay	59.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	107.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

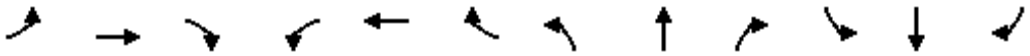
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	30	179	40	60	327	10	40	120	100	20	60	60
Future Volume (vph)	30	179	40	60	327	10	40	120	100	20	60	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	34	206	46	69	376	11	46	138	115	23	69	69

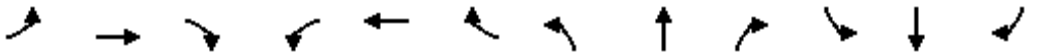
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	286	69	387	184	115	161
Volume Left (vph)	34	69	0	46	0	23
Volume Right (vph)	46	0	11	0	115	69
Hadj (s)	-0.04	0.53	0.01	0.16	-0.67	-0.19
Departure Headway (s)	6.9	7.2	6.7	7.4	6.6	7.4
Degree Utilization, x	0.55	0.14	0.72	0.38	0.21	0.33
Capacity (veh/h)	490	478	519	444	499	425
Control Delay (s)	18.1	10.2	23.7	13.7	10.1	14.0
Approach Delay (s)	18.1	21.6		12.3		14.0
Approach LOS	C	C		B		B

Intersection Summary				
Delay	17.5			
Level of Service	C			
Intersection Capacity Utilization	56.5%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	124	110	54	413	50	110	1192	75	30	949	367
Future Volume (vph)	232	124	110	54	413	50	110	1192	75	30	949	367
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93			0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1763	1728			3328		1711	3372		1711	3246	
Flt Permitted	0.33	1.00			0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	607	1728			2835		1711	3372		1711	3246	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	244	131	116	57	435	53	116	1255	79	32	999	386
RTOR Reduction (vph)	0	32	0	0	8	0	0	5	0	0	40	0
Lane Group Flow (vph)	244	215	0	0	537	0	116	1329	0	32	1345	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	180	513			841		289	1345		254	1230	
v/s Ratio Prot		0.12					0.07	c0.39		0.02	c0.41	
v/s Ratio Perm	c0.40				0.19							
v/c Ratio	1.36	0.42			0.64		0.40	0.99		0.13	1.09	
Uniform Delay, d1	35.1	28.2			30.5		37.0	29.8		36.9	31.1	
Progression Factor	1.00	1.00			1.00		0.82	0.68		1.59	0.82	
Incremental Delay, d2	191.8	2.5			3.7		3.3	19.5		0.1	43.4	
Delay (s)	227.0	30.7			34.2		33.7	39.7		58.8	69.0	
Level of Service	F	C			C		C	D		E	E	
Approach Delay (s)		128.2			34.2			39.2			68.8	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	60.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
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)	30	140	0	0	1000	100	540	299	525	0	0	646
Future Volume (vph)	30	140	0	0	1000	100	540	299	525	0	0	646
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.99		1.00	0.91				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2854			4080		1350	3101				2694
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2109			4080		1350	3101				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	33	144	0	0	1031	109	557	325	541	0	0	702
RTOR Reduction (vph)	0	0	0	0	11	0	0	259	0	0	0	17
Lane Group Flow (vph)	0	177	0	0	1129	0	557	607	0	0	0	685
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		45.2			45.2		57.8	57.3				57.8
Effective Green, g (s)		45.2			45.2		57.8	57.3				57.8
Actuated g/C Ratio		0.41			0.41		0.53	0.52				0.53
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		866			1676		709	1615				1415
v/s Ratio Prot					c0.28		c0.41	0.20				
v/s Ratio Perm		0.08										0.25
v/c Ratio		0.20			0.67		0.79	0.38				0.48
Uniform Delay, d1		20.8			26.4		21.1	15.7				16.6
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.5			1.1		5.7	0.1				0.3
Delay (s)		21.4			27.5		26.8	15.8				16.9
Level of Service		C			C		C	B				B
Approach Delay (s)		21.4			27.5			20.1			16.9	
Approach LOS		C			C			C			B	

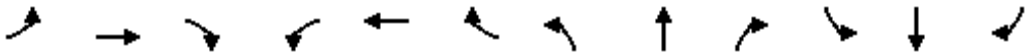
Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	160	430	1416	760	0	0
Future Volume (vph)	160	430	1416	760	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.97	0.94	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.93	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1171	1039	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1171	1039	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	443	1460	784	0	0
RTOR Reduction (vph)	22	22	0	0	0	0
Lane Group Flow (vph)	294	270	1460	784	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	19.4	19.4	37.6	65.0		
Effective Green, g (s)	19.4	19.4	37.6	65.0		
Actuated g/C Ratio	0.30	0.30	0.58	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	349	310	1454	1365		
v/s Ratio Prot	0.25		c0.58	0.57		
v/s Ratio Perm		c0.26				
v/c Ratio	0.84	0.87	1.00	0.57		
Uniform Delay, d1	21.4	21.6	13.7	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	16.7	22.5	24.6	0.6		
Delay (s)	38.1	44.1	38.3	0.6		
Level of Service	D	D	D	A		
Approach Delay (s)	41.0			25.1	0.0	
Approach LOS	D			C	A	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

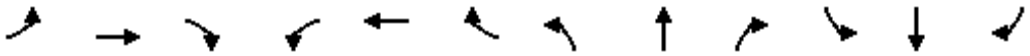
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	20	60	60	50	70	0	1177	130	0	933	40
Future Volume (vph)	40	20	60	60	50	70	0	1177	130	0	933	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.97			0.97			0.99			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.93			0.95			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1249			1270			2811			2855	
Flt Permitted		0.81			0.84			1.00			1.00	
Satd. Flow (perm)		1026			1081			2811			2855	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	41	20	61	61	51	71	0	1201	133	0	952	41
RTOR Reduction (vph)	0	40	0	0	26	0	0	6	0	0	2	0
Lane Group Flow (vph)	0	82	0	0	157	0	0	1328	0	0	991	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.1			19.1			71.0			71.0	
Effective Green, g (s)		19.1			19.1			71.0			71.0	
Actuated g/C Ratio		0.19			0.19			0.71			0.71	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		195			206			1995			2027	
v/s Ratio Prot								c0.47			0.35	
v/s Ratio Perm		0.08			c0.15							
v/c Ratio		0.42			0.76			0.67			0.49	
Uniform Delay, d1		35.6			38.3			8.0			6.4	
Progression Factor		1.00			1.00			0.82			0.35	
Incremental Delay, d2		1.5			15.3			0.2			0.1	
Delay (s)		37.0			53.6			6.7			2.4	
Level of Service		D			D			A			A	
Approach Delay (s)		37.0			53.6			6.7			2.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

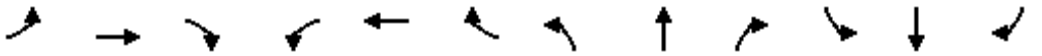
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	351	190	220	10	210	20	220	1096	40	260	715	178
Future Volume (vph)	351	190	220	10	210	20	220	1096	40	260	715	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.92		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1539	2634		1538	1598		1540	3061		1540	2944	
Flt Permitted	0.30	1.00		0.50	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	491	2634		810	1598		1540	3061		1540	2944	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	369	200	232	11	221	21	232	1154	42	274	753	187
RTOR Reduction (vph)	0	159	0	0	4	0	0	2	0	0	22	0
Lane Group Flow (vph)	369	273	0	11	238	0	232	1194	0	274	918	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	31.6	31.6		19.6	19.6		14.9	41.6		10.5	37.2	
Effective Green, g (s)	31.6	31.6		19.6	19.6		14.9	41.6		10.5	37.2	
Actuated g/C Ratio	0.32	0.32		0.20	0.20		0.15	0.42		0.10	0.37	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	225	832		158	313		229	1273		161	1095	
v/s Ratio Prot	c0.11	0.10			0.15		0.15	c0.39		c0.18	0.31	
v/s Ratio Perm	c0.41			0.01								
v/c Ratio	1.64	0.33		0.07	0.76		1.01	0.94		1.70	0.84	
Uniform Delay, d1	33.7	26.1		32.8	38.0		42.5	28.0		44.8	28.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.91	0.88	
Incremental Delay, d2	307.2	0.2		0.2	10.4		62.9	14.1		339.0	7.1	
Delay (s)	340.9	26.3		33.0	48.4		105.4	42.1		379.7	32.2	
Level of Service	F	C		C	D		F	D		F	C	
Approach Delay (s)		171.2			47.7			52.4			110.7	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	97.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
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)	73	20	402	90	100	20	302	781	3	71	1109	173
Future Volume (vph)	73	20	402	90	100	20	302	781	3	71	1109	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97			1.00		1.00	1.00		1.00	1.00	0.71
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86			0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1514	1348			1555		1540	2843		1540	3079	976
Flt Permitted	0.60	1.00			0.38		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	958	1348			603		1540	2843		1540	3079	976
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	21	423	95	105	21	318	822	3	75	1167	182
RTOR Reduction (vph)	0	250	0	0	3	0	0	0	0	0	0	69
Lane Group Flow (vph)	77	194	0	0	218	0	318	825	0	75	1167	113
Confl. Peds. (#/hr)	29		22	22		29			125			88
Confl. Bikes (#/hr)									145			148
Parking (#/hr)								10	10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Effective Green, g (s)	38.1	38.1			38.1		16.5	37.5		15.1	36.8	36.8
Actuated g/C Ratio	0.35	0.35			0.35		0.15	0.34		0.14	0.33	0.33
Clearance Time (s)	6.9	6.9			6.9		6.5	6.5		5.9	5.2	5.2
Lane Grp Cap (vph)	331	466			208		231	969		211	1030	326
v/s Ratio Prot		0.14					c0.21	0.29		0.05	c0.38	
v/s Ratio Perm	0.08				c0.36							0.12
v/c Ratio	0.23	0.42			1.05		1.38	0.85		0.36	1.13	0.35
Uniform Delay, d1	25.6	27.5			36.0		46.8	33.7		43.0	36.6	27.6
Progression Factor	1.00	1.00			1.00		0.84	0.83		1.00	1.00	1.00
Incremental Delay, d2	1.6	2.7			75.2		182.3	4.8		4.6	72.2	2.9
Delay (s)	27.2	30.2			111.2		221.6	32.9		47.7	108.8	30.5
Level of Service	C	C			F		F	C		D	F	C
Approach Delay (s)		29.8			111.2			85.4			95.6	
Approach LOS		C			F			F			F	

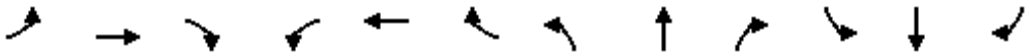
Intersection Summary			
HCM 2000 Control Delay	82.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.3
Intersection Capacity Utilization	137.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	156	40	50	1062	1	1001	445
Future Volume (vph)	156	40	50	1062	1	1001	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.93	1.00	1.00	1.00	1.00	0.74
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1309	1090	1540	3079	1540	3079	1018
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1309	1090	1540	3079	1540	3079	1018
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	168	43	54	1142	1	1076	478
RTOR Reduction (vph)	0	17	0	0	0	0	161
Lane Group Flow (vph)	168	26	54	1142	1	1076	317
Confl. Peds. (#/hr)	49	67					214
Confl. Bikes (#/hr)							137
Parking (#/hr)	10	10					
Turn Type	Prot	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases		4					6
Actuated Green, G (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Effective Green, g (s)	38.1	38.1	15.4	43.8	10.0	37.0	37.0
Actuated g/C Ratio	0.35	0.35	0.14	0.40	0.09	0.34	0.34
Clearance Time (s)	6.9	6.9	6.6	5.2	6.0	6.0	6.0
Lane Grp Cap (vph)	453	377	215	1226	140	1035	342
v/s Ratio Prot	c0.13		0.04	c0.37	0.00	c0.35	
v/s Ratio Perm		0.02					0.31
v/c Ratio	0.37	0.07	0.25	0.93	0.01	1.04	0.93
Uniform Delay, d1	27.0	24.1	42.2	31.7	45.5	36.5	35.2
Progression Factor	1.00	1.00	0.56	0.63	0.90	0.69	0.66
Incremental Delay, d2	2.3	0.4	1.4	8.0	0.0	25.1	11.3
Delay (s)	29.3	24.4	25.1	28.0	41.1	50.2	34.7
Level of Service	C	C	C	C	D	D	C
Approach Delay (s)	28.3			27.9		45.4	
Approach LOS	C			C		D	

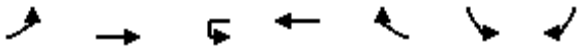
Intersection Summary			
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	10	33	10	16	10	70	1032	10	13	922	180
Future Volume (vph)	110	10	33	10	16	10	70	1032	10	13	922	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	0.96	
Flpb, ped/bikes		0.98			0.99		1.00	1.00		1.00	1.00	
Frt		0.97			0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1470			1512		1540	3069		1540	2875	
Flt Permitted		0.76			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1161			1417		1540	3069		1540	2875	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	10	34	10	17	10	73	1075	10	14	960	188
RTOR Reduction (vph)	0	9	0	0	7	0	0	1	0	0	14	0
Lane Group Flow (vph)	0	150	0	0	30	0	73	1084	0	14	1134	0
Confl. Peds. (#/hr)	39		36	36		39			84			103
Confl. Bikes (#/hr)									96			102
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Effective Green, g (s)		38.0			38.0		15.0	43.0		9.2	37.6	
Actuated g/C Ratio		0.35			0.35		0.14	0.39		0.08	0.34	
Clearance Time (s)		7.0			7.0		7.0	7.0		5.8	5.4	
Lane Grp Cap (vph)		401			489		210	1199		128	982	
v/s Ratio Prot							0.05	c0.35		0.01	c0.39	
v/s Ratio Perm		c0.13			0.02							
v/c Ratio		0.37			0.06		0.35	0.90		0.11	1.15	
Uniform Delay, d1		27.1			24.1		43.1	31.6		46.6	36.2	
Progression Factor		1.00			1.00		0.86	0.81		1.30	0.17	
Incremental Delay, d2		2.7			0.2		1.4	3.9		0.5	73.2	
Delay (s)		29.7			24.3		38.6	29.4		61.1	79.4	
Level of Service		C			C		D	C		E	E	
Approach Delay (s)		29.7			24.3			29.9			79.2	
Approach LOS		C			C			C			E	

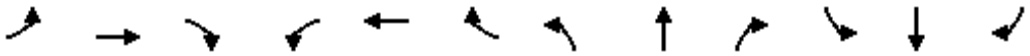
Intersection Summary			
HCM 2000 Control Delay	52.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	240	1182	5	1032	53	91	344
Future Volume (vph)	240	1182	5	1032	53	91	344
Ideal Flow (vphpl)	1800	1800	1900	1800	1800	1800	1800
Total Lost time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Util. Factor	1.00	0.95	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98		1.00	0.69
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1459	2917	1540	2846		1459	894
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1459	2917	1540	2846		1459	894
Peak-hour factor, PHF	0.97	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	247	1219	5	1064	55	94	355
RTOR Reduction (vph)	0	0	0	3	0	0	232
Lane Group Flow (vph)	247	1219	5	1116	0	94	123
Confl. Peds. (#/hr)					400	400	400
Confl. Bikes (#/hr)					89		
Parking (#/hr)					10		
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	15.4	44.8	8.4	36.4		38.2	38.2
Effective Green, g (s)	15.4	44.8	8.4	36.4		38.2	38.2
Actuated g/C Ratio	0.14	0.41	0.08	0.33		0.35	0.35
Clearance Time (s)	6.6	5.2	6.6	6.6		6.8	6.8
Lane Grp Cap (vph)	204	1188	117	941		506	310
v/s Ratio Prot	0.17	c0.42	0.00	c0.39		0.06	
v/s Ratio Perm							c0.14
v/c Ratio	1.21	1.03	0.04	1.19		0.19	0.40
Uniform Delay, d1	47.3	32.6	47.1	36.8		25.0	27.2
Progression Factor	1.43	0.78	1.60	1.70		1.00	1.00
Incremental Delay, d2	109.1	22.0	0.2	86.3		0.8	3.8
Delay (s)	176.9	47.4	75.5	148.9		25.9	31.0
Level of Service	F	D	E	F		C	C
Approach Delay (s)		69.2		148.6		29.9	
Approach LOS		E		F		C	

Intersection Summary			
HCM 2000 Control Delay	92.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

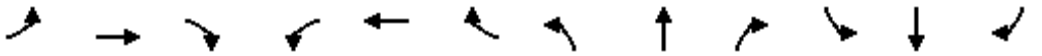
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	850	133	609	950	52	90	1599	522	0	0	0
Future Volume (vph)	930	850	133	609	950	52	90	1599	522	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Lane Util. Factor	0.94	0.95		0.97	0.95			0.86	1.00			
Frpb, ped/bikes	1.00	0.98		1.00	0.99			1.00	0.92			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00			
Frt	1.00	0.98		1.00	0.99			1.00	0.85			
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (prot)	4342	2970		2987	3015			5541	1267			
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00			
Satd. Flow (perm)	4342	2970		2987	3015			5541	1267			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	989	904	141	648	1011	55	96	1701	555	0	0	0
RTOR Reduction (vph)	0	11	0	0	1	0	0	0	213	0	0	0
Lane Group Flow (vph)	989	1034	0	648	1065	0	0	1797	342	0	0	0
Confl. Peds. (#/hr)			63			240	75		66			
Confl. Bikes (#/hr)			80			24			24			
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm			
Protected Phases	5	2		1	6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Effective Green, g (s)	18.2	37.2		13.2	33.7			39.2	39.2			
Actuated g/C Ratio	0.17	0.34		0.12	0.31			0.36	0.36			
Clearance Time (s)	6.8	6.8		6.8	5.3			6.8	6.8			
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)	718	1004		358	923			1974	451			
v/s Ratio Prot	c0.23	0.35		c0.22	c0.35							
v/s Ratio Perm								0.32	0.27			
v/c Ratio	1.38	1.03		1.81	1.15			0.91	0.76			
Uniform Delay, d1	45.9	36.4		48.4	38.1			33.7	31.2			
Progression Factor	1.07	1.10		0.70	0.94			1.25	1.79			
Incremental Delay, d2	170.7	17.6		369.7	75.6			3.2	3.2			
Delay (s)	220.0	57.6		403.7	111.3			45.3	59.1			
Level of Service	F	E		F	F			D	E			
Approach Delay (s)		136.5			221.8			48.6			0.0	
Approach LOS		F			F			D			A	

Intersection Summary			
HCM 2000 Control Delay	126.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
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)	350	1650	39	40	980	35	68	312	140	138	945	736
Future Volume (vph)	350	1650	39	40	980	35	68	312	140	138	945	736
Ideal Flow (vphpl)	1600	1600	1600	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00		1.00	0.98			1.00	0.71	1.00	0.97	0.57
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00	0.87	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1296	3697		1459	2845			1509	911	1269	1398	698
Flt Permitted	0.95	1.00		0.95	1.00			0.06	1.00	0.33	1.00	1.00
Satd. Flow (perm)	1296	3697		1459	2845			95	911	444	1398	698
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	376	1774	42	43	1054	38	73	335	151	148	1016	791
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	99	0	3	113
Lane Group Flow (vph)	376	1814	0	43	1090	0	0	408	52	148	1092	599
Confl. Peds. (#/hr)			201			498	1024		326	326		1024
Confl. Bikes (#/hr)			3									24
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	5
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			7	
Permitted Phases							4		4	7		7
Actuated Green, G (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Effective Green, g (s)	14.4	43.0		8.9	35.9			38.2	38.2	39.2	39.2	39.2
Actuated g/C Ratio	0.13	0.39		0.08	0.33			0.35	0.35	0.36	0.36	0.36
Clearance Time (s)	7.6	6.0		7.1	7.1			6.8	6.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	1445		118	928			32	316	158	498	248
v/s Ratio Prot	c0.29	c0.49		0.03	c0.38						0.78	
v/s Ratio Perm								c4.28	0.06	0.33		0.86
v/c Ratio	2.22	1.26		0.36	1.17			12.75	0.17	0.94	2.19	2.41
Uniform Delay, d1	47.8	33.5		47.9	37.0			35.9	24.9	34.2	35.4	35.4
Progression Factor	1.25	0.69		0.53	0.46			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	552.9	115.5		0.2	79.7			5347.8	0.2	52.6	543.7	648.5
Delay (s)	612.9	138.7		25.4	96.8			5383.7	25.1	86.8	579.1	683.9
Level of Service	F	F		C	F			F	C	F	F	F
Approach Delay (s)		220.1			94.1			3936.2			580.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	671.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	6.18		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	192.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1864	183	0	1376	90	27
Future Volume (vph)	1864	183	0	1376	90	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9			4.9	6.4	6.4
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3028			3079	1540	1356
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3028			3079	1540	1356
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1962	193	0	1448	95	28
RTOR Reduction (vph)	7	0	0	0	0	5
Lane Group Flow (vph)	2148	0	0	1448	95	23
Confl. Peds. (#/hr)		46	46			4
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	62.1			62.1	36.6	36.6
Effective Green, g (s)	62.1			62.1	36.6	36.6
Actuated g/C Ratio	0.56			0.56	0.33	0.33
Clearance Time (s)	4.9			4.9	6.4	6.4
Lane Grp Cap (vph)	1709			1738	512	451
v/s Ratio Prot	c0.71			0.47	c0.06	
v/s Ratio Perm						0.02
v/c Ratio	1.26			0.83	0.19	0.05
Uniform Delay, d1	23.9			19.7	26.1	24.9
Progression Factor	1.00			1.68	1.00	1.00
Incremental Delay, d2	120.7			0.5	0.8	0.2
Delay (s)	144.6			33.4	26.9	25.1
Level of Service	F			C	C	C
Approach Delay (s)	144.6			33.4	26.5	
Approach LOS	F			C	C	

Intersection Summary			
HCM 2000 Control Delay	97.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

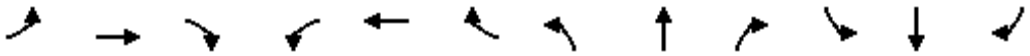
c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	90	120	30	4	30	79	134	53	13	20	10	31
Future Volume (vph)	90	120	30	4	30	79	134	53	13	20	10	31
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0					5.0				5.0	
Lane Util. Factor		1.00					1.00				1.00	
Frpb, ped/bikes		0.99					0.99				0.97	
Flpb, ped/bikes		0.99					0.98				0.94	
Frt		0.98					0.98				0.94	
Flt Protected		0.98					0.98				0.98	
Satd. Flow (prot)		1446					1217				1102	
Flt Permitted		0.70					0.72				0.76	
Satd. Flow (perm)		1029					893				851	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	105	140	35	5	35	92	156	62	15	23	12	36
RTOR Reduction (vph)	0	0	0	0	0	0	9	0	0	0	21	0
Lane Group Flow (vph)	0	285	0	0	0	0	336	0	0	0	65	0
Confl. Peds. (#/hr)	27		46		46			27		206		61
Confl. Bikes (#/hr)			3	3								4
Parking (#/hr)					10	10	10	10	10	10	10	10
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	
Protected Phases		2					6				8	
Permitted Phases	2				6	6			8	8		
Actuated Green, G (s)		27.0					27.0				38.0	
Effective Green, g (s)		27.0					27.0				38.0	
Actuated g/C Ratio		0.30					0.30				0.42	
Clearance Time (s)		5.0					5.0				5.0	
Vehicle Extension (s)		3.0					3.0				3.0	
Lane Grp Cap (vph)		308					267				359	
v/s Ratio Prot												
v/s Ratio Perm		0.28					c0.38				0.08	
v/c Ratio		0.93					1.26				0.18	
Uniform Delay, d1		30.5					31.5				16.3	
Progression Factor		1.00					1.00				1.00	
Incremental Delay, d2		35.3					142.8				0.2	
Delay (s)		65.8					174.3				16.5	
Level of Service		E					F				B	
Approach Delay (s)		65.8					174.3				16.5	
Approach LOS		E					F				B	

Intersection Summary			
HCM 2000 Control Delay	204.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	125	35	166	356	20	119	213	90
Future Volume (vph)	125	35	166	356	20	119	213	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0		5.0		5.0	5.0	
Lane Util. Factor		0.95		0.95		1.00	1.00	
Frpb, ped/bikes		0.81		0.67		1.00	0.78	
Flpb, ped/bikes		1.00		1.00		0.88	1.00	
Frt		0.92		0.85		1.00	0.85	
Flt Protected		0.98		1.00		0.95	1.00	
Satd. Flow (prot)		1058		829		1281	1014	
Flt Permitted		0.85		1.00		0.95	1.00	
Satd. Flow (perm)		918		829		1281	1014	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	145	41	193	414	23	138	248	105
RTOR Reduction (vph)	0	4	0	118	0	0	76	0
Lane Group Flow (vph)	0	416	0	255	0	161	277	0
Confl. Peds. (#/hr)				206		27		46
Confl. Bikes (#/hr)			30	30				
Parking (#/hr)								
Turn Type	Perm	NA		Perm	Perm	Prot	Perm	
Protected Phases		4				5		
Permitted Phases	4			4	5		5	
Actuated Green, G (s)		38.0		38.0		10.0	10.0	
Effective Green, g (s)		38.0		38.0		10.0	10.0	
Actuated g/C Ratio		0.42		0.42		0.11	0.11	
Clearance Time (s)		5.0		5.0		5.0	5.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		387		350		142	112	
v/s Ratio Prot								
v/s Ratio Perm		c0.45		0.31		0.13	c0.27	
v/c Ratio		1.07		0.73		1.13	2.48	
Uniform Delay, d1		26.0		21.7		40.0	40.0	
Progression Factor		1.00		1.00		1.00	1.00	
Incremental Delay, d2		67.2		7.4		116.0	690.7	
Delay (s)		93.2		29.1		156.0	730.7	
Level of Service		F		C		F	F	
Approach Delay (s)		63.0				550.7		
Approach LOS		E				F		

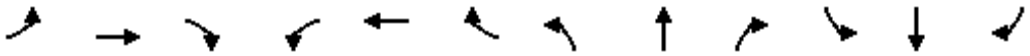
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	112	0	0	890	52	174	200	345	15	0	286
Future Volume (vph)	50	112	0	0	890	52	174	200	345	15	0	286
Ideal Flow (vphpl)	1800	1800	1800	1000	1000	1000	1800	1800	1800	1800	1800	1800
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00			*0.80	1.00	1.00	0.95			1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.98			0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00			1.00	
Frt		1.00			1.00	0.85	1.00	0.91			0.87	
Flt Protected		0.98			1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1283			2047	702	1459	2589			1319	
Flt Permitted		0.63			1.00	1.00	0.51	1.00			0.96	
Satd. Flow (perm)		817			2047	702	788	2589			1270	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	118	0	0	937	55	183	211	363	16	0	301
RTOR Reduction (vph)	0	0	0	0	0	0	0	230	0	0	0	0
Lane Group Flow (vph)	0	171	0	0	937	55	183	344	0	0	317	0
Confl. Peds. (#/hr)	32					32			8	8		
Confl. Bikes (#/hr)												1
Parking (#/hr)	10	10										
Turn Type	Perm	NA			NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2					6	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Effective Green, g (s)		28.0			28.0	28.0	22.0	22.0			22.0	
Actuated g/C Ratio		0.47			0.47	0.47	0.37	0.37			0.37	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0			5.0	
Lane Grp Cap (vph)		381			955	327	288	949			465	
v/s Ratio Prot					c0.46			0.13				
v/s Ratio Perm		0.21				0.08	0.23				c0.25	
v/c Ratio		0.45			0.98	0.17	0.64	0.36			0.68	
Uniform Delay, d1		10.8			15.7	9.3	15.7	13.9			16.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		3.8			24.9	1.1	10.3	1.1			7.9	
Delay (s)		14.6			40.7	10.4	25.9	15.0			23.9	
Level of Service		B			D	B	C	B			C	
Approach Delay (s)		14.6			39.0			17.6			23.9	
Approach LOS		B			D			B			C	

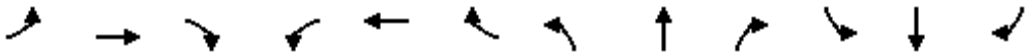
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



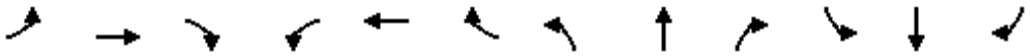
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	417	254	29	165	171	12	230	149	386	118	2
Future Volume (vph)	221	417	254	29	165	171	12	230	149	386	118	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0			4.0	3.0		3.0		2.0	2.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		1.00	1.00	
Frpb, ped/bikes		0.94			1.00	0.87		0.91		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		0.96			1.00	0.85		0.94		1.00	1.00	
Flt Protected		0.99			0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1128			1471	1092		2492		1459	1532	
Flt Permitted		0.99			0.79	1.00		0.95		0.40	1.00	
Satd. Flow (perm)		1128			1176	1092		2361		620	1532	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	235	444	270	31	176	182	13	245	159	411	126	2
RTOR Reduction (vph)	0	16	0	0	0	106	0	106	0	0	1	0
Lane Group Flow (vph)	0	933	0	0	207	76	0	311	0	411	127	0
Confl. Peds. (#/hr)			149			124			91			
Confl. Bikes (#/hr)			77									
Parking (#/hr)		10	10									
Turn Type	Split	NA		Perm	NA	custom	Perm	NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8		4	2			6		
Actuated Green, G (s)		24.0			24.0	24.0		24.0		24.0	24.0	
Effective Green, g (s)		27.0			26.0	27.0		27.0		28.0	28.0	
Actuated g/C Ratio		0.30			0.29	0.30		0.30		0.31	0.31	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)		338			339	327		708		192	476	
v/s Ratio Prot		c0.83									0.08	
v/s Ratio Perm					c0.18	0.07		0.13		c0.66		
v/c Ratio		2.76			0.61	0.23		0.44		2.14	0.27	
Uniform Delay, d1		31.5			27.6	23.7		25.4		31.0	23.3	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		800.3			8.0	1.7		2.0		530.3	1.4	
Delay (s)		831.8			35.6	25.4		27.4		561.3	24.7	
Level of Service		F			D	C		C		F	C	
Approach Delay (s)		831.8			30.8			27.4			433.9	
Approach LOS		F			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	456.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	129.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



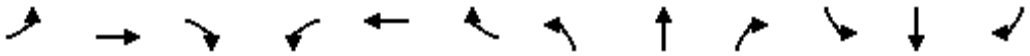
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	370	256	110	470	120	50	580	190	64	458	190
Future Volume (vph)	205	370	256	110	470	120	50	580	190	64	458	190
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0			2.0			3.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frpb, ped/bikes		0.85			0.91			0.93			0.92	
Flpb, ped/bikes		0.96			0.98			0.99			0.99	
Frt		0.95			0.97			0.97			0.96	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		2076			2342			2570			2333	
Flt Permitted		0.61			0.68			0.88			0.79	
Satd. Flow (perm)		1284			1615			2259			1853	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	216	389	269	116	495	126	53	611	200	67	482	200
RTOR Reduction (vph)	0	10	0	0	7	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	864	0	0	730	0	0	864	0	0	739	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			9			22			38			26
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	0	0	5	0
Parking (#/hr)		10	10		10	10					10	10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		25.0			25.0			25.0			25.0	
Effective Green, g (s)		28.0			28.0			28.0			27.0	
Actuated g/C Ratio		0.47			0.47			0.47			0.45	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		599			753			1054			833	
v/s Ratio Prot												
v/s Ratio Perm		c0.67			0.45			0.38			c0.40	
v/c Ratio		1.44			0.97			0.82			0.89	
Uniform Delay, d1		16.0			15.6			13.8			15.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		208.3			26.2			7.1			13.4	
Delay (s)		224.3			41.7			21.0			28.5	
Level of Service		F			D			C			C	
Approach Delay (s)		224.3			41.7			21.0			28.5	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	82.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	126.3%	ICU Level of Service	H
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)	386	1276	142	0	0	0	0	704	130	25	592	0
Future Volume (vph)	386	1276	142	0	0	0	0	704	130	25	592	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	11	11	11	11	11	11	12	12	10	12	12	12
Total Lost time (s)	3.5	3.5						0.5	3.5		3.5	
Lane Util. Factor	0.97	0.91						1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99						1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00		1.00	
Frt	1.00	0.98						1.00	0.85		1.00	
Flt Protected	0.95	1.00						1.00	1.00		1.00	
Satd. Flow (prot)	2830	4089						1588	1260		1553	
Flt Permitted	0.95	1.00						1.00	1.00		0.72	
Satd. Flow (perm)	2830	4089						1588	1260		1125	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	411	1357	151	0	0	0	0	749	138	27	630	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	411	1493	0	0	0	0	0	749	138	0	657	0
Confl. Peds. (#/hr)			83						457	457		
Confl. Bikes (#/hr)			5						41			
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	5	0
Turn Type	Perm	NA						NA	custom	Perm	NA	
Protected Phases		2						8 7	7		4	
Permitted Phases	2									4		
Actuated Green, G (s)	35.5	35.5						44.5	18.5		44.5	
Effective Green, g (s)	37.0	37.0						46.0	20.0		46.0	
Actuated g/C Ratio	0.41	0.41						0.51	0.22		0.51	
Clearance Time (s)	5.0	5.0							5.0		5.0	
Lane Grp Cap (vph)	1163	1681						811	280		575	
v/s Ratio Prot		c0.37						0.47	0.11			
v/s Ratio Perm	0.15										c0.58	
v/c Ratio	0.35	0.89						0.92	0.49		1.14	
Uniform Delay, d1	18.3	24.6						20.4	30.6		22.0	
Progression Factor	1.08	1.19						1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.8						17.7	6.1		83.5	
Delay (s)	19.7	30.1						38.1	36.7		105.5	
Level of Service	B	C						D	D		F	
Approach Delay (s)		27.9			0.0			37.9			105.5	
Approach LOS		C			A			D			F	

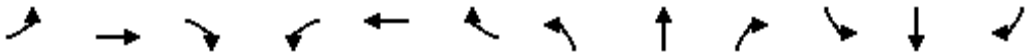
Intersection Summary			
HCM 2000 Control Delay	45.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	630	1280	0	0	0	0	0	1883	596	0	0	0
Future Volume (vph)	630	1280	0	0	0	0	0	1883	596	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.5						4.5				
Lane Util. Factor		0.86						0.91				
Frpb, ped/bikes		1.00						0.93				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						0.96				
Flt Protected		0.98						1.00				
Satd. Flow (prot)		5017						3632				
Flt Permitted		0.98						1.00				
Satd. Flow (perm)		5017						3632				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	656	1333	0	0	0	0	0	1961	621	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1989	0	0	0	0	0	2582	0	0	0	0
Confl. Peds. (#/hr)									261			
Confl. Bikes (#/hr)									10			
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)		29.0						24.0				
Effective Green, g (s)		30.5						25.5				
Actuated g/C Ratio		0.34						0.28				
Clearance Time (s)		6.0						6.0				
Lane Grp Cap (vph)		1700						1029				
v/s Ratio Prot								c0.71				
v/s Ratio Perm		0.40										
v/c Ratio		1.38dl						2.51				
Uniform Delay, d1		29.8						32.2				
Progression Factor		0.31						1.00				
Incremental Delay, d2		79.3						682.1				
Delay (s)		88.6						714.3				
Level of Service		F						F				
Approach Delay (s)		88.6			0.0			714.3			0.0	
Approach LOS		F			A			F			A	

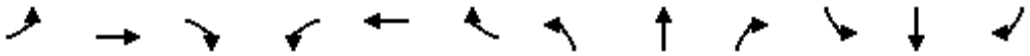
Intersection Summary			
HCM 2000 Control Delay	442.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	108.7%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	2010	140	391	1728	495	0	0	0
Future Volume (vph)	0	0	0	0	2010	140	391	1728	495	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			3.5				
Lane Util. Factor					0.95			0.91				
Frpb, ped/bikes					0.99			0.89				
Flpb, ped/bikes					1.00			1.00				
Frt					0.99			0.97				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					2720			3473				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					2720			3473				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	2138	149	416	1838	527	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2281	0	0	2781	0	0	0	0
Confl. Peds. (#/hr)						146	277		408			
Confl. Bikes (#/hr)						6			58			
Bus Blockages (#/hr)	0	0	0	0	5	0	0	0	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			26.5				
Actuated g/C Ratio					0.35			0.29				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					952			1022				
v/s Ratio Prot					c0.84			c0.80				
v/s Ratio Perm												
v/c Ratio					2.40			2.72				
Uniform Delay, d1					29.2			31.8				
Progression Factor					1.00			0.53				
Incremental Delay, d2					631.5			774.8				
Delay (s)					660.8			791.5				
Level of Service					F			F				
Approach Delay (s)		0.0			660.8			791.5			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	732.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	140.7%	ICU Level of Service	H
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)	0	0	0	0	1640	430	350	1688	0	0	0	0
Future Volume (vph)	0	0	0	0	1640	430	350	1688	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1300	1300	1300	1600	1600	1600
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					3.5			-0.5				
Lane Util. Factor					0.91			0.91				
Frpb, ped/bikes					0.92			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3224			2898				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3224			2898				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	0	1745	457	372	1796	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	52	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2150	0	0	2168	0	0	0	0
Confl. Peds. (#/hr)						368	494					
Confl. Bikes (#/hr)						23						
Turn Type					NA		Split	NA				
Protected Phases					8		2	2				
Permitted Phases												
Actuated Green, G (s)					29.0			24.0				
Effective Green, g (s)					31.5			30.5				
Actuated g/C Ratio					0.35			0.34				
Clearance Time (s)					6.0			6.0				
Lane Grp Cap (vph)					1128			982				
v/s Ratio Prot					c0.67			c0.75				
v/s Ratio Perm												
v/c Ratio					1.91			2.21				
Uniform Delay, d1					29.2			29.8				
Progression Factor					1.00			0.42				
Incremental Delay, d2					411.0			543.8				
Delay (s)					440.3			556.2				
Level of Service					F			F				
Approach Delay (s)		0.0			440.3			556.2			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	497.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	127.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	NBR	SBL	SBT	SEL	SER
Lane Configurations							
Traffic Volume (vph)	1454	411	0	123	716	140	60
Future Volume (vph)	1454	411	0	123	716	140	60
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	2.0
Lane Util. Factor	0.86	1.00		1.00	0.95	0.94	0.86
Frpb, ped/bikes	1.00	0.96		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.64	1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.99	0.85
Flt Protected	1.00	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	5099	1212		903	2605	4086	1122
Flt Permitted	1.00	1.00		0.95	1.00	0.96	1.00
Satd. Flow (perm)	5099	1212		903	2605	4086	1122
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1598	452	0	135	787	154	66
RTOR Reduction (vph)	0	117	0	96	0	0	0
Lane Group Flow (vph)	1598	335	0	39	787	169	51
Confl. Peds. (#/hr)		24		528			
Parking (#/hr)					10		
Turn Type	NA	Perm	Perm	Perm	NA	Prot	Perm
Protected Phases	4				6	9	
Permitted Phases		4	2	6			9
Actuated Green, G (s)	24.0	24.0		24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0		26.0	26.0	28.0	28.0
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1473	350		260	752	1271	349
v/s Ratio Prot	c0.31				c0.30	0.04	
v/s Ratio Perm		0.28		0.04			c0.05
v/c Ratio	1.08	0.96		0.15	1.05	0.13	0.15
Uniform Delay, d1	32.0	31.5		23.8	32.0	22.3	22.4
Progression Factor	1.00	1.01		1.56	1.04	1.00	1.00
Incremental Delay, d2	39.5	7.6		1.0	42.8	0.2	0.9
Delay (s)	71.4	39.4		38.0	76.2	22.5	23.3
Level of Service	E	D		D	E	C	C
Approach Delay (s)	64.4				70.7	22.7	
Approach LOS	E				E	C	

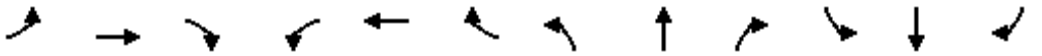
Intersection Summary			
HCM 2000 Control Delay	63.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBL	WBT	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	230	1036	1480	480	760	250
Future Volume (vph)	230	1036	1480	480	760	250
Ideal Flow (vphpl)	1600	1600	1800	1600	1600	1600
Total Lost time (s)	2.4		2.4	5.7	2.7	2.7
Lane Util. Factor	0.86		0.86	0.91	0.91	1.00
Frpb, ped/bikes	1.00		1.00	0.98	0.96	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.93	0.85	0.85
Flt Protected	0.95		0.98	1.00	1.00	1.00
Satd. Flow (prot)	1115		3854	2278	1013	1099
Flt Permitted	0.95		0.98	1.00	1.00	1.00
Satd. Flow (perm)	1115		3854	2278	1013	1099
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	235	1057	1510	490	776	255
RTOR Reduction (vph)	0	0	0	0	0	14
Lane Group Flow (vph)	211	0	2591	870	396	241
Confl. Peds. (#/hr)						21
Confl. Bikes (#/hr)					65	65
Bus Blockages (#/hr)	0	0	5	0	0	0
Turn Type	Perm	Perm	NA	NA	Perm	Perm
Protected Phases			6	4		
Permitted Phases	6	6			4	4
Actuated Green, G (s)	35.6		35.6	43.3	43.3	43.3
Effective Green, g (s)	38.6		38.6	43.3	46.3	46.3
Actuated g/C Ratio	0.43		0.43	0.48	0.51	0.51
Clearance Time (s)	5.4		5.4	5.7	5.7	5.7
Lane Grp Cap (vph)	478		1652	1095	521	565
v/s Ratio Prot				0.38		
v/s Ratio Perm	0.19		0.67		c0.39	0.22
v/c Ratio	0.44		1.86dl	0.79	0.76	0.43
Uniform Delay, d1	18.1		25.7	19.6	17.4	13.6
Progression Factor	1.33		1.16	1.33	1.44	1.61
Incremental Delay, d2	0.3		256.1	2.7	4.6	1.0
Delay (s)	24.4		285.8	28.9	29.7	23.0
Level of Service	C		F	C	C	C
Approach Delay (s)			266.1	28.1		
Approach LOS			F	C		

Intersection Summary			
HCM 2000 Control Delay	182.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.1
Intersection Capacity Utilization	123.8%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	510	1540	0	0	0	0	0	900	675
Future Volume (vph)	0	0	0	510	1540	0	0	0	0	0	900	675
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)				2.5	2.5						2.0	2.0
Lane Util. Factor				1.00	0.91						0.95	1.00
Frpb, ped/bikes				1.00	1.00						1.00	0.66
Flpb, ped/bikes				1.00	1.00						1.00	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				1459	4191						2888	863
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				1459	4191						2888	863
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	520	1571	0	0	0	0	0	918	689
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	520	1571	0	0	0	0	0	918	689
Confl. Peds. (#/hr)				195		399	495		657	657		495
Confl. Bikes (#/hr)												25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	5	0
Turn Type				Split	NA						NA	Perm
Protected Phases				6	6						4	
Permitted Phases												4
Actuated Green, G (s)				32.0	32.0						29.0	29.0
Effective Green, g (s)				33.5	33.5						31.0	31.0
Actuated g/C Ratio				0.37	0.37						0.34	0.34
Clearance Time (s)				4.0	4.0						4.0	4.0
Lane Grp Cap (vph)				543	1559						994	297
v/s Ratio Prot				0.36	c0.37						0.32	
v/s Ratio Perm												c0.80
v/c Ratio				0.96	1.01						0.92	2.32
Uniform Delay, d1				27.6	28.2						28.4	29.5
Progression Factor				1.18	1.18						1.00	1.00
Incremental Delay, d2				5.3	8.8						15.2	604.4
Delay (s)				37.9	42.3						43.5	633.9
Level of Service				D	D						D	F
Approach Delay (s)		0.0			41.2			0.0			296.7	
Approach LOS		A			D			A			F	

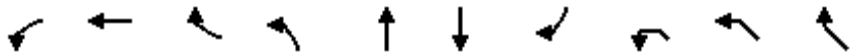
Intersection Summary			
HCM 2000 Control Delay	152.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	127.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	102	290	1165	128	550	516	154	260	319	950
Future Volume (vph)	102	290	1165	128	550	516	154	260	319	950
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	10	10	10	10	11	12	12	10	10	11
Total Lost time (s)		6.0	3.5	4.0	4.5	4.0			4.5	4.5
Lane Util. Factor		0.86	0.86	1.00	1.00	1.00			0.97	1.00
Frpb, ped/bikes		1.00	1.00	0.73	1.00	0.84			1.00	1.00
Flpb, ped/bikes		0.88	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
Flt Protected		0.95	1.00	1.00	1.00	1.00			0.95	1.00
Satd. Flow (prot)		2143	2521	918	1535	1130			2732	1305
Flt Permitted		0.95	1.00	1.00	1.00	1.00			0.23	1.00
Satd. Flow (perm)		2143	2521	918	1535	1130			652	1305
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	110	312	1253	138	591	555	166	280	343	1022
RTOR Reduction (vph)	0	0	0	20	0	20	0	0	0	0
Lane Group Flow (vph)	0	391	1284	118	591	701	0	0	623	1022
Confl. Peds. (#/hr)	100			100		100				
Confl. Bikes (#/hr)				10			10	10		
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0
Parking (#/hr)										10
Turn Type	Perm	Prot	NA	Perm	NA	Perm		Perm	Perm	NA
Protected Phases		7	4		2					6
Permitted Phases	4			4		2		6	6	
Actuated Green, G (s)		39.0	39.0	39.0	39.0	39.0			39.0	39.0
Effective Green, g (s)		39.0	41.5	41.0	40.5	41.0			40.5	40.5
Actuated g/C Ratio		0.43	0.46	0.46	0.45	0.46			0.45	0.45
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Grp Cap (vph)		928	1162	418	690	514			293	587
v/s Ratio Prot			c0.51		0.38					0.78
v/s Ratio Perm		0.18		0.13		0.62			c0.96	
v/c Ratio		0.42	1.10	0.28	0.86	1.36			2.13	1.74
Uniform Delay, d1		17.7	24.2	15.3	22.1	24.5			24.8	24.8
Progression Factor		1.00	1.00	1.00	1.00	1.00			0.77	0.77
Incremental Delay, d2		1.4	60.1	1.7	13.0	176.3			507.9	334.1
Delay (s)		19.1	84.3	17.0	35.1	200.8			526.9	353.1
Level of Service		B	F	B	D	F			F	F
Approach Delay (s)			65.1		126.1					418.9
Approach LOS			E		F					F

Intersection Summary			
HCM 2000 Control Delay	203.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		

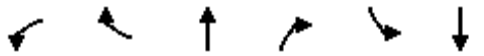
c Critical Lane Group



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	NWL2	NWL	NWR
Lane Configurations										
Traffic Volume (vph)	250	1050	150	100	570	894	340	502	1360	460
Future Volume (vph)	250	1050	150	100	570	894	340	502	1360	460
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		2.0			2.0	2.0			2.0	2.0
Lane Util. Factor		0.86			0.95	0.95			0.94	0.86
Frpb, ped/bikes		0.99			1.00	0.95			1.00	0.88
Flpb, ped/bikes		0.99			1.00	1.00			0.84	1.00
Frt		0.98			1.00	0.96			1.00	0.85
Flt Protected		0.99			0.99	1.00			0.95	1.00
Satd. Flow (prot)		5024			2866	2435			3419	985
Flt Permitted		0.99			0.52	1.00			0.95	1.00
Satd. Flow (perm)		5024			1500	2435			3419	985
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93
Adj. Flow (vph)	272	1129	161	108	613	961	366	546	1462	495
RTOR Reduction (vph)	0	22	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	1540	0	0	721	1326	0	0	2058	445
Confl. Peds. (#/hr)	50		100	100			100	50	100	100
Confl. Bikes (#/hr)			9				102			
Bus Blockages (#/hr)	0	5	0	0	5	5	0	0	0	0
Parking (#/hr)						10				
Turn Type	Perm	NA		Perm	NA	NA		Perm	Prot	Perm
Protected Phases		6			4	4			7	
Permitted Phases	6			4				7		7
Actuated Green, G (s)		27.0			25.0	25.0			24.0	24.0
Effective Green, g (s)		29.0			28.0	28.0			27.0	27.0
Actuated g/C Ratio		0.32			0.31	0.31			0.30	0.30
Clearance Time (s)		4.0			5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1618			466	757			1025	295
v/s Ratio Prot						c0.54				
v/s Ratio Perm		0.31			0.48				0.60	0.45
v/c Ratio		0.95			1.64dl	1.75			2.01	1.51
Uniform Delay, d1		29.8			31.0	31.0			31.5	31.5
Progression Factor		0.60			1.57	1.00			1.00	1.00
Incremental Delay, d2		1.8			252.8	343.5			457.0	245.7
Delay (s)		19.6			301.5	374.5			488.5	277.2
Level of Service		B			F	F			F	F
Approach Delay (s)		19.6			301.5	374.5			450.9	
Approach LOS		B			F	F			F	

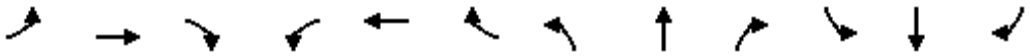
Intersection Summary			
HCM 2000 Control Delay	306.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	151.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



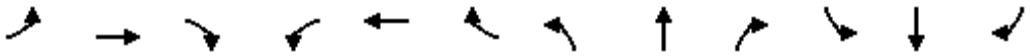
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	150	1761	137	64	571
Future Volume (vph)	10	150	1761	137	64	571
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	5.2		5.2	5.2
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1540	1378	3017		1534	3079
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1540	1378	3017		86	3079
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	167	1957	152	71	634
RTOR Reduction (vph)	0	9	5	0	0	0
Lane Group Flow (vph)	11	158	2104	0	71	634
Confl. Peds. (#/hr)	77			131	131	
Confl. Bikes (#/hr)				38		
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	25.6	25.6	74.8		74.8	74.8
Effective Green, g (s)	25.6	25.6	74.8		74.8	74.8
Actuated g/C Ratio	0.23	0.23	0.68		0.68	0.68
Clearance Time (s)	4.4	4.4	5.2		5.2	5.2
Lane Grp Cap (vph)	358	320	2051		58	2093
v/s Ratio Prot	0.01		0.70			0.21
v/s Ratio Perm		c0.11			c0.82	
v/c Ratio	0.03	0.49	1.03		1.22	0.30
Uniform Delay, d1	32.6	36.6	17.6		17.6	7.1
Progression Factor	1.00	1.00	1.00		2.80	0.80
Incremental Delay, d2	0.2	5.3	26.7		114.3	0.0
Delay (s)	32.8	41.9	44.3		163.6	5.7
Level of Service	C	D	D		F	A
Approach Delay (s)	41.4		44.3			21.6
Approach LOS	D		D			C

Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
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)	203	72	243	55	58	164	43	1547	219	6	600	66
Future Volume (vph)	203	72	243	55	58	164	43	1547	219	6	600	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.97		0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.92		1.00	0.98		1.00	0.99	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1559	1342		1458		1459	2834		1540	3012	
Flt Permitted		0.50	1.00		0.75		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		809	1342		1106		1459	2834		1540	3012	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	228	81	273	62	65	184	48	1738	246	7	674	74
RTOR Reduction (vph)	0	0	185	0	52	0	0	11	0	0	8	0
Lane Group Flow (vph)	0	309	88	0	259	0	48	1973	0	7	740	0
Confl. Peds. (#/hr)	7		15	15		7			18			56
Confl. Bikes (#/hr)									35			31
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Effective Green, g (s)		32.1	32.1		32.1		14.8	35.5		16.5	37.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.15	0.36		0.16	0.38	
Clearance Time (s)		4.9	4.9		4.9		5.2	5.5		5.5	5.5	
Lane Grp Cap (vph)		259	430		355		215	1006		254	1129	
v/s Ratio Prot							0.03	c0.70		0.00	c0.25	
v/s Ratio Perm		c0.38	0.07		0.23							
v/c Ratio		1.19	0.20		0.73		0.22	1.96		0.03	0.66	
Uniform Delay, d1		34.0	24.7		30.1		37.5	32.2		35.0	25.9	
Progression Factor		1.00	1.00		1.00		1.51	0.71		1.00	1.00	
Incremental Delay, d2		118.4	1.1		12.4		0.2	432.9		0.2	3.0	
Delay (s)		152.3	25.7		42.5		56.9	455.7		35.2	28.9	
Level of Service		F	C		D		E	F		D	C	
Approach Delay (s)		93.0			42.5			446.3			28.9	
Approach LOS		F			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	270.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



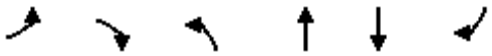
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	220	118	376	49	149	134	1594	121	255	685	23
Future Volume (vph)	70	220	118	376	49	149	134	1594	121	255	685	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1750	1750	1750	1900	1900	1900
Total Lost time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1302			1491		1418	2779		1540	3055	
Flt Permitted		0.89			0.42		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1164			654		1418	2779		1540	3055	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	242	130	413	54	164	147	1752	133	280	753	25
RTOR Reduction (vph)	0	15	0	0	13	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	434	0	0	618	0	147	1879	0	280	775	0
Confl. Peds. (#/hr)	42		11	11		42			64			36
Confl. Bikes (#/hr)			1						36			31
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Effective Green, g (s)		32.7			32.7		15.0	36.9		14.9	36.9	
Actuated g/C Ratio		0.33			0.33		0.15	0.37		0.15	0.37	
Clearance Time (s)		5.3			5.3		5.0	5.1		5.1	5.1	
Lane Grp Cap (vph)		380			213		212	1025		229	1127	
v/s Ratio Prot							0.10	c0.68		c0.18	0.25	
v/s Ratio Perm		0.37			c0.95							
v/c Ratio		1.14			2.90		0.69	1.83		1.22	0.69	
Uniform Delay, d1		33.6			33.6		40.3	31.6		42.5	26.7	
Progression Factor		1.00			1.00		1.26	0.96		0.85	0.89	
Incremental Delay, d2		91.0			868.8		1.7	375.4		128.0	2.8	
Delay (s)		124.6			902.4		52.3	405.8		164.0	26.7	
Level of Service		F			F		D	F		F	C	
Approach Delay (s)		124.6			902.4			380.2			63.0	
Approach LOS		F			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	351.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.13		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	155.4%	ICU Level of Service	H
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)	54	43	33	10	45	102	57	379	38	425	440	61
Future Volume (vph)	54	43	33	10	45	102	57	379	38	425	440	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1600	1600	1600	1600	1600	1600
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.98	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.99			1.00	1.00	0.90	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1282			1604	1351	1166	1339		1296	1301	
Flt Permitted		0.84			0.94	1.00	0.46	1.00		0.95	1.00	
Satd. Flow (perm)		1096			1520	1351	566	1339		1296	1301	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	47	36	11	49	111	62	412	41	462	478	66
RTOR Reduction (vph)	0	20	0	0	0	73	0	4	0	0	4	0
Lane Group Flow (vph)	0	122	0	0	60	38	62	449	0	462	540	0
Confl. Peds. (#/hr)	18		6	6		18	145		50			145
Confl. Bikes (#/hr)			3			2			18			25
Parking (#/hr)	10	10	10									
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		10.1			10.1	21.3	25.7	25.7		11.2	41.9	
Effective Green, g (s)		10.1			10.1	21.3	25.7	25.7		11.2	41.9	
Actuated g/C Ratio		0.16			0.16	0.34	0.41	0.41		0.18	0.68	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		178			247	573	234	555		234	879	
v/s Ratio Prot						0.01		c0.34		c0.36	0.41	
v/s Ratio Perm		c0.11			0.04	0.02	0.11					
v/c Ratio		0.68			0.24	0.07	0.26	0.81		1.97	0.61	
Uniform Delay, d1		24.5			22.6	13.7	11.9	16.0		25.4	5.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		10.4			0.5	0.0	0.6	8.5		453.5	1.3	
Delay (s)		34.9			23.1	13.7	12.5	24.5		478.9	6.9	
Level of Service		C			C	B	B	C		F	A	
Approach Delay (s)		34.9			17.0			23.0			223.7	
Approach LOS		C			B			C			F	

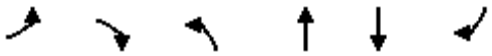
Intersection Summary			
HCM 2000 Control Delay	133.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	26	215	287	154	136	148
Future Volume (vph)	26	215	287	154	136	148
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	30	244	326	175	155	168

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	30	244	384	117	103	220
Volume Left (vph)	30	0	326	0	0	0
Volume Right (vph)	0	244	0	0	0	168
Hadj (s)	0.53	-0.67	0.46	0.03	0.03	-0.50
Departure Headway (s)	7.1	5.9	6.2	5.8	6.1	5.5
Degree Utilization, x	0.06	0.40	0.67	0.19	0.17	0.34
Capacity (veh/h)	472	571	560	596	562	621
Control Delay (s)	9.3	11.5	19.6	8.9	9.2	10.1
Approach Delay (s)	11.3		17.1		9.8	
Approach LOS	B		C		A	

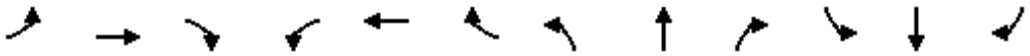
Intersection Summary			
Delay	13.5		
Level of Service	B		
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	50	412	384	125
Future Volume (Veh/h)	25	25	50	412	384	125
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	30	30	60	496	463	151
Pedestrians	12			2	3	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	922	321	626			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	922	321	626			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	96	94			
cM capacity (veh/h)	249	667	943			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	225	331	309	305
Volume Left	30	60	0	0	0
Volume Right	30	0	0	0	151
cSH	363	943	1700	1700	1700
Volume to Capacity	0.17	0.06	0.19	0.18	0.18
Queue Length 95th (ft)	15	5	0	0	0
Control Delay (s)	16.9	2.9	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	16.9	1.2		0.0	
Approach LOS	C				

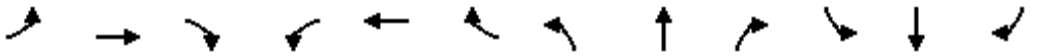
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	385	141	365	31	295	144	367	1325	22	71	992	440
Future Volume (vph)	385	141	365	31	295	144	367	1325	22	71	992	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	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	0.95		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1532	1378	1136	1532	1527		2987	3069		1540	2899	
Flt Permitted	0.24	1.00	1.00	0.65	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	394	1378	1136	1053	1527		2987	3069		1540	2899	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	410	150	388	33	314	153	390	1410	23	76	1055	468
RTOR Reduction (vph)	0	0	233	0	18	0	0	1	0	0	51	0
Lane Group Flow (vph)	410	150	155	33	449	0	390	1432	0	76	1472	0
Confl. Peds. (#/hr)	15		7	7		15			36			4
Confl. Bikes (#/hr)			18			6			27			16
Parking (#/hr)		10	10									
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		14.0	37.8		12.0	35.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.14	0.38		0.12	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.0	5.2		5.0	5.2	
Lane Grp Cap (vph)	135	475	391	363	526		418	1160		184	1037	
v/s Ratio Prot		0.11			0.29		0.13	c0.47		0.05	c0.51	
v/s Ratio Perm	c1.04		0.14	0.03								
v/c Ratio	3.04	0.32	0.40	0.09	0.85		0.93	1.23		0.41	1.42	
Uniform Delay, d1	32.8	24.1	24.8	22.1	30.4		42.5	31.1		40.7	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.71	0.81		0.91	0.87	
Incremental Delay, d2	936.1	1.7	3.0	0.5	16.1		4.7	106.2		0.6	189.4	
Delay (s)	968.9	25.8	27.8	22.6	46.5		35.1	131.4		37.9	217.3	
Level of Service	F	C	C	C	D		D	F		D	F	
Approach Delay (s)		434.5			44.9			110.8			208.7	
Approach LOS		F			D			F			F	

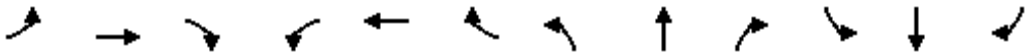
Intersection Summary			
HCM 2000 Control Delay	199.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.08		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	133.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	532	260	71	1067	126	140	180	132	177	330	213
Future Volume (vph)	148	532	260	71	1067	126	140	180	132	177	330	213
Ideal Flow (vphpl)	1700	1700	1900	1900	1600	1600	1900	1900	1900	1600	1900	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	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	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.98	1.00
Satd. Flow (prot)	1377	1232	1378	1540	1365	1131	1540	2884			3026	1133
Flt Permitted	0.95	1.00	1.00	0.38	1.00	1.00	0.36	1.00			0.70	1.00
Satd. Flow (perm)	1377	1232	1378	615	1365	1131	581	2884			2146	1133
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	164	591	283	77	1186	140	152	196	143	197	359	237
RTOR Reduction (vph)	0	0	73	0	0	43	0	92	0	0	0	78
Lane Group Flow (vph)	164	591	210	77	1186	97	152	247	0	0	556	159
Confl. Peds. (#/hr)						12						4
Confl. Bikes (#/hr)						8						
Parking (#/hr)		10										
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		4
Actuated Green, G (s)	4.0	45.5	45.5	36.5	36.5	36.5	30.1	30.1			29.1	29.1
Effective Green, g (s)	4.0	45.5	45.5	36.5	36.5	36.5	30.1	30.1			29.1	29.1
Actuated g/C Ratio	0.05	0.54	0.54	0.43	0.43	0.43	0.36	0.36			0.34	0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	65	662	741	265	588	487	206	1026			738	389
v/s Ratio Prot	c0.12	0.48			c0.87			0.09				
v/s Ratio Perm			0.15	0.13		0.09	c0.26				0.26	0.14
v/c Ratio	2.52	0.89	0.28	0.29	2.02	0.20	0.74	0.24			0.75	0.41
Uniform Delay, d1	40.3	17.4	10.7	15.6	24.0	15.0	23.8	19.2			24.6	21.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	728.5	14.4	0.2	0.6	463.6	0.2	12.9	0.1			4.4	0.7
Delay (s)	768.8	31.8	10.9	16.2	487.7	15.2	36.7	19.3			28.9	21.9
Level of Service	F	C	B	B	F	B	D	B			C	C
Approach Delay (s)		142.5			414.7			24.7			26.8	
Approach LOS		F			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	204.9	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.52			
Actuated Cycle Length (s)	84.6	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	128.9%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				



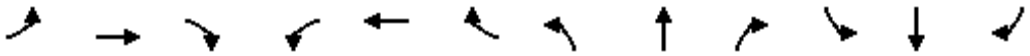
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	691	94	63	794	560	80	328	56	224	90	140
Future Volume (vph)	80	691	94	63	794	560	80	328	56	224	90	140
Ideal Flow (vphpl)	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.91		1.00	0.88	1.00	1.00	0.93	1.00	0.96	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1190	922		1402	1053	1337	1407	949	1337	1230	
Flt Permitted		0.30	1.00		0.50	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		358	922		709	1053	1337	1407	949	1337	1230	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	727	99	66	836	589	84	345	59	236	95	147
RTOR Reduction (vph)	0	0	46	0	0	72	0	0	44	0	57	0
Lane Group Flow (vph)	0	811	53	0	902	517	84	345	15	236	185	0
Confl. Peds. (#/hr)	63		26	26		63						13
Confl. Bikes (#/hr)			40			6			32			11
Parking (#/hr)		10	10						10			
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		2			6	7	3	8		7	4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		59.0	59.0		59.0	67.0	14.8	28.0	28.0	8.0	21.2	
Effective Green, g (s)		59.0	59.0		59.0	67.0	14.8	28.0	28.0	8.0	21.2	
Actuated g/C Ratio		0.54	0.54		0.54	0.61	0.13	0.25	0.25	0.07	0.19	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		192	494		380	689	179	358	241	97	237	
v/s Ratio Prot						0.05	0.06	c0.25		c0.18	0.15	
v/s Ratio Perm		c2.26	0.06		1.27	0.44			0.02			
v/c Ratio		4.22	0.11		2.37	0.75	0.47	0.96	0.06	2.43	0.78	
Uniform Delay, d1		25.5	12.5		25.5	15.5	44.0	40.5	31.1	51.0	42.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1463.0	0.1		626.2	4.6	1.9	37.7	0.1	674.9	14.9	
Delay (s)		1488.5	12.6		651.7	20.1	45.9	78.2	31.2	725.9	57.1	
Level of Service		F	B		F	C	D	E	C	F	E	
Approach Delay (s)		1327.9			402.2			67.0			387.3	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	601.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.11		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	164.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	203	501	1038	88	334	289
Future Volume (vph)	203	501	1038	88	334	289
Ideal Flow (vphpl)	1900	1900	1600	1600	1600	1600
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.88	*0.70	1.00	1.00	*0.80
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1540	2424	1911	1111	1296	1092
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1540	2424	1911	1111	1296	1092
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	209	516	1070	91	344	298
RTOR Reduction (vph)	0	419	0	13	0	0
Lane Group Flow (vph)	209	97	1070	78	344	298
Confl. Peds. (#/hr)	50					
Confl. Bikes (#/hr)				31		
Turn Type	Prot	Perm	NA	custom	Prot	NA
Protected Phases	4		2 5	5	1	6
Permitted Phases		4		2		
Actuated Green, G (s)	20.3	20.3	50.1	45.1	23.1	78.2
Effective Green, g (s)	20.3	20.3	50.1	45.1	23.1	78.2
Actuated g/C Ratio	0.19	0.19	0.46	0.42	0.21	0.72
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	288	453	882	513	275	787
v/s Ratio Prot	c0.14		c0.56	0.01	c0.27	0.27
v/s Ratio Perm		0.04		0.06		
v/c Ratio	0.73	0.21	1.21	0.15	1.25	0.38
Uniform Delay, d1	41.5	37.3	29.2	19.8	42.7	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	0.2	106.4	0.1	139.3	0.3
Delay (s)	50.2	37.6	135.6	19.9	182.0	6.1
Level of Service	D	D	F	B	F	A
Approach Delay (s)	41.2		126.5			100.4
Approach LOS	D		F			F

Intersection Summary			
HCM 2000 Control Delay	95.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	108.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

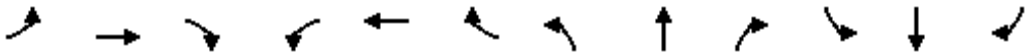
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	46	481	87	90	496	26	64	136	100	28	127	60
Future Volume (vph)	46	481	87	90	496	26	64	136	100	28	127	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	53	553	100	103	570	30	74	156	115	32	146	69

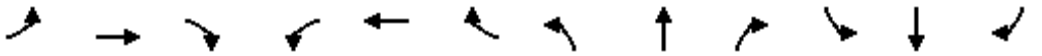
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total (vph)	706	103	600	230	115	247
Volume Left (vph)	53	103	0	74	0	32
Volume Right (vph)	100	0	30	0	115	69
Hadj (s)	-0.04	0.53	0.00	0.19	-0.67	-0.11
Departure Headway (s)	8.3	8.7	8.2	9.1	8.2	9.1
Degree Utilization, x	1.63	0.25	1.36	0.58	0.26	0.63
Capacity (veh/h)	440	408	450	384	428	378
Control Delay (s)	316.6	13.4	198.8	22.6	12.9	26.2
Approach Delay (s)	316.6	171.7		19.4		26.2
Approach LOS	F	F		C		D

Intersection Summary				
Delay	178.6			
Level of Service	F			
Intersection Capacity Utilization	98.0%	ICU Level of Service		F
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	382	485	110	55	589	60	110	1193	76	36	951	401
Future Volume (vph)	382	485	110	55	589	60	110	1193	76	36	951	401
Ideal Flow (vphpl)	2000	2000	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97			0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1775	1829			3345		1711	3372		1711	3235	
Flt Permitted	0.19	1.00			0.51		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	362	1829			1713		1711	3372		1711	3235	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	402	511	116	58	620	63	116	1256	80	38	1001	422
RTOR Reduction (vph)	0	8	0	0	7	0	0	5	0	0	47	0
Lane Group Flow (vph)	402	619	0	0	734	0	116	1331	0	38	1376	0
Confl. Peds. (#/hr)	51		20	20		51			41			16
Confl. Bikes (#/hr)			13			4			24			19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Effective Green, g (s)	29.7	29.7			29.7		16.9	39.9		14.9	37.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.17	0.40		0.15	0.38	
Clearance Time (s)	5.3	5.3			5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	107	543			508		289	1345		254	1226	
v/s Ratio Prot		0.34					0.07	c0.39		0.02	c0.43	
v/s Ratio Perm	c1.11				0.43							
v/c Ratio	3.76	1.14			1.44		0.40	0.99		0.15	1.12	
Uniform Delay, d1	35.1	35.1			35.1		37.0	29.8		37.0	31.1	
Progression Factor	1.00	1.00			1.00		0.85	0.72		1.57	0.84	
Incremental Delay, d2	1263.2	83.1			211.1		3.2	19.2		0.1	56.4	
Delay (s)	1298.3	118.2			246.2		34.6	40.7		58.4	82.3	
Level of Service	F	F			F		C	D		E	F	
Approach Delay (s)		579.3			246.2			40.2			81.7	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	204.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.04		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
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)	30	149	0	0	1238	100	625	252	1163	0	0	611
Future Volume (vph)	30	149	0	0	1238	100	625	252	1163	0	0	611
Ideal Flow (vphpl)	1900	1600	1600	1600	1600	1900	1500	1900	1500	1900	1900	1900
Total Lost time (s)		3.5			3.5		3.5	4.0				3.5
Lane Util. Factor		0.95			0.91		1.00	0.95				0.88
Frt		1.00			0.99		1.00	0.88				0.85
Flt Protected		0.99			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2856			4091		1350	3004				2694
Flt Permitted		0.68			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1960			4091		1350	3004				2694
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Adj. Flow (vph)	33	154	0	0	1276	109	644	274	1199	0	0	664
RTOR Reduction (vph)	0	0	0	0	8	0	0	271	0	0	0	4
Lane Group Flow (vph)	0	187	0	0	1377	0	644	1202	0	0	0	660
Turn Type	Perm	NA			NA		Prot	NA				Perm
Protected Phases		2			6		4	8				
Permitted Phases	2											4
Actuated Green, G (s)		42.1			42.1		60.9	60.4				60.9
Effective Green, g (s)		42.1			42.1		60.9	60.4				60.9
Actuated g/C Ratio		0.38			0.38		0.55	0.55				0.55
Clearance Time (s)		3.5			3.5		3.5	4.0				3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		750			1565		747	1649				1491
v/s Ratio Prot					c0.34		c0.48	0.40				
v/s Ratio Perm		0.10										0.25
v/c Ratio		0.25			0.88		0.86	1.08dr				0.44
Uniform Delay, d1		23.2			31.6		21.0	18.6				14.5
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.8			6.0		10.1	1.6				0.2
Delay (s)		24.0			37.6		31.0	20.3				14.7
Level of Service		C			D		C	C				B
Approach Delay (s)		24.0			37.6			23.6			14.7	
Approach LOS		C			D			C			B	

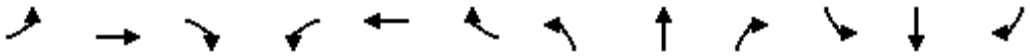
Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	131.5%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	167	480	1564	913	0	0
Future Volume (vph)	167	480	1564	913	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.95	0.95	0.97	1.00		
Frpb, ped/bikes	0.97	0.94	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	0.92	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1166	1041	2515	1365		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1166	1041	2515	1365		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	172	495	1612	941	0	0
RTOR Reduction (vph)	14	14	0	0	0	0
Lane Group Flow (vph)	331	308	1612	941	0	0
Confl. Peds. (#/hr)		5	5			
Confl. Bikes (#/hr)		55				
Turn Type	NA	Perm	Prot	NA		
Protected Phases	4		3	8		
Permitted Phases		4				
Actuated Green, G (s)	22.2	22.2	39.8	70.0		
Effective Green, g (s)	22.2	22.2	39.8	70.0		
Actuated g/C Ratio	0.32	0.32	0.57	1.00		
Clearance Time (s)	4.0	4.0	4.0	4.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	369	330	1429	1365		
v/s Ratio Prot	0.28		c0.64	0.69		
v/s Ratio Perm		c0.30				
v/c Ratio	0.90	0.93	1.13	0.69		
Uniform Delay, d1	22.8	23.2	15.1	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	23.2	32.4	67.1	1.5		
Delay (s)	46.0	55.5	82.2	1.5		
Level of Service	D	E	F	A		
Approach Delay (s)	50.6			52.5	0.0	
Approach LOS	D			D	A	

Intersection Summary			
HCM 2000 Control Delay	52.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

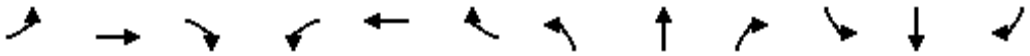
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	33	60	63	54	75	0	1211	130	0	935	44
Future Volume (vph)	50	33	60	63	54	75	0	1211	130	0	935	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			4.6			4.6	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.97			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.94			0.95			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1268			1270			2813			2852	
Flt Permitted		0.78			0.82			1.00			1.00	
Satd. Flow (perm)		1001			1056			2813			2852	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	51	34	61	64	55	77	0	1236	133	0	954	45
RTOR Reduction (vph)	0	29	0	0	26	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	117	0	0	170	0	0	1363	0	0	996	0
Confl. Peds. (#/hr)	55		36	36		55	37		37	37		37
Parking (#/hr)	5	5	5	5	5	5		5	5		5	5
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.1			20.1			70.0			70.0	
Effective Green, g (s)		20.1			20.1			70.0			70.0	
Actuated g/C Ratio		0.20			0.20			0.70			0.70	
Clearance Time (s)		5.3			5.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		201			212			1969			1996	
v/s Ratio Prot								c0.48			0.35	
v/s Ratio Perm		0.12			c0.16							
v/c Ratio		0.58			0.80			0.69			0.50	
Uniform Delay, d1		36.2			38.0			8.7			6.9	
Progression Factor		1.00			1.00			0.76			0.28	
Incremental Delay, d2		4.3			19.1			0.2			0.1	
Delay (s)		40.4			57.1			6.8			2.0	
Level of Service		D			E			A			A	
Approach Delay (s)		40.4			57.1			6.8			2.0	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	71.3%	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)	368	214	220	11	228	23	243	1170	40	268	718	178
Future Volume (vph)	368	214	220	11	228	23	243	1170	40	268	718	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		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	
Frt	1.00	0.92		1.00	0.99		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1539	2648		1538	1596		1540	3062		1540	2944	
Flt Permitted	0.28	1.00		0.49	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	457	2648		791	1596		1540	3062		1540	2944	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	387	225	232	12	240	24	256	1232	42	282	756	187
RTOR Reduction (vph)	0	156	0	0	4	0	0	2	0	0	22	0
Lane Group Flow (vph)	387	301	0	12	260	0	256	1272	0	282	921	0
Confl. Peds. (#/hr)	2		2	2		2			2			35
Parking (#/hr)		5	5									
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	32.6	32.6		20.6	20.6		13.9	40.6		10.5	37.2	
Effective Green, g (s)	32.6	32.6		20.6	20.6		13.9	40.6		10.5	37.2	
Actuated g/C Ratio	0.33	0.33		0.21	0.21		0.14	0.41		0.10	0.37	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	863		162	328		214	1243		161	1095	
v/s Ratio Prot	c0.12	0.11			0.16		0.17	c0.42		c0.18	0.31	
v/s Ratio Perm	c0.45			0.02								
v/c Ratio	1.75	0.35		0.07	0.79		1.20	1.02		1.75	0.84	
Uniform Delay, d1	33.1	25.6		32.0	37.7		43.0	29.7		44.8	28.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.87	
Incremental Delay, d2	356.0	0.2		0.2	12.3		124.6	31.5		360.5	7.2	
Delay (s)	389.1	25.9		32.2	50.0		167.7	61.2		400.8	32.0	
Level of Service	F	C		C	D		F	E		F	C	
Approach Delay (s)		192.4			49.2			79.0			116.9	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	113.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX I: FREEWAY LEVEL OF SERVICE CALCULATIONS

HCM 2000
Merge Ramp Junctions
Capacity Analysis

Jurisdiction San Francisco | Agency or Company Fehr & Peers
Analysis Year Various | Date 10/31/2013
Analyst MH | Project Description Seawall Lot

General Information			*Freeway Data*			*Freeway Volume Adjustment*									*On-Ramp Data*													
Freeway/ Direction	On-ramp	Analysis Time Period	Lanes	S_{FF} (mph)	V (vph)	PHF	Terrain	Truck/ Bus %	RV %	E_T	E_R	f_{HV}	f_P	Effective Flow Rate v_p (pcph)	Type	Lanes	S_{FR} (mph)	V_R (vph)	Project V_R (vph)	%	Accel Lane (ft) L_{A1}	L_{A2}	L_{Aeff}	Flow Rate v_p (pcph)	P_{FM}	v_{12} (pcph)
Existing																										
M1 I-280 SB	Mariposa St	AM	3	60.0	2,039	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	2,272	Right	1	45.0	465	0	0%	480	0	550	518	0.593	1,347
I-280 SB	Mariposa St	PM	3	60.0	3,412	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,801	Right	1	45.0	1,081	0	0%	480	0	550	1,204	0.593	2,254
I-280 SB	Mariposa St	Gameday	3	60.0	3,450	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,844	Right	1	45.0	1,126	0	0%	480	0	550	1,255	0.593	2,279
M2 I-80 EB	Fifth St	AM	3	60.0	7,126	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,939	Left	1	45.0	593	0	0%	700	0	550	661	0.593	5,272
I-80 EB	Fifth St	PM	3	60.0	8,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,170	Left	1	45.0	599	0	0%	700	0	550	667	0.593	6,090
I-80 EB	Fifth St	Gameday	3	60.0	8,522	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,495	Left	1	45.0	887	0	0%	700	0	550	988	0.593	6,305
Baseline																										
M1 I-280 SB	Mariposa St	AM	3	60.0	2,050	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	2,284	Right	1	45.0	488	0	0%	480	0	550	544	0.593	1,354
I-280 SB	Mariposa St	PM	3	60.0	3,418	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,808	Right	1	45.0	1,171	0	0%	480	0	550	1,305	0.593	2,258
I-280 SB	Mariposa St	Gameday	3	60.0	3,456	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,850	Right	1	45.0	1,216	0	0%	480	0	550	1,355	0.593	2,283
M2 I-80 EB	Fifth St	AM	3	60.0	7,126	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,939	Left	1	45.0	593	0	0%	700	0	550	661	0.593	5,272
I-80 EB	Fifth St	PM	3	60.0	8,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,170	Left	1	45.0	599	0	0%	700	0	550	667	0.593	6,090
I-80 EB	Fifth St	Gameday	3	60.0	8,522	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,495	Left	1	45.0	887	0	0%	700	0	550	988	0.593	6,305
Baseline Plus Project (Scenario A)																										
M1 I-280 SB	Mariposa St	AM	3	60.0	2,226	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	2,480	Right	1	45.0	576	0	0%	480	0	550	642	0.593	1,470
I-280 SB	Mariposa St	PM	3	60.0	3,798	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,231	Right	1	45.0	1,361	0	0%	480	0	550	1,516	0.593	2,509
I-280 SB	Mariposa St	Gameday	3	60.0	3,836	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,274	Right	1	45.0	1,406	0	0%	480	0	550	1,566	0.593	2,534
M2 I-80 EB	Fifth St	AM	3	60.0	7,126	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,939	Left	1	45.0	593	0	0%	700	0	550	661	0.593	5,272
I-80 EB	Fifth St	PM	3	60.0	8,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,170	Left	1	45.0	599	0	0%	700	0	550	667	0.593	6,090
I-80 EB	Fifth St	Gameday	3	60.0	8,522	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,495	Left	1	45.0	887	0	0%	700	0	550	988	0.593	6,305
Baseline Plus Project (Seawall Lot 337 - Scenario A)																										
M1 I-280 SB	Mariposa St	AM	3	60.0	2,222	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	2,476	Right	1	45.0	574	0	0%	480	0	550	640	0.593	1,468
I-280 SB	Mariposa St	PM	3	60.0	3,786	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,218	Right	1	45.0	1,355	0	0%	480	0	550	1,510	0.593	2,501
I-280 SB	Mariposa St	Gameday	3	60.0	3,824	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,260	Right	1	45.0	1,400	0	0%	480	0	550	1,560	0.593	2,526
M2 I-80 EB	Fifth St	AM	3	60.0	7,126	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,939	Left	1	45.0	593	0	0%	700	0	550	661	0.593	5,272
I-80 EB	Fifth St	PM	3	60.0	8,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,170	Left	1	45.0	599	0	0%	700	0	550	667	0.593	6,090
I-80 EB	Fifth St	Gameday	3	60.0	8,522	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,495	Left	1	45.0	887	0	0%	700	0	550	988	0.593	6,305
Baseline Plus Project (Scenario B)																										
M1 I-280 SB	Mariposa St	AM	3	60.0	2,262	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	2,520	Right	1	45.0	594	0	0%	480	0	550	662	0.593	1,494
I-280 SB	Mariposa St	PM	3	60.0	3,770	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,200	Right	1	45.0	1,347	0	0%	480	0	550	1,501	0.593	2,490
I-280 SB	Mariposa St	Gameday	3	60.0	3,808	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,243	Right	1	45.0	1,392	0	0%	480	0	550	1,551	0.593	2,515
M2 I-80 EB	Fifth St	AM	3	60.0	7,126	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,939	Left	1	45.0	593	0	0%	700	0	550	661	0.593	5,272
I-80 EB	Fifth St	PM	3	60.0	8,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,170	Left	1	45.0	599	0	0%	700	0	550	667	0.593	6,090
I-80 EB	Fifth St	Gameday	3	60.0	8,522	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,495	Left	1	45.0	887	0	0%	700	0	550	988	0.593	6,305
Baseline Plus Project (Seawall Lot 337 - Scenario B)																										
M1 I-280 SB	Mariposa St	AM	3	60.0	2,252	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	2,509	Right	1	45.0	589	0	0%	480	0	550	656	0.593	1,488
I-280 SB	Mariposa St	PM	3	60.0	3,750	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,178	Right	1	45.0	1,337	0	0%	480	0	550	1,490	0.593	2,477
I-280 SB	Mariposa St	Gameday	3	60.0	3,788	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,220	Right	1	45.0	1,382	0	0%	480	0	550	1,540	0.593	2,502
M2 I-80 EB	Fifth St	AM	3	60.0	7,126	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,939	Left	1	45.0	593	0	0%	700	0	550	661	0.593	5,272
I-80 EB	Fifth St	PM	3	60.0	8,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,170	Left	1	45.0	599	0	0%	700	0	550	667	0.593	6,090
I-80 EB	Fifth St	Gameday	3	60.0	8,522	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,495	Left	1	45.0	887	0	0%	700	0	550	988	0.593	6,305
Baseline Plus Project (Pier 48)																										
M1 I-280 SB	Mariposa St	AM	3	60.0	2,054	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	2,288	Right	1	45.0	490	0	0%	480	0	550	546	0.593	1,357
I-280 SB	Mariposa St	PM	3	60.0	3,430	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,821	Right	1	45.0	1,177	0	0%	480	0	550	1,311	0.593	2,266
I-280 SB	Mariposa St	Gameday	3	60.0	3,468	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,864	Right	1	45.0	1,222	0	0%	480	0	550	1,361	0.593	2,291
M2 I-80 EB	Fifth St	AM	3	60.0	7,126	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,939	Left	1	45.0	593	0	0%	700	0	550	661	0.593	5,272
I-80 EB	Fifth St	PM	3	60.0	8,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,170	Left	1	45.0	599	0	0%	700	0	550	667	0.593	6,090
I-80 EB	Fifth St	Gameday	3	60.0	8,522	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,495	Left	1	45.0	887	0	0%	700	0	550	988	0.593	6,305

HCM 2000
Merge Ramp Junctions
Capacity Analysis

				Capacity Checks																*Results*		*Speed Estimation*			
	Freeway/ Direction	On-ramp	Analysis Time Period	v_{Fi} (pcph)	Max v_{Fi} (pcph)	LOS F?	v_{FO} (pcph)	Max v_{FO} (pcph)	LOS F?	v_3, v_{av34} (pcphpl)	v_3, v_{av34} > 2,700?	v_3, v_{av34} >1.5*v_{12}/2?	v_{12a} (pcph)	v_{R12a} (pcph)	Max v_{R12a} (pcph)	LOS F?	v_R (pcph)	Max v_R (pcph)	LOS F?	Density, D (pcplpm)	Level of Service	Int. Var. M_S	Inf. Area S_R (mph)	Out Lns. S_O (mph)	All vehs. S (mph)
Existing																									
M1	I-280 SB	Mariposa St	AM	2,272	7,050	No	2,790	7,050	No	925	No	No	1,347	1,865	4,600	No	518	2,100	No	**16.3**	**B**	0.297	54.7	58.5	55.9
	I-280 SB	Mariposa St	PM	3,801	7,050	No	5,006	7,050	No	1,548	No	No	2,254	3,458	4,600	No	1,204	2,100	No	**28.4**	**D**	0.395	52.9	56.2	53.9
	I-280 SB	Mariposa St	Gameday	3,844	7,050	No	5,098	7,050	No	1,565	No	No	2,279	3,533	4,600	No	1,255	2,100	No	**29.0**	**D**	0.405	52.7	56.2	53.7
M2	I-80 EB	Fifth St	AM	7,939	7,050	Yes	8,600	7,050	Yes	2,667	No	No	5,272	5,933	4,600	Yes	661	2,100	No	-	**F**	1.743	28.6	51.3	33.2
	I-80 EB	Fifth St	PM	9,170	7,050	Yes	9,838	7,050	Yes	3,081	Yes	No	6,470	7,138	4,600	Yes	667	2,100	No	-	**F**	5.180	-33.2	51.1	-60.8
	I-80 EB	Fifth St	Gameday	9,495	7,050	Yes	10,483	7,050	Yes	3,190	Yes	No	6,795	7,783	4,600	Yes	988	2,100	No	-	**F**	9.628	-113.3	51.1	-662.6
Baseline																									
M1	I-280 SB	Mariposa St	AM	2,284	7,050	No	2,828	7,050	No	930	No	No	1,354	1,898	4,600	No	544	2,100	No	**16.6**	**B**	0.298	54.6	58.5	55.8
	I-280 SB	Mariposa St	PM	3,808	7,050	No	5,113	7,050	No	1,550	No	No	2,258	3,562	4,600	No	1,305	2,100	No	**29.2**	**D**	0.409	52.6	56.2	53.7
	I-280 SB	Mariposa St	Gameday	3,850	7,050	No	5,205	7,050	No	1,568	No	No	2,283	3,638	4,600	No	1,355	2,100	No	**29.8**	**D**	0.420	52.4	56.2	53.5
M2	I-80 EB	Fifth St	AM	7,939	7,050	Yes	8,600	7,050	Yes	2,667	No	No	5,272	5,933	4,600	Yes	661	2,100	No	-	**F**	1.743	28.6	51.3	33.2
	I-80 EB	Fifth St	PM	9,170	7,050	Yes	9,838	7,050	Yes	3,081	Yes	No	6,470	7,138	4,600	Yes	667	2,100	No	-	**F**	5.180	-33.2	51.1	-60.8
	I-80 EB	Fifth St	Gameday	9,495	7,050	Yes	10,483	7,050	Yes	3,190	Yes	No	6,795	7,783	4,600	Yes	988	2,100	No	-	**F**	9.628	-113.3	51.1	-662.6
Baseline Plus Project (Scenario A)																									
M1	I-280 SB	Mariposa St	AM	2,480	7,050	No	3,122	7,050	No	1,010	No	No	1,470	2,112	4,600	No	642	2,100	No	**18.2**	**B**	0.304	54.5	58.2	55.7
	I-280 SB	Mariposa St	PM	4,231	7,050	No	5,748	7,050	No	1,723	No	No	2,509	4,025	4,600	No	1,516	2,100	No	**32.7**	**D**	0.490	51.2	55.6	52.4
	I-280 SB	Mariposa St	Gameday	4,274	7,050	No	5,840	7,050	No	1,740	No	No	2,534	4,100	4,600	No	1,566	2,100	No	**33.3**	**D**	0.507	50.9	55.5	52.2
M2	I-80 EB	Fifth St	AM	7,939	7,050	Yes	8,600	7,050	Yes	2,667	No	No	5,272	5,933	4,600	Yes	661	2,100	No	-	**F**	1.743	28.6	51.3	33.2
	I-80 EB	Fifth St	PM	9,170	7,050	Yes	9,838	7,050	Yes	3,081	Yes	No	6,470	7,138	4,600	Yes	667	2,100	No	-	**F**	5.180	-33.2	51.1	-60.8
	I-80 EB	Fifth St	Gameday	9,495	7,050	Yes	10,483	7,050	Yes	3,190	Yes	No	6,795	7,783	4,600	Yes	988	2,100	No	-	**F**	9.628	-113.3	51.1	-662.6
Baseline Plus Project (Seawall Lot 337 - Scenario A)																									
M1	I-280 SB	Mariposa St	AM	2,476	7,050	No	3,115	7,050	No	1,008	No	No	1,468	2,107	4,600	No	640	2,100	No	**18.2**	**B**	0.304	54.5	58.2	55.7
	I-280 SB	Mariposa St	PM	4,218	7,050	No	5,728	7,050	No	1,717	No	No	2,501	4,011	4,600	No	1,510	2,100	No	**32.6**	**D**	0.487	51.2	55.6	52.5
	I-280 SB	Mariposa St	Gameday	4,260	7,050	No	5,820	7,050	No	1,734	No	No	2,526	4,086	4,600	No	1,560	2,100	No	**33.2**	**D**	0.504	50.9	55.6	52.2
M2	I-80 EB	Fifth St	AM	7,939	7,050	Yes	8,600	7,050	Yes	2,667	No	No	5,272	5,933	4,600	Yes	661	2,100	No	-	**F**	1.743	28.6	51.3	33.2
	I-80 EB	Fifth St	PM	9,170	7,050	Yes	9,838	7,050	Yes	3,081	Yes	No	6,470	7,138	4,600	Yes	667	2,100	No	-	**F**	5.180	-33.2	51.1	-60.8
	I-80 EB	Fifth St	Gameday	9,495	7,050	Yes	10,483	7,050	Yes	3,190	Yes	No	6,795	7,783	4,600	Yes	988	2,100	No	-	**F**	9.628	-113.3	51.1	-662.6
Baseline Plus Project (Scenario B)																									
M1	I-280 SB	Mariposa St	AM	2,520	7,050	No	3,182	7,050	No	1,026	No	No	1,494	2,156	4,600	No	662	2,100	No	**18.5**	**B**	0.305	54.5	58.1	55.6
	I-280 SB	Mariposa St	PM	4,200	7,050	No	5,701	7,050	No	1,710	No	No	2,490	3,991	4,600	No	1,501	2,100	No	**32.5**	**D**	0.483	51.3	55.6	52.5
	I-280 SB	Mariposa St	Gameday	4,243	7,050	No	5,793	7,050	No	1,727	No	No	2,515	4,066	4,600	No	1,551	2,100	No	**33.0**	**D**	0.499	51.0	55.6	52.3
M2	I-80 EB	Fifth St	AM	7,939	7,050	Yes	8,600	7,050	Yes	2,667	No	No	5,272	5,933	4,600	Yes	661	2,100	No	-	**F**	1.743	28.6	51.3	33.2
	I-80 EB	Fifth St	PM	9,170	7,050	Yes	9,838	7,050	Yes	3,081	Yes	No	6,470	7,138	4,600	Yes	667	2,100	No	-	**F**	5.180	-33.2	51.1	-60.8
	I-80 EB	Fifth St	Gameday	9,495	7,050	Yes	10,483	7,050	Yes	3,190	Yes	No	6,795	7,783	4,600	Yes	988	2,100	No	-	**F**	9.628	-113.3	51.1	-662.6
Baseline Plus Project (Seawall Lot 337 - Scenario B)																									
M1	I-280 SB	Mariposa St	AM	2,509	7,050	No	3,165	7,050	No	1,021	No	No	1,488	2,144	4,600	No	656	2,100	No	**18.4**	**B**	0.305	54.5	58.1	55.6
	I-280 SB	Mariposa St	PM	4,178	7,050	No	5,668	7,050	No	1,701	No	No	2,477	3,967	4,600	No	1,490	2,100	No	**32.3**	**D**	0.477	51.4	55.7	52.6
	I-280 SB	Mariposa St	Gameday	4,220	7,050	No	5,760	7,050	No	1,718	No	No	2,502	4,042	4,600	No	1,540	2,100	No	**32.8**	**D**	0.494	51.1	55.6	52.4
M2	I-80 EB	Fifth St	AM	7,939	7,050	Yes	8,600	7,050	Yes	2,667	No	No	5,272	5,933	4,600	Yes	661	2,100	No	-	**F**	1.743	28.6	51.3	33.2
	I-80 EB	Fifth St	PM	9,170	7,050	Yes	9,838	7,050	Yes	3,081	Yes	No	6,470	7,138	4,600	Yes	667	2,100	No	-	**F**	5.180	-33.2	51.1	-60.8
	I-80 EB	Fifth St	Gameday	9,495	7,050	Yes	10,483	7,050	Yes	3,190	Yes	No	6,795	7,783	4,600	Yes	988	2,100	No	-	**F**	9.628	-113.3	51.1	-662.6
Baseline Plus Project (Pier 48)																									
M1	I-280 SB	Mariposa St	AM	2,288	7,050	No	2,834	7,050	No	932	No	No	1,357	1,903	4,600	No	546	2,100	No	**16.6**	**B**	0.298	54.6	58.4	55.8
	I-280 SB	Mariposa St	PM	3,821	7,050	No	5,133	7,050	No	1,556	No	No	2,266	3,577	4,600	No	1,311	2,100	No	**29.3**	**D**	0.411	52.6	56.2	53.6
	I-280 SB	Mariposa St	Gameday	3,864	7,050	No	5,225	7,050	No	1,573	No	No	2,291	3,652	4,600	No	1,361	2,100	No	**29.9**	**D**	0.422	52.4	56.1	53.5
M2	I-80 EB	Fifth St	AM	7,939	7,050	Yes	8,600	7,050	Yes	2,667	No	No	5,272	5,933	4,600	Yes	661	2,100	No	-	**F**	1.743	28.6	51.3	33.2
	I-80 EB	Fifth St	PM	9,170	7,050	Yes	9,838	7,050	Yes	3,081	Yes	No	6,470	7,138	4,600	Yes	667	2,100	No	-	**F**	5.180	-33.2	51.1	-60.8
	I-80 EB	Fifth St	Gameday	9,495	7,050	Yes	10,483	7,050	Yes	3,190	Yes	No	6,795	7,783	4,600	Yes	988	2,100	No	-	**F**	9.628	-113.3	51.1	-662.6

HCM 2000 Jurisdiction San Francisco Agency or Company Fehr & Peers
Diverge Ramp Junctions Analysis Year Various Date 10/31/2013
Capacity Analysis Analyst MH Project Description Seawall Lot

General Information				*Freeway Data*			*Freeway Volume Adjustment*										*Off-Ramp Data*										*Capacity Checks*	
	Freeway/ Direction	Off-ramp	Analysis Time Period	Lanes	S_{FF} (mph)	V (vph)	Project Contribution (vph)	PHF	Terrain	Truck/ Bus %	RV %	E_T	E_R	f_{HV}	f_P	Effective Flow Rate v_p (pcph)	Type	Lanes	S_{FR} (mph)	V_R (vph)	Project V_R (vph)	%	Decel Lane (ft) L_{D1}	L_{D2}	L_{Deff}	Flow Rate v_p (pcph)	P_{FD}	v_{12} (pcph)	v_{Fi} (pcph)	Max v_{Fi} (pcph)
Existing																														
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	6,642	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,401	Left	1	45.0	970	0	0%	50	50		1,081	0.436	4,220	7,401	9,400
	I-80 WB	Fremont/Harrison	PM	4	60.0	5,726	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,379	Left	1	45.0	320	0	0%	50	50		357	0.436	3,281	6,379	9,400
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	6,427	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,161	Left	1	45.0	625	0	0%	50	50		696	0.436	3,866	7,161	9,400
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	6,642	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,401	Right	1	45.0	704	0	0%	50	50		784	0.436	3,669	7,401	9,400
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	5,726	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,379	Right	1	45.0	484	0	0%	50	50		539	0.436	3,085	6,379	9,400
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	6,427	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,161	Right	1	45.0	632	0	0%	50	50		704	0.436	3,519	7,161	9,400
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	6,629	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,386	Left	2	45.0	916	0	0%	50	100		1,021	0.260	2,943	7,386	9,400
	I-80 WB	Fifth/Harrison	PM	4	60.0	6,412	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,144	Left	2	45.0	1,179	0	0%	50	100		1,314	0.260	3,112	7,144	9,400
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	6,777	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,550	Left	2	45.0	1,271	0	0%	50	100		1,416	0.260	3,312	7,550	9,400
D4	I-80 EB	Fourth Street	AM	4	60.0	7,858	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,755	Right	2	45.0	1,325	0	0%	1,200	2,400		1,476	0.260	3,369	8,755	9,400
	I-80 EB	Fourth Street	PM	4	60.0	7,782	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,670	Right	2	45.0	154	0	0%	1,200	2,400		172	0.260	2,381	8,670	9,400
	I-80 EB	Fourth Street	Gameday	4	60.0	7,782	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,670	Right	2	45.0	146	0	0%	1,200	2,400		163	0.260	2,375	8,670	9,400
D5	I-280 NB	Mariposa St	AM	4	60.0	5,625	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,267	Right	1	45.0	1,661	0	0%	1,300	1,300		1,851	0.436	3,776	6,267	9,400
	I-280 NB	Mariposa St	PM	4	60.0	4,197	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,676	Right	1	45.0	662	0	0%	50	50		738	0.436	2,455	4,676	9,400
	I-280 NB	Mariposa St	Gameday	4	60.0	4,714	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,252	Right	1	45.0	1,245	0	0%	50	50		1,387	0.436	3,072	5,252	9,400
Baseline																														
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	6,652	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,412	Left	1	45.0	980	0	0%	50	50		1,092	0.436	4,232	7,412	9,400
	I-80 WB	Fremont/Harrison	PM	4	60.0	5,736	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,390	Left	1	45.0	330	0	0%	50	50		368	0.436	3,293	6,390	9,400
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	6,437	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,172	Left	1	45.0	635	0	0%	50	50		707	0.436	3,879	7,172	9,400
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	6,652	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,412	Right	1	45.0	714	0	0%	50	50		795	0.436	3,680	7,412	9,400
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	5,736	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,390	Right	1	45.0	494	0	0%	50	50		550	0.436	3,097	6,390	9,400
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	6,437	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,172	Right	1	45.0	642	0	0%	50	50		715	0.436	3,530	7,172	9,400
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	6,659	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,419	Left	2	45.0	946	0	0%	50	100		1,054	0.260	2,980	7,419	9,400
	I-80 WB	Fifth/Harrison	PM	4	60.0	6,442	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,177	Left	2	45.0	1,209	0	0%	50	100		1,347	0.260	3,149	7,177	9,400
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	6,807	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,584	Left	2	45.0	1,301	0	0%	50	100		1,449	0.260	3,349	7,584	9,400
D4	I-80 EB	Fourth Street	AM	4	60.0	7,888	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,788	Right	2	45.0	1,355	0	0%	1,200	2,400		1,510	0.260	3,402	8,788	9,400
	I-80 EB	Fourth Street	PM	4	60.0	7,812	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,704	Right	2	45.0	184	0	0%	1,200	2,400		205	0.260	2,415	8,704	9,400
	I-80 EB	Fourth Street	Gameday	4	60.0	7,812	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,704	Right	2	45.0	176	0	0%	1,200	2,400		196	0.260	2,408	8,704	9,400
D5	I-280 NB	Mariposa St	AM	4	60.0	6,490	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,231	Right	1	45.0	2,526	0	0%	1,300	1,300		2,814	0.436	4,740	7,231	9,400
	I-280 NB	Mariposa St	PM	4	60.0	4,345	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,841	Right	1	45.0	810	0	0%	50	50		902	0.436	2,620	4,841	9,400
	I-280 NB	Mariposa St	Gameday	4	60.0	4,862	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,417	Right	1	45.0	1,393	0	0%	50	50		1,552	0.436	3,237	5,417	9,400
Baseline Plus Project (Scenario A)																														
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	6,827	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,606	Left	1	45.0	993	0	0%	50	50		1,106	0.436	4,334	7,606	9,400
	I-80 WB	Fremont/Harrison	PM	4	60.0	5,897	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,570	Left	1	45.0	341	0	0%	50	50		380	0.436	3,387	6,570	9,400
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	6,599	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,352	Left	1	45.0	646	0	0%	50	50		720	0.436	3,973	7,352	9,400
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	6,828	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,607	Right	1	45.0	726	0	0%	50	50		809	0.436	3,773	7,607	9,400
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	5,897	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,570	Right	1	45.0	506	0	0%	50	50		564	0.436	3,183	6,570	9,400
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	6,599	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,352	Right	1	45.0	654	0	0%	50	50		729	0.436	3,616	7,352	9,400
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	6,853	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,635	Left	2	45.0	1,140	0	0%	50	100		1,270	0.260	3,218	7,635	9,400
	I-80 WB	Fifth/Harrison	PM	4	60.0	6,621	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,377	Left	2	45.0	1,388	0	0%	50	100		1,546	0.260	3,369	7,377	9,400
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	6,986	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,783	Left	2	45.0	1,480	0	0%	50	100		1,649	0.260	3,568	7,783	9,400
D4	I-80 EB	Fourth Street	AM	4	60.0	7,974	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,884	Right	2	45.0	1,441	0	0%	1,200	2,400		1,605	0.260	3,498	8,884	9,400
	I-80 EB	Fourth Street	PM	4	60.0	7,867	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,765	Right	2	45.0	239	0	0%	1,200	2,400		266	0.260	2,476	8,765	9,400
	I-80 EB	Fourth Street	Gameday	4	60.0	7,867	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,765	Right	2	45.0	231	0	0%	1,200	2,400		257	0.260	2,469	8,765	9,400
D5	I-280 NB	Mariposa St	AM	4	60.0	6,663	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,423	Right	1	45.0	2,699	0	0%	1,300	1,300		3,007	0.436	4,933	7,423	9,400
	I-280 NB	Mariposa St	PM	4	60.0	4,466	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,976	Right	1	45.0	931	0	0%	50	50		1,037	0.436	2,754	4,976	9,400
	I-280 NB	Mariposa St	Gameday	4	60.0	4,983	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,552	Right	1	45.0	1,514	0	0%	50	50		1,687	0.436	3,372	5,552	9,400
Baseline Plus Project (Seawall Lot 337 - Scenario A)																														
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	6,814	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,592	Left	1	45.0	993	0	0%	50	50		1,106	0.436	4,327	7,592	9,400
	I-80 WB	Fremont/Harrison	PM	4	60.0	5,878	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,549	Left	1	45.0	340	0	0%	50	50		379	0.436	3,376	6,549	9,400
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	6,580	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,331	Left	1	45.0	645	0	0%	50	50		719	0.436	3,962	7,331	9,400
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	6,814	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,592	Right	1	45.0	725	0	0%	50	50		808	0.436	3,766	7,592	9,400
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	5,878	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,549	Right	1	45.0	506	0	0%	50	50		564	0.436	3,173	6,549	9,400
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	6,580	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,331	Right	1	45.0	654	0	0%	50	50		729	0.436	3,607	7,331	9,400
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	6,837	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,617	Left	2	45.0	1,124	0	0%	50	100		1,252	0.260	3,198	7,617	9,400
	I-80 WB	Fifth/Harrison	PM	4	60.0	6,598	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,351	Left	2	45.0	1,365	0	0%	50	100		1,521	0.260	3,340	7,351	9,400
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	6,963	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,758	Left	2	45.0	1,457	0	0%	50	100		1,623	0.260	3,540	7,758	9,400
D4	I-80 EB	Fourth Street	AM	4	60.0	7,972	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,882	Right	2	45.0	1,439	0	0%	1,200	2,400		1,603	0.260	3,496	8,882	9,400
	I-80 EB	Fourth Street	PM	4	60.0	7,865	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,763	Right	2	45.0	237	0	0%	1,200	2,400		264	0.260	2,474	8,763	9,400
	I-80 EB	Fourth Street	Gameday	4	60.0	7,865	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,763	Right	2	45.0	229	0	0%	1,200	2,400		255	0.260	2,467	8,763	9,400
D5	I-280 NB	Mariposa St	AM	4	60.0	6,660	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,420	Right	1	45.0	2,696	0	0%	1,300	1,300		3,004	0.436	4,929	7,420	9,400
	I-280 NB	Mariposa St	PM	4	60.0	4,463	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,972	Right	1	45.0	928	0	0%	50	50		1,034	0.436	2,751	4,972	9,400
	I-280 NB	Mariposa St	Gameday	4	60.0	4,980	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,548	Right	1	45.0	1,511	0	0%	50	50		1,683	0.436	3,369	5,548	9,400

HCM 2000
Diverge Ramp Junctions
Capacity Analysis

General Information | *Results* | *Speed Estimation*

	Freeway/ Direction	Off-ramp	Analysis Time Period	LOS F?	v_3, v_{av34} (pcphpl)	v_3, v_{av34} > 2,700?	v_3, v_{av34} >1.5*v_{12}/2?	v_{12a} (pcph)	Max v_{12} (pcph)	LOS F?	v_{FO} (pcph)	Max v_{FO} (pcph)	LOS F?	v_R (pcph)	Max v_R (pcph)	LOS F?	Density, D (pcplpm)	Level of Service	Int. Var. D_S	Inf. Area S_R (mph)	Out Lns. S_O (mph)	All vehs. S (mph)
Existing																						
D1	I-80 WB	Fremont/Harrison	AM	No	1,590	No	No	4,220	4,400	No	6,320	9,400	No	1,081	2,100	No	**40.1**	**E**	0.395	52.9	63.5	57.0
	I-80 WB	Fremont/Harrison	PM	No	1,549	No	No	3,281	4,400	No	6,023	9,400	No	357	2,100	No	**32.0**	**D**	0.330	54.1	63.7	58.3
	I-80 WB	Fremont/Harrison	Gameday	No	1,647	No	No	3,866	4,400	No	6,464	9,400	No	696	2,100	No	**37.1**	**E**	0.361	53.5	63.3	57.6
D2	I-80 WB	Fremont/Folsom/Howard	AM	No	1,866	No	No	3,669	4,400	No	6,616	9,400	No	784	2,100	No	**35.4**	**E**	0.369	53.4	62.4	57.6
	I-80 WB	Fremont/Folsom/Howard	PM	No	1,647	No	No	3,085	4,400	No	5,840	9,400	No	539	2,100	No	**30.3**	**D**	0.347	53.8	63.3	58.3
	I-80 WB	Fremont/Folsom/Howard	Gameday	No	1,821	No	No	3,519	4,400	No	6,457	9,400	No	704	2,100	No	**34.1**	**D**	0.361	53.5	62.6	57.8
D3	I-80 WB	Fifth/Harrison	AM	No	2,221	No	Yes	2,954	4,400	No	6,365	9,400	No	1,021	4,100	No	**28.8**	**D**	0.390	53.0	61.1	57.6
	I-80 WB	Fifth/Harrison	PM	No	2,016	No	No	3,112	4,400	No	5,830	9,400	No	1,314	4,100	No	**30.1**	**D**	0.416	52.5	61.9	57.4
	I-80 WB	Fifth/Harrison	Gameday	No	2,119	No	No	3,312	4,400	No	6,134	9,400	No	1,416	4,100	No	**31.8**	**D**	0.425	52.3	61.5	57.1
D4	I-80 EB	Fourth Street	AM	No	2,693	No	Yes	3,502	4,400	No	7,279	9,400	No	1,476	4,100	No	**12.8**	**B**	0.431	52.2	59.5	56.4
	I-80 EB	Fourth Street	PM	No	3,144	Yes	Yes	3,270	4,400	No	8,499	9,400	No	172	4,100	No	**10.8**	**B**	0.313	54.4	59.2	57.3
	I-80 EB	Fourth Street	Gameday	No	3,148	Yes	Yes	3,270	4,400	No	8,508	9,400	No	163	4,100	No	**10.8**	**B**	0.313	54.4	59.2	57.3
D5	I-280 NB	Mariposa St	AM	No	1,245	No	No	3,776	4,400	No	4,416	9,400	No	1,851	2,100	No	**25.0**	**C**	0.465	51.6	64.9	56.2
	I-280 NB	Mariposa St	PM	No	1,111	No	No	2,455	4,400	No	3,938	9,400	No	738	2,100	No	**24.9**	**C**	0.364	53.4	65.4	58.5
	I-280 NB	Mariposa St	Gameday	No	1,090	No	No	3,072	4,400	No	3,865	9,400	No	1,387	2,100	No	**30.2**	**D**	0.423	52.4	65.5	57.1
Baseline																						
D1	I-80 WB	Fremont/Harrison	AM	No	1,590	No	No	4,232	4,400	No	6,320	9,400	No	1,092	2,100	No	**40.2**	**E**	0.396	52.9	63.5	57.0
	I-80 WB	Fremont/Harrison	PM	No	1,549	No	No	3,293	4,400	No	6,023	9,400	No	368	2,100	No	**32.1**	**D**	0.331	54.0	63.7	58.3
	I-80 WB	Fremont/Harrison	Gameday	No	1,647	No	No	3,879	4,400	No	6,464	9,400	No	707	2,100	No	**37.2**	**E**	0.362	53.5	63.3	57.6
D2	I-80 WB	Fremont/Folsom/Howard	AM	No	1,866	No	No	3,680	4,400	No	6,616	9,400	No	795	2,100	No	**35.5**	**E**	0.370	53.3	62.4	57.6
	I-80 WB	Fremont/Folsom/Howard	PM	No	1,647	No	No	3,097	4,400	No	5,840	9,400	No	550	2,100	No	**30.4**	**D**	0.348	53.7	63.3	58.3
	I-80 WB	Fremont/Folsom/Howard	Gameday	No	1,821	No	No	3,530	4,400	No	6,457	9,400	No	715	2,100	No	**34.2**	**D**	0.362	53.5	62.6	57.8
D3	I-80 WB	Fifth/Harrison	AM	No	2,220	No	No	2,980	4,400	No	6,365	9,400	No	1,054	4,100	No	**29.0**	**D**	0.393	52.9	61.1	57.5
	I-80 WB	Fifth/Harrison	PM	No	2,014	No	No	3,149	4,400	No	5,830	9,400	No	1,347	4,100	No	**30.4**	**D**	0.419	52.5	61.9	57.4
	I-80 WB	Fifth/Harrison	Gameday	No	2,118	No	No	3,349	4,400	No	6,134	9,400	No	1,449	4,100	No	**32.2**	**D**	0.428	52.3	61.5	57.0
D4	I-80 EB	Fourth Street	AM	No	2,693	No	Yes	3,515	4,400	No	7,279	9,400	No	1,510	4,100	No	**12.9**	**B**	0.434	52.2	59.4	56.3
	I-80 EB	Fourth Street	PM	No	3,144	Yes	Yes	3,304	4,400	No	8,499	9,400	No	205	4,100	No	**11.1**	**B**	0.316	54.3	59.2	57.2
	I-80 EB	Fourth Street	Gameday	No	3,148	Yes	Yes	3,304	4,400	No	8,508	9,400	No	196	4,100	No	**11.1**	**B**	0.316	54.3	59.2	57.2
D5	I-280 NB	Mariposa St	AM	No	1,245	No	No	4,740	4,400	Yes	4,416	9,400	No	2,814	2,100	Yes	**-**	**F**	0.551	50.1	64.9	54.3
	I-280 NB	Mariposa St	PM	No	1,111	No	No	2,620	4,400	No	3,938	9,400	No	902	2,100	No	**26.3**	**C**	0.379	53.2	65.4	58.2
	I-280 NB	Mariposa St	Gameday	No	1,090	No	No	3,237	4,400	No	3,865	9,400	No	1,552	2,100	No	**31.6**	**D**	0.438	52.1	65.5	56.8
Baseline Plus Project (Scenario A)																						
D1	I-80 WB	Fremont/Harrison	AM	No	1,636	No	No	4,334	4,400	No	6,500	9,400	No	1,106	2,100	No	**41.1**	**E**	0.398	52.8	63.3	56.9
	I-80 WB	Fremont/Harrison	PM	No	1,592	No	No	3,387	4,400	No	6,190	9,400	No	380	2,100	No	**32.9**	**D**	0.332	54.0	63.5	58.2
	I-80 WB	Fremont/Harrison	Gameday	No	1,690	No	No	3,973	4,400	No	6,632	9,400	No	720	2,100	No	**38.0**	**E**	0.363	53.5	63.1	57.5
D2	I-80 WB	Fremont/Folsom/Howard	AM	No	1,917	No	No	3,773	4,400	No	6,798	9,400	No	809	2,100	No	**36.2**	**E**	0.371	53.3	62.2	57.5
	I-80 WB	Fremont/Folsom/Howard	PM	No	1,694	No	No	3,183	4,400	No	6,007	9,400	No	564	2,100	No	**31.2**	**D**	0.349	53.7	63.1	58.2
	I-80 WB	Fremont/Folsom/Howard	Gameday	No	1,868	No	No	3,616	4,400	No	6,623	9,400	No	729	2,100	No	**34.9**	**D**	0.364	53.5	62.4	57.7
D3	I-80 WB	Fifth/Harrison	AM	No	2,209	No	No	3,218	4,400	No	6,365	9,400	No	1,270	4,100	No	**31.0**	**D**	0.412	52.6	61.1	57.2
	I-80 WB	Fifth/Harrison	PM	No	2,004	No	No	3,369	4,400	No	5,830	9,400	No	1,546	4,100	No	**32.3**	**D**	0.437	52.1	61.9	57.0
	I-80 WB	Fifth/Harrison	Gameday	No	2,108	No	No	3,568	4,400	No	6,134	9,400	No	1,649	4,100	No	**34.0**	**D**	0.446	52.0	61.5	56.7
D4	I-80 EB	Fourth Street	AM	No	2,693	No	Yes	3,554	4,400	No	7,279	9,400	No	1,605	4,100	No	**13.2**	**B**	0.442	52.0	59.3	56.2
	I-80 EB	Fourth Street	PM	No	3,144	Yes	Yes	3,365	4,400	No	8,499	9,400	No	266	4,100	No	**11.6**	**B**	0.322	54.2	59.2	57.2
	I-80 EB	Fourth Street	Gameday	No	3,148	Yes	Yes	3,365	4,400	No	8,508	9,400	No	257	4,100	No	**11.6**	**B**	0.321	54.2	59.2	57.2
D5	I-280 NB	Mariposa St	AM	No	1,245	No	No	4,933	4,400	Yes	4,416	9,400	No	3,007	2,100	Yes	**-**	**F**	0.569	49.8	64.9	54.0
	I-280 NB	Mariposa St	PM	No	1,111	No	No	2,754	4,400	No	3,938	9,400	No	1,037	2,100	No	**27.5**	**C**	0.391	53.0	65.4	57.9
	I-280 NB	Mariposa St	Gameday	No	1,090	No	No	3,372	4,400	No	3,865	9,400	No	1,687	2,100	No	**32.8**	**D**	0.450	51.9	65.5	56.5
Baseline Plus Project (Seawall Lot 337 - Scenario A)																						
D1	I-80 WB	Fremont/Harrison	AM	No	1,632	No	No	4,327	4,400	No	6,485	9,400	No	1,106	2,100	No	**41.0**	**E**	0.398	52.8	63.4	56.9
	I-80 WB	Fremont/Harrison	PM	No	1,587	No	No	3,376	4,400	No	6,170	9,400	No	379	2,100	No	**32.8**	**D**	0.332	54.0	63.5	58.2
	I-80 WB	Fremont/Harrison	Gameday	No	1,684	No	No	3,962	4,400	No	6,612	9,400	No	719	2,100	No	**37.9**	**E**	0.363	53.5	63.2	57.5
D2	I-80 WB	Fremont/Folsom/Howard	AM	No	1,913	No	No	3,766	4,400	No	6,784	9,400	No	808	2,100	No	**36.2**	**E**	0.371	53.3	62.3	57.5
	I-80 WB	Fremont/Folsom/Howard	PM	No	1,688	No	No	3,173	4,400	No	5,985	9,400	No	564	2,100	No	**31.1**	**D**	0.349	53.7	63.1	58.2
	I-80 WB	Fremont/Folsom/Howard	Gameday	No	1,862	No	No	3,607	4,400	No	6,602	9,400	No	729	2,100	No	**34.8**	**D**	0.364	53.5	62.5	57.7
D3	I-80 WB	Fifth/Harrison	AM	No	2,210	No	No	3,198	4,400	No	6,365	9,400	No	1,252	4,100	No	**30.9**	**D**	0.411	52.6	61.1	57.2
	I-80 WB	Fifth/Harrison	PM	No	2,005	No	No	3,340	4,400	No	5,830	9,400	No	1,521	4,100	No	**32.1**	**D**	0.435	52.2	61.9	57.1
	I-80 WB	Fifth/Harrison	Gameday	No	2,109	No	No	3,540	4,400	No	6,134	9,400	No	1,623	4,100	No	**33.8**	**D**	0.444	52.0	61.5	56.8
D4	I-80 EB	Fourth Street	AM	No	2,693	No	Yes	3,553	4,400	No	7,279	9,400	No	1,603	4,100	No	**13.2**	**B**	0.442	52.0	59.3	56.2
	I-80 EB	Fourth Street	PM	No	3,144	Yes	Yes	3,363	4,400	No	8,499	9,400	No	264	4,100	No	**11.6**	**B**	0.322	54.2	59.2	57.2
	I-80 EB	Fourth Street	Gameday	No	3,148	Yes	Yes	3,363	4,400	No	8,508	9,400	No	255	4,100	No	**11.6**	**B**	0.321	54.2	59.2	57.2
D5	I-280 NB	Mariposa St	AM	No	1,245	No	No	4,929	4,400	Yes	4,416	9,400	No	3,004	2,100	Yes	**-**	**F**	0.568	49.8	64.9	54.0
	I-280 NB	Mariposa St	PM	No	1,111	No	No	2,751	4,400	No	3,938	9,400	No	1,034	2,100	No	**27.5**	**C**	0.391	53.0	65.4	57.9
	I-280 NB	Mariposa St	Gameday	No	1,090	No	No	3,369	4,400	No	3,865	9,400	No	1,683	2,100	No	**32.8**	**D**	0.450	51.9	65.5	56.5

HCM 2000 Jurisdiction San Francisco Agency or Company Fehr & Peers

Diverge Ramp Junctions Analysis Year Various Date 10/31/2013

Capacity Analysis Analyst MH Project Description Seawall Lot

General Information				*Freeway Data*			*Freeway Volume Adjustment*										*Off-Ramp Data*						*Capacity Checks*							
	Freeway/ Direction	Off-ramp	Analysis Time Period	Lanes	S_{FF} (mph)	V (vph)	Project Contribution (vph)	PHF	Terrain	Truck/ Bus %	RV %	E_T	E_R	f_{HV}	f_p	Effective Flow Rate v_p (pcph)	Type	Lanes	S_{FR} (mph)	V_R (vph)	Project V_R (vph)	%	Decel Lane (ft) L_{D1}	L_{D2}	L_{Deff}	Flow Rate v_p (pcph)	P_{FD}	v_{12} (pcph)	v_{Fi} (pcph)	Max v_{Fi} (pcph)
Baseline Plus Project (Scenario B)																														
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	6,801	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,577	Left	1	45.0	992	0	0%	50	50	50	1,105	0.436	4,320	7,577	9,400
	I-80 WB	Fremont/Harrison	PM	4	60.0	5,916	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,591	Left	1	45.0	345	0	0%	50	50	50	384	0.436	3,399	6,591	9,400
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	6,617	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,372	Left	1	45.0	650	0	0%	50	50	50	724	0.436	3,985	7,372	9,400
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	6,801	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,577	Right	1	45.0	725	0	0%	50	50	50	808	0.436	3,759	7,577	9,400
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	5,916	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,591	Right	1	45.0	507	0	0%	50	50	50	565	0.436	3,192	6,591	9,400
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	6,599	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,352	Right	1	45.0	655	0	0%	50	50	50	730	0.436	3,617	7,352	9,400
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	6,822	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,601	Left	2	45.0	1,109	0	0%	50	100	100	1,236	0.260	3,180	7,601	9,400
	I-80 WB	Fifth/Harrison	PM	4	60.0	6,639	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,397	Left	2	45.0	1,406	0	0%	50	100	100	1,566	0.260	3,391	7,397	9,400
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	7,004	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,803	Left	2	45.0	1,498	0	0%	50	100	100	1,669	0.260	3,590	7,803	9,400
D4	I-80 EB	Fourth Street	AM	4	60.0	7,959	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,867	Right	2	45.0	1,426	0	0%	1,200	2,400	1,589	0.260	3,481	8,867	9,400
	I-80 EB	Fourth Street	PM	4	60.0	7,869	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,767	Right	2	45.0	241	0	0%	1,200	2,400	269	0.260	2,478	8,767	9,400
	I-80 EB	Fourth Street	Gameday	4	60.0	7,869	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,767	Right	2	45.0	233	0	0%	1,200	2,400	260	0.260	2,472	8,767	9,400
D5	I-280 NB	Mariposa St	AM	4	60.0	6,652	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,411	Right	1	45.0	2,688	0	0%	1,300	1,300	2,995	0.436	4,920	7,411	9,400
	I-280 NB	Mariposa St	PM	4	60.0	4,489	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,001	Right	1	45.0	954	0	0%	50	50	1,063	0.436	2,780	5,001	9,400
	I-280 NB	Mariposa St	Gameday	4	60.0	5,006	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,577	Right	1	45.0	1,537	0	0%	50	50	1,712	0.436	3,398	5,577	9,400
Baseline Plus Project (Seawall Lot 337 - Scenario B)																														
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	6,797	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,573	Left	1	45.0	992	0	0%	50	50	50	1,105	0.436	4,318	7,573	9,400
	I-80 WB	Fremont/Harrison	PM	4	60.0	5,905	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,579	Left	1	45.0	344	0	0%	50	50	50	383	0.436	3,393	6,579	9,400
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	6,607	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,361	Left	1	45.0	649	0	0%	50	50	50	723	0.436	3,979	7,361	9,400
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	6,832	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,612	Right	1	45.0	724	0	0%	50	50	50	807	0.436	3,774	7,612	9,400
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	5,905	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,579	Right	1	45.0	506	0	0%	50	50	50	564	0.436	3,186	6,579	9,400
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	6,607	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,361	Right	1	45.0	654	0	0%	50	50	50	729	0.436	3,620	7,361	9,400
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	6,818	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,596	Left	2	45.0	1,105	0	0%	50	100	100	1,231	0.260	3,175	7,596	9,400
	I-80 WB	Fifth/Harrison	PM	4	60.0	6,628	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,384	Left	2	45.0	1,395	0	0%	50	100	100	1,554	0.260	3,377	7,384	9,400
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	6,993	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,791	Left	2	45.0	1,487	0	0%	50	100	100	1,657	0.260	3,577	7,791	9,400
D4	I-80 EB	Fourth Street	AM	4	60.0	7,957	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,865	Right	2	45.0	1,424	0	0%	1,200	2,400	1,587	0.260	3,479	8,865	9,400
	I-80 EB	Fourth Street	PM	4	60.0	7,866	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,764	Right	2	45.0	238	0	0%	1,200	2,400	265	0.260	2,475	8,764	9,400
	I-80 EB	Fourth Street	Gameday	4	60.0	7,866	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,764	Right	2	45.0	230	0	0%	1,200	2,400	256	0.260	2,468	8,764	9,400
D5	I-280 NB	Mariposa St	AM	4	60.0	6,644	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,402	Right	1	45.0	2,680	0	0%	1,300	1,300	2,986	0.436	4,911	7,402	9,400
	I-280 NB	Mariposa St	PM	4	60.0	4,481	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,992	Right	1	45.0	946	0	0%	50	50	1,054	0.436	2,771	4,992	9,400
	I-280 NB	Mariposa St	Gameday	4	60.0	4,998	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,568	Right	1	45.0	1,529	0	0%	50	50	1,704	0.436	3,389	5,568	9,400
Baseline Plus Project (Pier 48)																														
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	6,656	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,416	Left	1	45.0	980	0	0%	50	50	50	1,092	0.436	4,234	7,416	9,400
	I-80 WB	Fremont/Harrison	PM	4	60.0	5,746	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,402	Left	1	45.0	331	0	0%	50	50	50	369	0.436	3,299	6,402	9,400
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	6,448	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,183	Left	1	45.0	636	0	0%	50	50	50	709	0.436	3,885	7,183	9,400
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	6,656	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,416	Right	1	45.0	714	0	0%	50	50	50	795	0.436	3,682	7,416	9,400
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	5,746	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,402	Right	1	45.0	495	0	0%	50	50	50	551	0.436	3,102	6,402	9,400
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	6,448	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,183	Right	1	45.0	643	0	0%	50	50	50	716	0.436	3,536	7,183	9,400
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	6,664	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,425	Left	2	45.0	951	0	0%	50	100	100	1,060	0.260	2,986	7,425	9,400
	I-80 WB	Fifth/Harrison	PM	4	60.0	6,453	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,189	Left	2	45.0	1,220	0	0%	50	100	100	1,359	0.260	3,163	7,189	9,400
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	6,818	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,596	Left	2	45.0	1,312	0	0%	50	100	100	1,462	0.260	3,362	7,596	9,400
D4	I-80 EB	Fourth Street	AM	4	60.0	7,891	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,792	Right	2	45.0	1,358	0	0%	1,200	2,400	1,513	0.260	3,405	8,792	9,400
	I-80 EB	Fourth Street	PM	4	60.0	7,815	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,707	Right	2	45.0	187	0	0%	1,200	2,400	208	0.260	2,418	8,707	9,400
	I-80 EB	Fourth Street	Gameday	4	60.0	7,815	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,707	Right	2	45.0	179	0	0%	1,200	2,400	199	0.260	2,411	8,707	9,400
D5	I-280 NB	Mariposa St	AM	4	60.0	6,495	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,236	Right	1	45.0	2,531	0	0%	1,300	1,300	2,820	0.436	4,745	7,236	9,400
	I-280 NB	Mariposa St	PM	4	60.0	4,351	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	4,848	Right	1	45.0	816	0	0%	50	50	909	0.436	2,626	4,848	9,400
	I-280 NB	Mariposa St	Gameday	4	60.0	4,868	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,424	Right	1	45.0	1,399	0	0%	50	50	1,559	0.436	3,244	5,424	9,400

HCM 2000
Diverge Ramp Junctions
Capacity Analysis

General Information | *Results* | *Speed Estimation*

	Freeway/ Direction	Off-ramp	Analysis Time Period	LOS F?	v_3, v_{av34} (pcphpl)	v_3, v_{av34} > 2,700?	v_3, v_{av34} >1.5*v_{12}/2?	v_{12a} (pcph)	Max v_{12} (pcph)	LOS F?	v_{FO} (pcph)	Max v_{FO} (pcph)	LOS F?	v_R (pcph)	Max v_R (pcph)	LOS F?	Density, D (pcplpm)	Level of Service	Int. Var. D_S	Inf. Area S_R (mph)	Out Lns. S_O (mph)	All vehs. S (mph)
Baseline Plus Project (Scenario B)																						
D1	I-80 WB	Fremont/Harrison	AM	No	1,629	No	No	4,320	4,400	No	6,472	9,400	No	1,105	2,100	No	**41.0**	**E**	0.397	52.8	63.4	56.9
	I-80 WB	Fremont/Harrison	PM	No	1,596	No	No	3,399	4,400	No	6,206	9,400	No	384	2,100	No	**33.0**	**D**	0.333	54.0	63.5	58.2
	I-80 WB	Fremont/Harrison	Gameday	No	1,694	No	No	3,985	4,400	No	6,648	9,400	No	724	2,100	No	**38.1**	**E**	0.363	53.5	63.1	57.5
D2	I-80 WB	Fremont/Folsom/Howard	AM	No	1,909	No	No	3,759	4,400	No	6,770	9,400	No	808	2,100	No	**36.1**	**E**	0.371	53.3	62.3	57.5
	I-80 WB	Fremont/Folsom/Howard	PM	No	1,699	No	No	3,192	4,400	No	6,026	9,400	No	565	2,100	No	**31.3**	**D**	0.349	53.7	63.1	58.2
	I-80 WB	Fremont/Folsom/Howard	Gameday	No	1,867	No	No	3,617	4,400	No	6,622	9,400	No	730	2,100	No	**34.9**	**D**	0.364	53.5	62.4	57.7
D3	I-80 WB	Fifth/Harrison	AM	No	2,211	No	No	3,180	4,400	No	6,365	9,400	No	1,236	4,100	No	**30.7**	**D**	0.409	52.6	61.1	57.2
	I-80 WB	Fifth/Harrison	PM	No	2,003	No	No	3,391	4,400	No	5,830	9,400	No	1,566	4,100	No	**32.5**	**D**	0.439	52.1	61.9	57.0
	I-80 WB	Fifth/Harrison	Gameday	No	2,107	No	No	3,590	4,400	No	6,134	9,400	No	1,669	4,100	No	**34.2**	**D**	0.448	51.9	61.5	56.7
D4	I-80 EB	Fourth Street	AM	No	2,693	No	Yes	3,547	4,400	No	7,279	9,400	No	1,589	4,100	No	**13.2**	**B**	0.441	52.1	59.3	56.2
	I-80 EB	Fourth Street	PM	No	3,144	Yes	Yes	3,367	4,400	No	8,499	9,400	No	269	4,100	No	**11.6**	**B**	0.322	54.2	59.2	57.2
	I-80 EB	Fourth Street	Gameday	No	3,148	Yes	Yes	3,367	4,400	No	8,508	9,400	No	260	4,100	No	**11.6**	**B**	0.321	54.2	59.2	57.2
D5	I-280 NB	Mariposa St	AM	No	1,245	No	No	4,920	4,400	Yes	4,416	9,400	No	2,995	2,100	Yes	**-**	**F**	0.568	49.8	64.9	54.0
	I-280 NB	Mariposa St	PM	No	1,111	No	No	2,780	4,400	No	3,938	9,400	No	1,063	2,100	No	**27.7**	**C**	0.394	52.9	65.4	57.8
	I-280 NB	Mariposa St	Gameday	No	1,090	No	No	3,398	4,400	No	3,865	9,400	No	1,712	2,100	No	**33.0**	**D**	0.452	51.9	65.5	56.4
Baseline Plus Project (Seawall Lot 337 - Scenario B)																						
D1	I-80 WB	Fremont/Harrison	AM	No	1,628	No	No	4,318	4,400	No	6,468	9,400	No	1,105	2,100	No	**40.9**	**E**	0.397	52.8	63.4	56.9
	I-80 WB	Fremont/Harrison	PM	No	1,593	No	No	3,393	4,400	No	6,196	9,400	No	383	2,100	No	**33.0**	**D**	0.332	54.0	63.5	58.2
	I-80 WB	Fremont/Harrison	Gameday	No	1,691	No	No	3,979	4,400	No	6,638	9,400	No	723	2,100	No	**38.0**	**E**	0.363	53.5	63.1	57.5
D2	I-80 WB	Fremont/Folsom/Howard	AM	No	1,919	No	No	3,774	4,400	No	6,806	9,400	No	807	2,100	No	**36.3**	**E**	0.371	53.3	62.2	57.5
	I-80 WB	Fremont/Folsom/Howard	PM	No	1,696	No	No	3,186	4,400	No	6,015	9,400	No	564	2,100	No	**31.2**	**D**	0.349	53.7	63.1	58.2
	I-80 WB	Fremont/Folsom/Howard	Gameday	No	1,870	No	No	3,620	4,400	No	6,632	9,400	No	729	2,100	No	**34.9**	**D**	0.364	53.5	62.4	57.7
D3	I-80 WB	Fifth/Harrison	AM	No	2,211	No	No	3,175	4,400	No	6,365	9,400	No	1,231	4,100	No	**30.7**	**D**	0.409	52.6	61.1	57.3
	I-80 WB	Fifth/Harrison	PM	No	2,004	No	No	3,377	4,400	No	5,830	9,400	No	1,554	4,100	No	**32.4**	**D**	0.438	52.1	61.9	57.0
	I-80 WB	Fifth/Harrison	Gameday	No	2,107	No	No	3,577	4,400	No	6,134	9,400	No	1,657	4,100	No	**34.1**	**D**	0.447	52.0	61.5	56.7
D4	I-80 EB	Fourth Street	AM	No	2,693	No	Yes	3,546	4,400	No	7,279	9,400	No	1,587	4,100	No	**13.1**	**B**	0.441	52.1	59.3	56.2
	I-80 EB	Fourth Street	PM	No	3,144	Yes	Yes	3,364	4,400	No	8,499	9,400	No	265	4,100	No	**11.6**	**B**	0.322	54.2	59.2	57.2
	I-80 EB	Fourth Street	Gameday	No	3,148	Yes	Yes	3,364	4,400	No	8,508	9,400	No	256	4,100	No	**11.6**	**B**	0.321	54.2	59.2	57.2
D5	I-280 NB	Mariposa St	AM	No	1,245	No	No	4,911	4,400	Yes	4,416	9,400	No	2,986	2,100	Yes	**-**	**F**	0.567	49.8	64.9	54.0
	I-280 NB	Mariposa St	PM	No	1,111	No	No	2,771	4,400	No	3,938	9,400	No	1,054	2,100	No	**27.6**	**C**	0.393	52.9	65.4	57.8
	I-280 NB	Mariposa St	Gameday	No	1,090	No	No	3,389	4,400	No	3,865	9,400	No	1,704	2,100	No	**32.9**	**D**	0.451	51.9	65.5	56.5
Baseline Plus Project (Pier 48)																						
D1	I-80 WB	Fremont/Harrison	AM	No	1,591	No	No	4,234	4,400	No	6,324	9,400	No	1,092	2,100	No	**40.2**	**E**	0.396	52.9	63.5	57.0
	I-80 WB	Fremont/Harrison	PM	No	1,551	No	No	3,299	4,400	No	6,033	9,400	No	369	2,100	No	**32.2**	**D**	0.331	54.0	63.7	58.3
	I-80 WB	Fremont/Harrison	Gameday	No	1,649	No	No	3,885	4,400	No	6,475	9,400	No	709	2,100	No	**37.2**	**E**	0.362	53.5	63.3	57.6
D2	I-80 WB	Fremont/Folsom/Howard	AM	No	1,867	No	No	3,682	4,400	No	6,621	9,400	No	795	2,100	No	**35.5**	**E**	0.370	53.3	62.4	57.6
	I-80 WB	Fremont/Folsom/Howard	PM	No	1,650	No	No	3,102	4,400	No	5,850	9,400	No	551	2,100	No	**30.5**	**D**	0.348	53.7	63.3	58.3
	I-80 WB	Fremont/Folsom/Howard	Gameday	No	1,824	No	No	3,536	4,400	No	6,467	9,400	No	716	2,100	No	**34.2**	**D**	0.362	53.5	62.6	57.8
D3	I-80 WB	Fifth/Harrison	AM	No	2,219	No	No	2,986	4,400	No	6,365	9,400	No	1,060	4,100	No	**29.0**	**D**	0.393	52.9	61.1	57.5
	I-80 WB	Fifth/Harrison	PM	No	2,013	No	No	3,163	4,400	No	5,830	9,400	No	1,359	4,100	No	**30.6**	**D**	0.420	52.4	61.9	57.3
	I-80 WB	Fifth/Harrison	Gameday	No	2,117	No	No	3,362	4,400	No	6,134	9,400	No	1,462	4,100	No	**32.3**	**D**	0.430	52.3	61.5	57.0
D4	I-80 EB	Fourth Street	AM	No	2,693	No	Yes	3,517	4,400	No	7,279	9,400	No	1,513	4,100	No	**12.9**	**B**	0.434	52.2	59.4	56.3
	I-80 EB	Fourth Street	PM	No	3,144	Yes	Yes	3,307	4,400	No	8,499	9,400	No	208	4,100	No	**11.1**	**B**	0.317	54.3	59.2	57.2
	I-80 EB	Fourth Street	Gameday	No	3,148	Yes	Yes	3,307	4,400	No	8,508	9,400	No	199	4,100	No	**11.1**	**B**	0.316	54.3	59.2	57.2
D5	I-280 NB	Mariposa St	AM	No	1,245	No	No	4,745	4,400	Yes	4,416	9,400	No	2,820	2,100	Yes	**-**	**F**	0.552	50.1	64.9	54.3
	I-280 NB	Mariposa St	PM	No	1,111	No	No	2,626	4,400	No	3,938	9,400	No	909	2,100	No	**26.4**	**C**	0.380	53.2	65.4	58.1
	I-280 NB	Mariposa St	Gameday	No	1,090	No	No	3,244	4,400	No	3,865	9,400	No	1,559	2,100	No	**31.7**	**D**	0.438	52.1	65.5	56.8

Leisch Method for Weaving Analysis

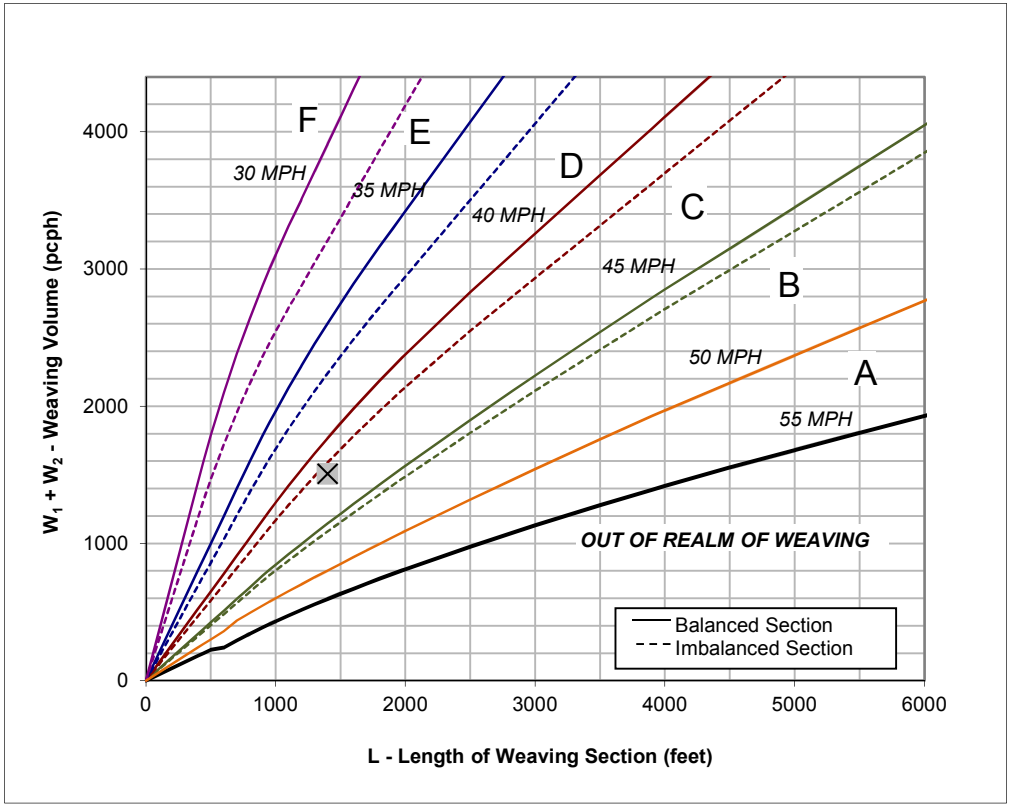
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,727	Volume (vph)*	1,014	Volume (vph)*	459
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	6,895	Volume (pcph)	1,039	Volume (pcph)	470

Project Information

Project	Seawall Lot
Scenario	Existing - 2013 - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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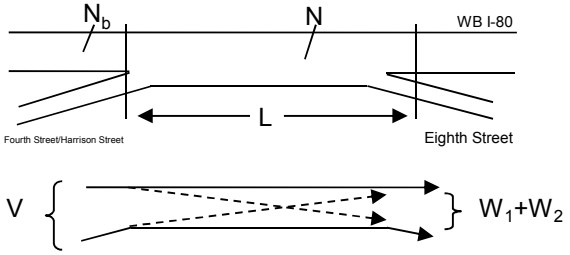


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **42.1**
4. Weaving Intensity Factor (k) **2.32**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,880**
6. Level of Service (LOS) **E**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

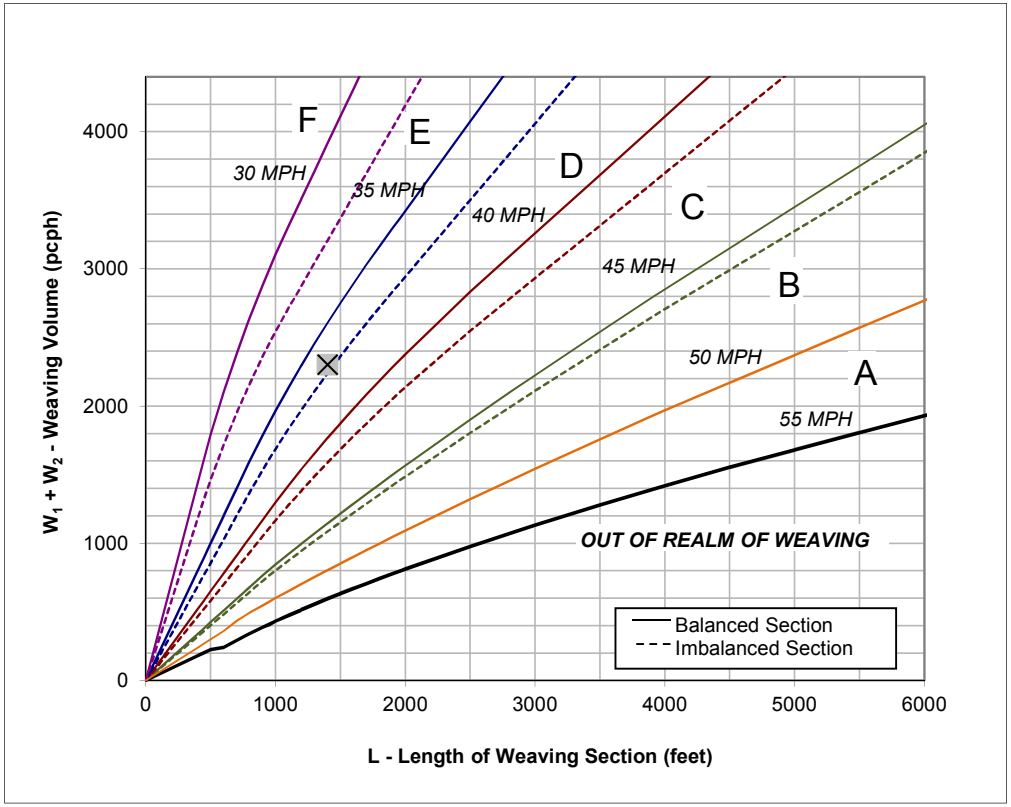
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,922	Volume (vph)*	1,689	Volume (vph)*	558
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,095	Volume (pcph)	1,731	Volume (pcph)	572

Project Information

Project	Seawall Lot
Scenario	Existing - 2013 - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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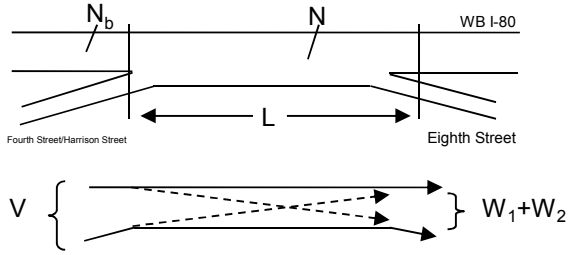


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.	
3. Interpolated Weaving Speed (S_w, mph)	36.8
4. Weaving Intensity Factor (k)	2.99
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,059
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

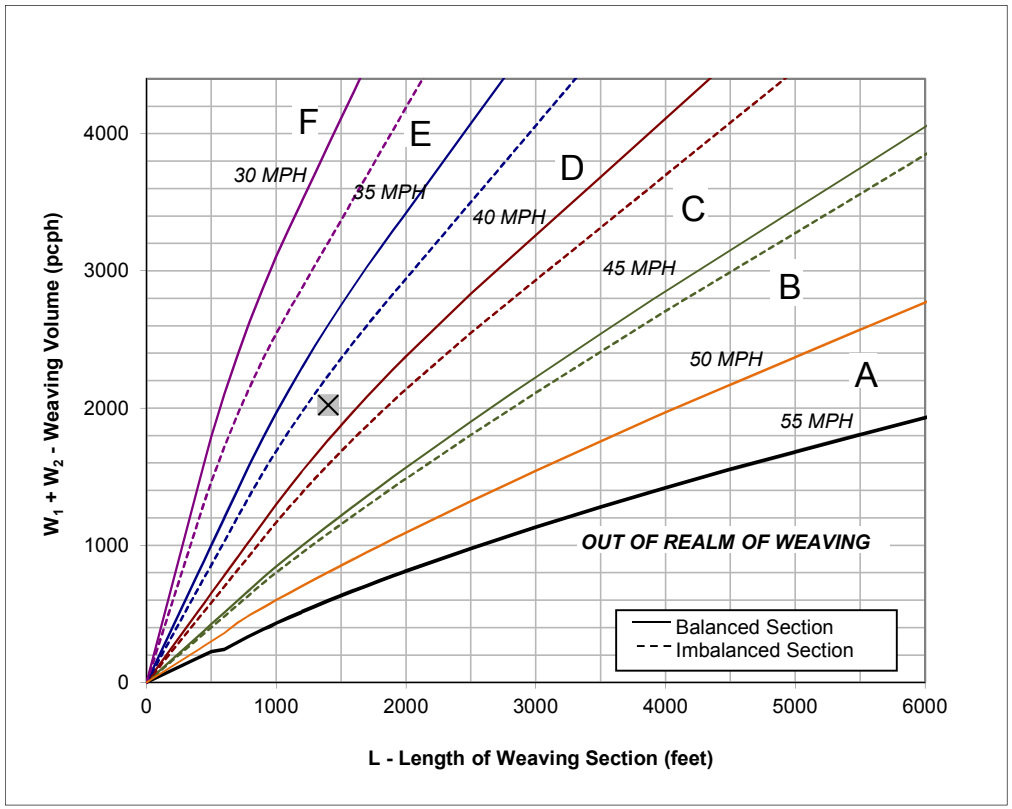
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,922	Volume (vph)*	1,416	Volume (vph)*	558
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,095	Volume (pcph)	1,451	Volume (pcph)	572

Project Information

Project	Seawall Lot
Scenario	Existing - 2013 - PM with Ballgame
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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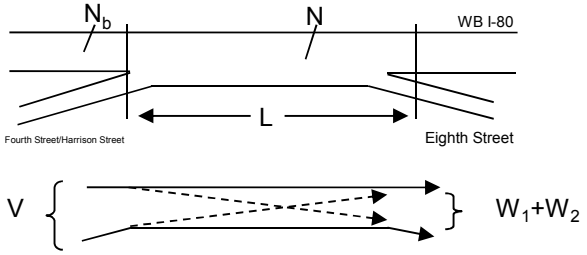


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	38.5
4. Weaving Intensity Factor (k)	2.67
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,012
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

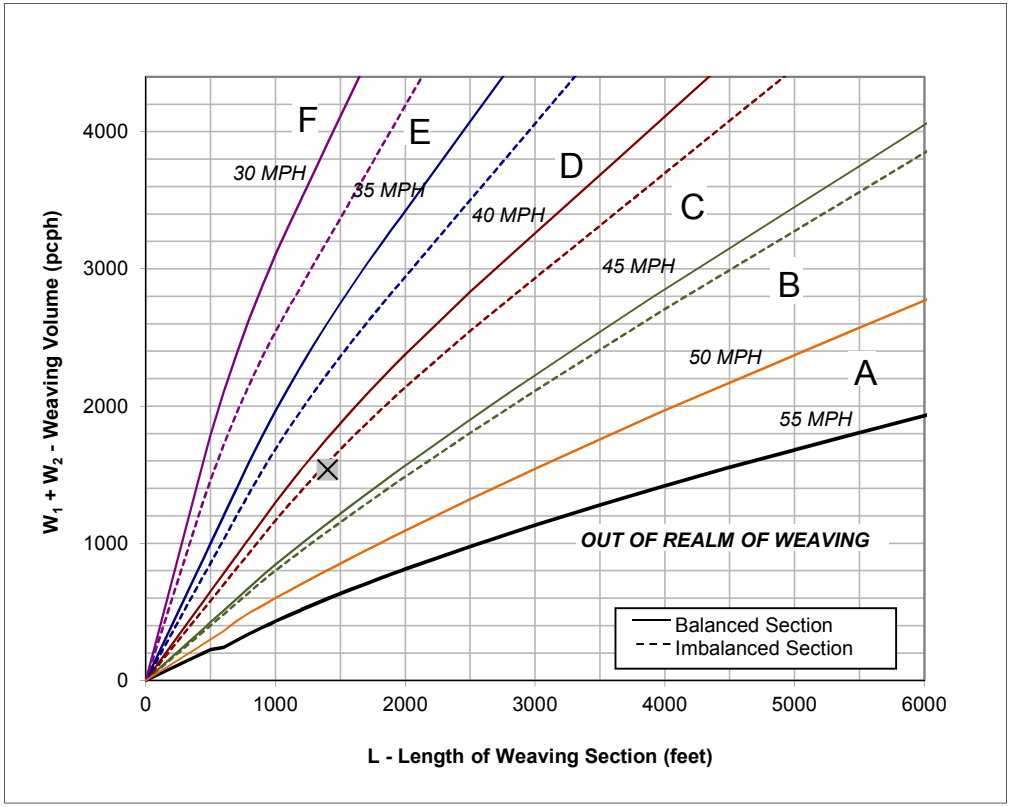
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,862	Volume (vph)*	1,034	Volume (vph)*	468
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,033	Volume (pcph)	1,060	Volume (pcph)	480

Project Information

Project	Seawall Lot
Scenario	Baseline - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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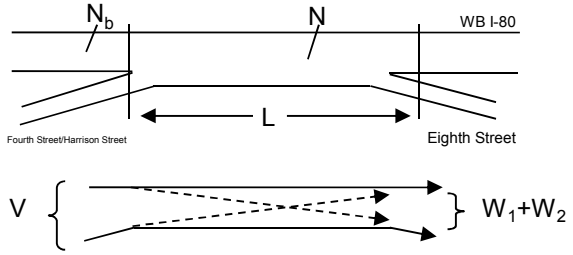


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**40 MPH** and **45 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	41.8
4. Weaving Intensity Factor (k)	2.36
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	1,921
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

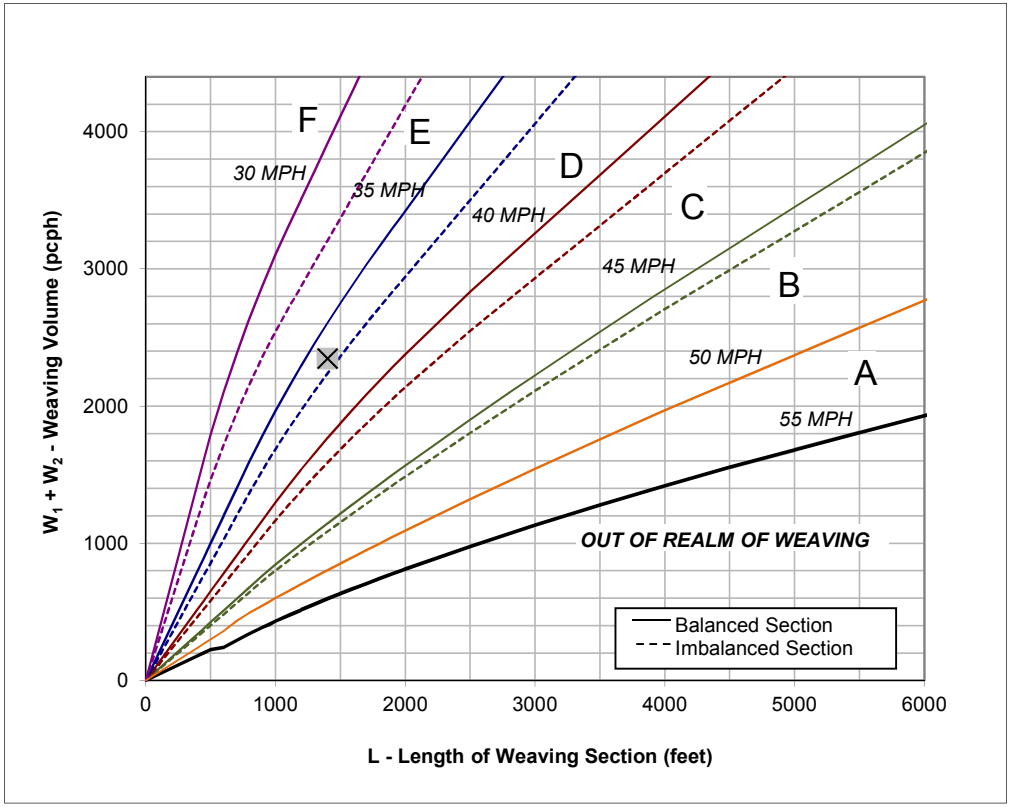
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,723	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,766	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	Baseline - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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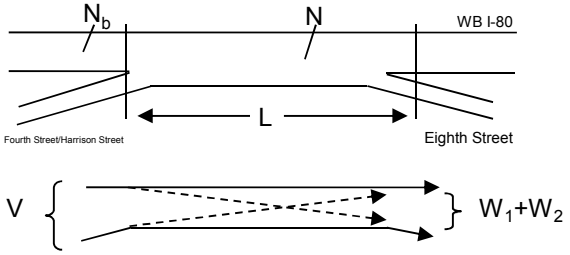


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **36.5**
4. Weaving Intensity Factor (k) **2.99**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **2,100**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

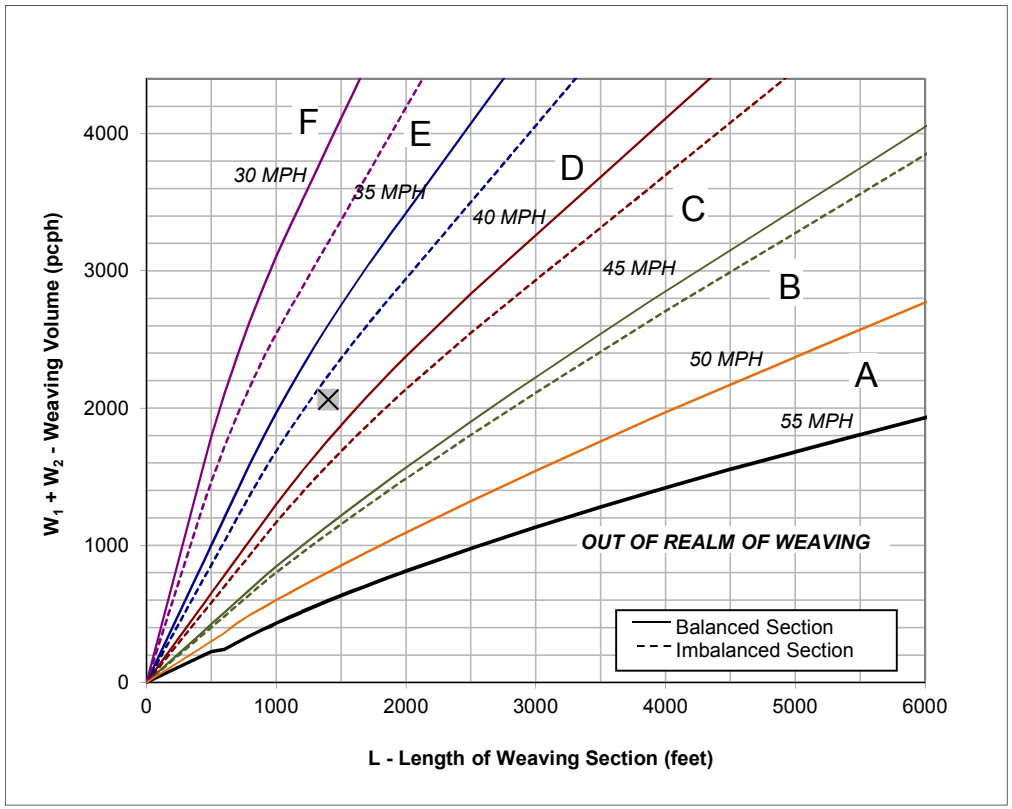
Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input		
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Project Information	
Project	Seawall Lot
Scenario	Baseline - PM with Ballgame
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	7,060	1,444	569
Truck Percentage	5%	5%	5%
PCE for Trucks	1.5	1.5	1.5
Volume (pcph)	7,237	1,480	583



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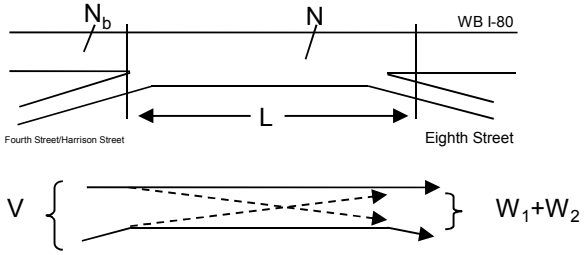


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **38.2**
4. Weaving Intensity Factor (k) **2.69**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **2,056**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

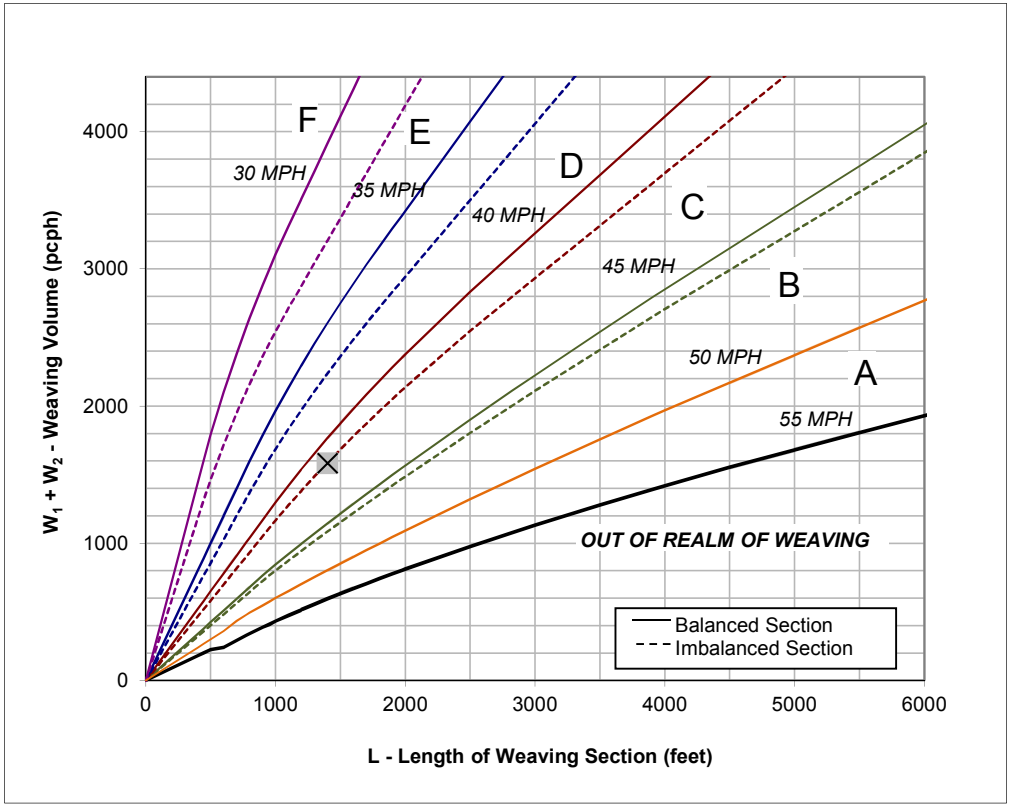
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,862	Volume (vph)*	1,078	Volume (vph)*	468
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,033	Volume (pcph)	1,105	Volume (pcph)	480

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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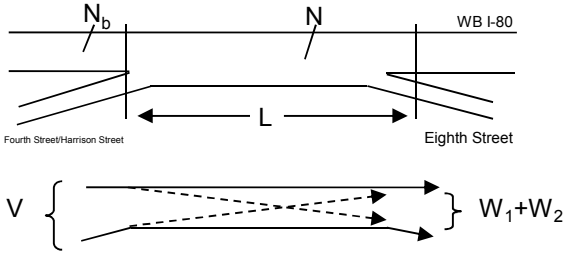


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**40 MPH** and **45 MPH**
If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.	
3. Interpolated Weaving Speed (S_w, mph)	41.5
4. Weaving Intensity Factor (k)	2.39
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	1,925
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

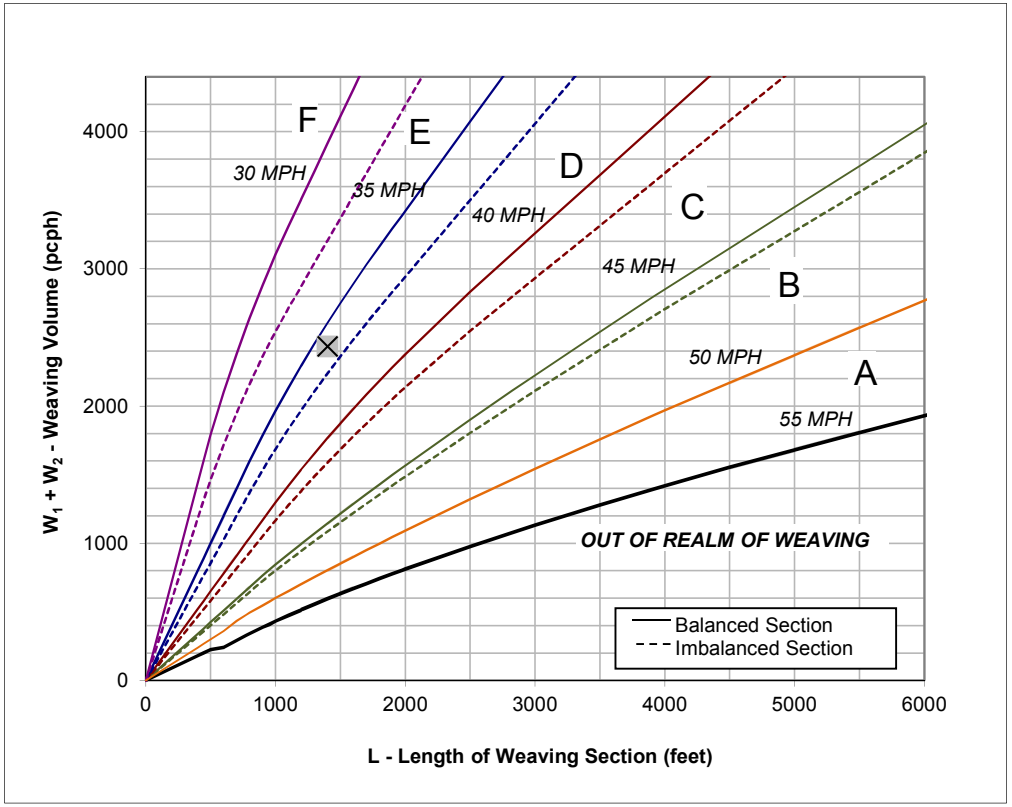
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,809	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,854	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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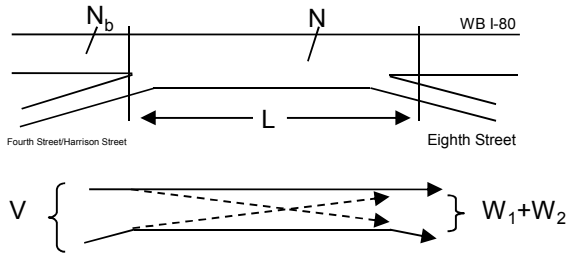


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **36.0**
4. Weaving Intensity Factor (k) **2.97**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **2,096**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

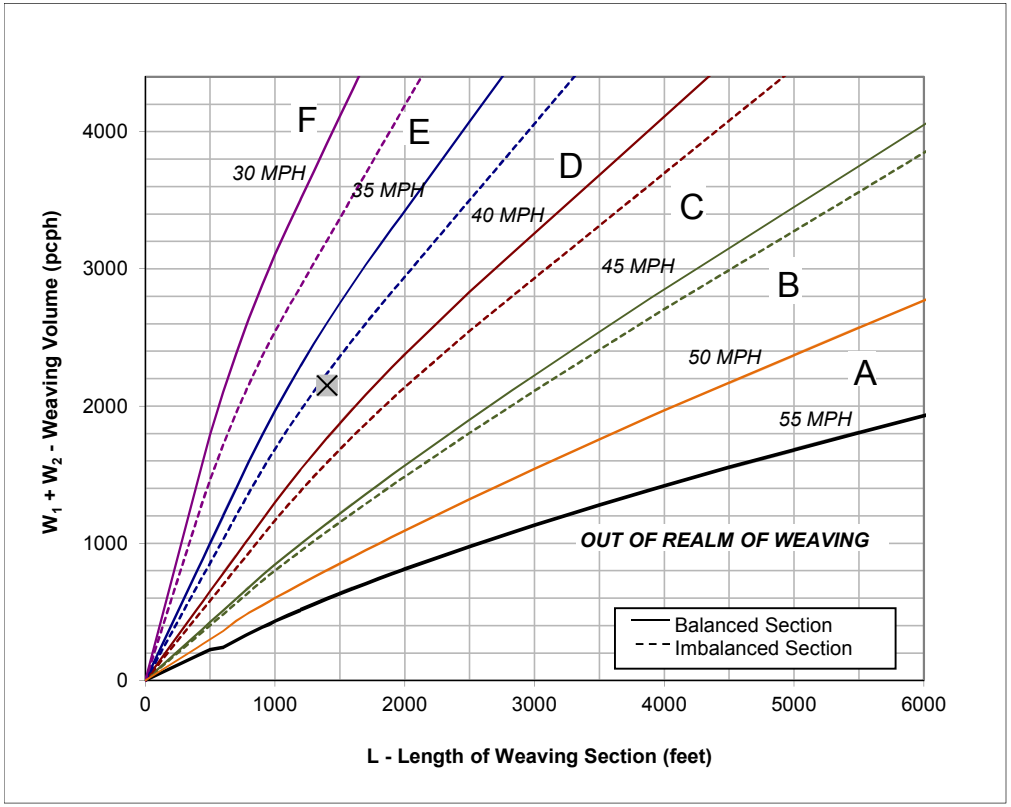
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,530	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,569	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - PM w/Game
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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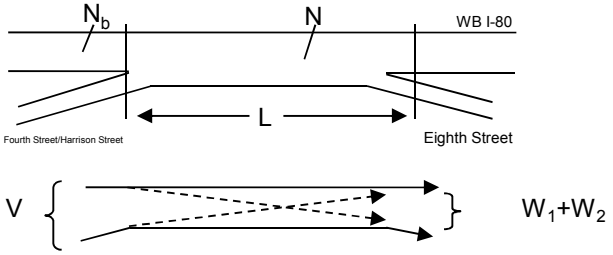


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	37.7
4. Weaving Intensity Factor (k)	2.73
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,061
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

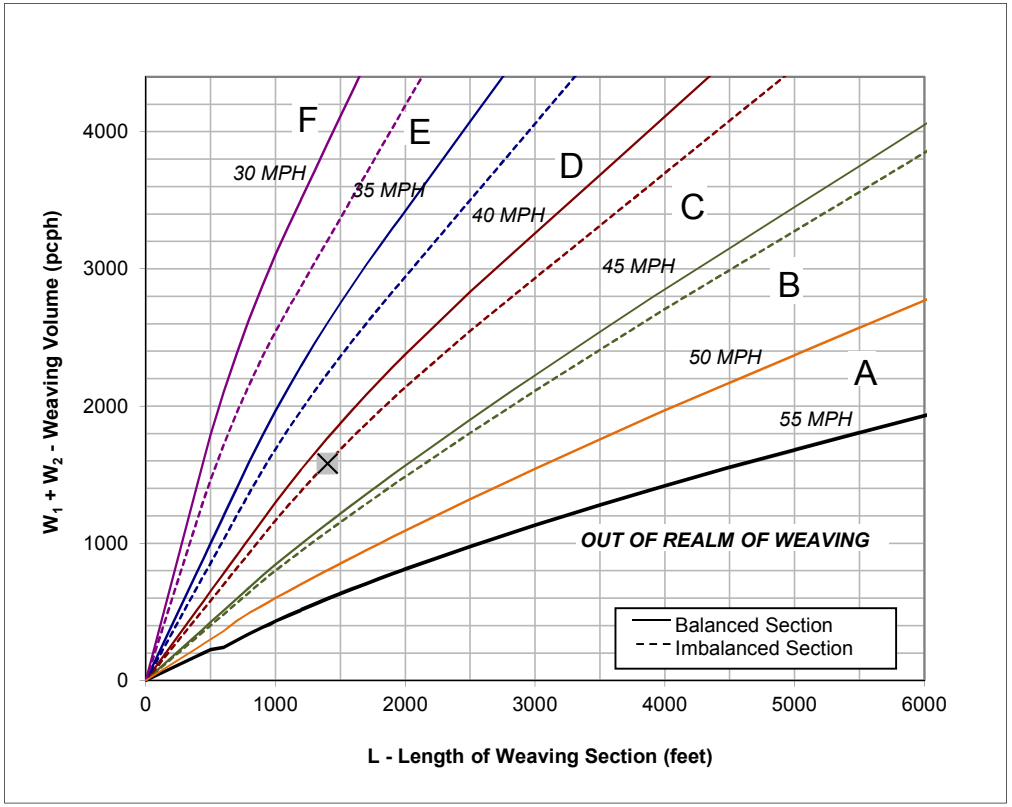
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,862	Volume (vph)*	1,077	Volume (vph)*	468
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,033	Volume (pcph)	1,104	Volume (pcph)	480

Project Information

Project	Seawall Lot
Scenario	Plus Project (Seawall Lot 337) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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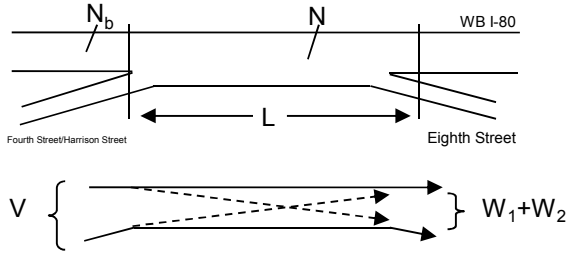


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**40 MPH** and **45 MPH**
If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.	
3. Interpolated Weaving Speed (S_w, mph)	41.5
4. Weaving Intensity Factor (k)	2.39
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	1,925
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

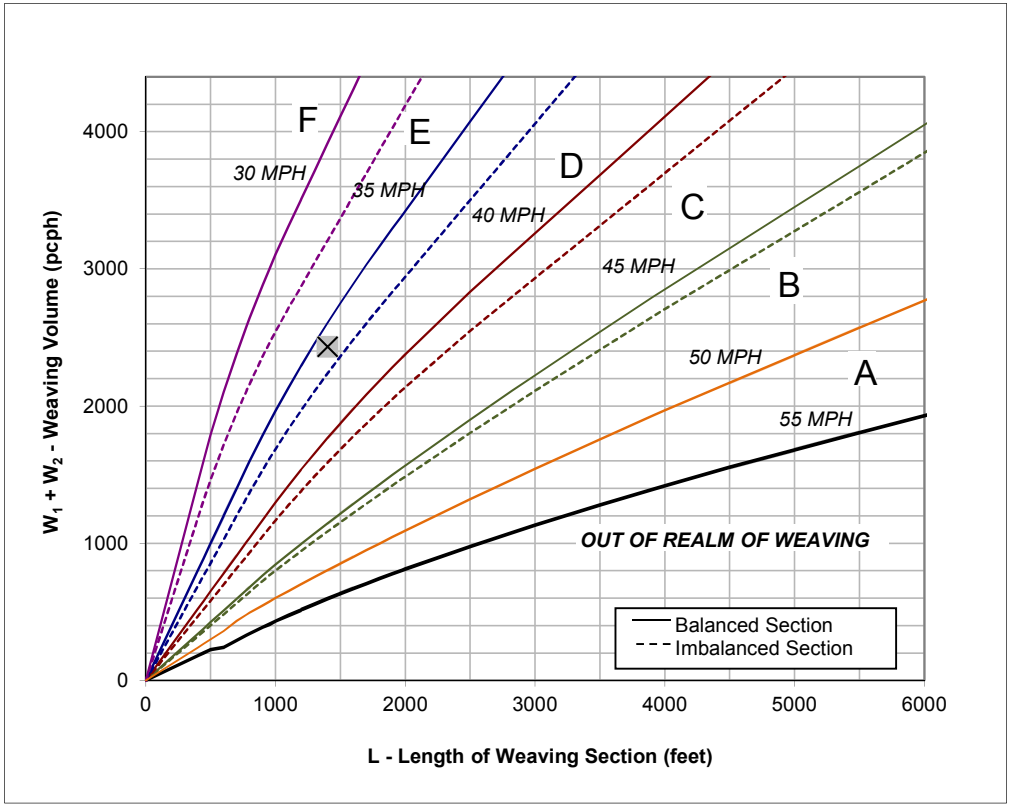
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,807	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,852	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	Plus Project (Seawall Lot 337) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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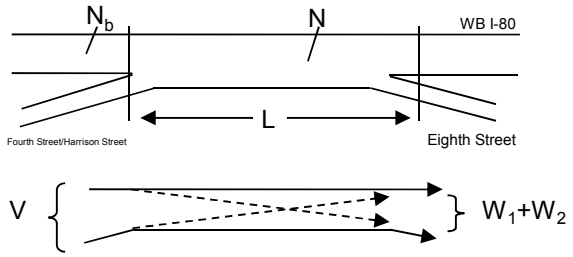


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **36.0**
4. Weaving Intensity Factor (k) **2.97**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **2,096**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

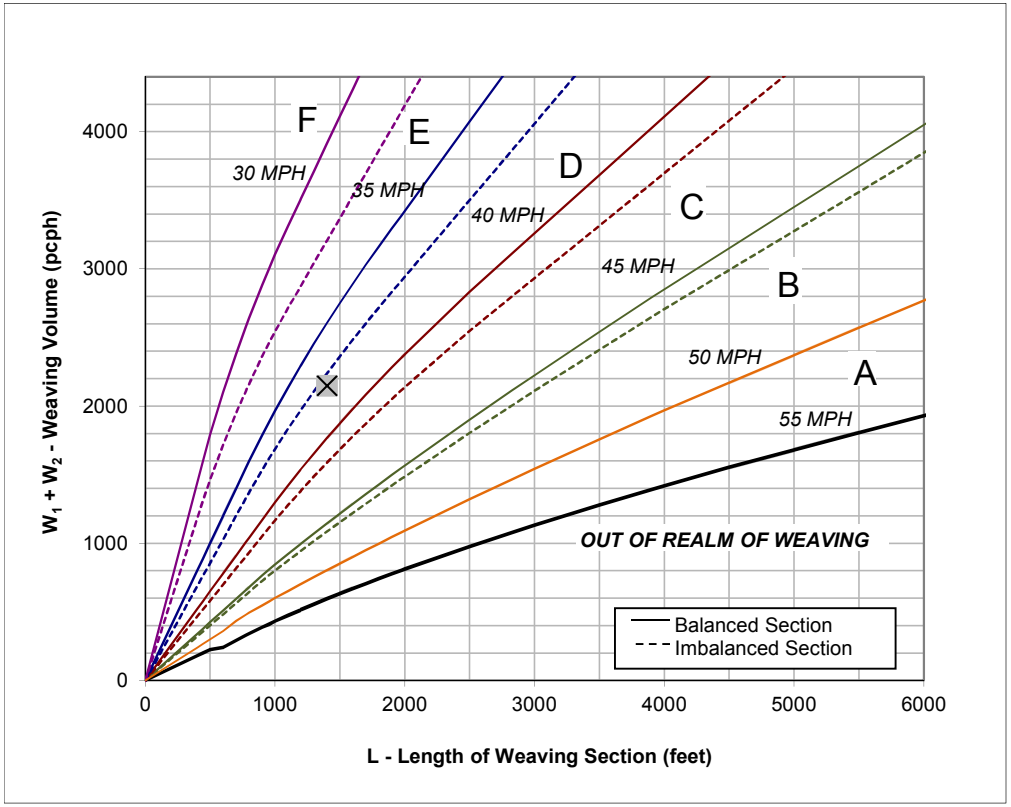
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,528	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,567	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	lus Project (Seawall Lot 337) - PM w/Gam
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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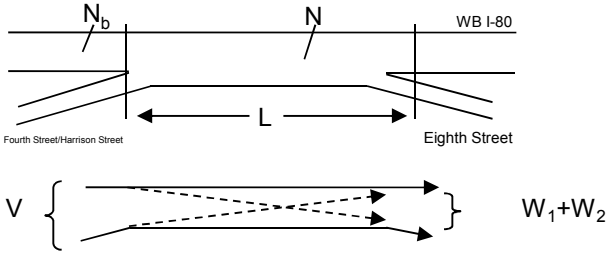


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	37.7
4. Weaving Intensity Factor (k)	2.73
5. Service Volume (SV, pcph) SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	2,061
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

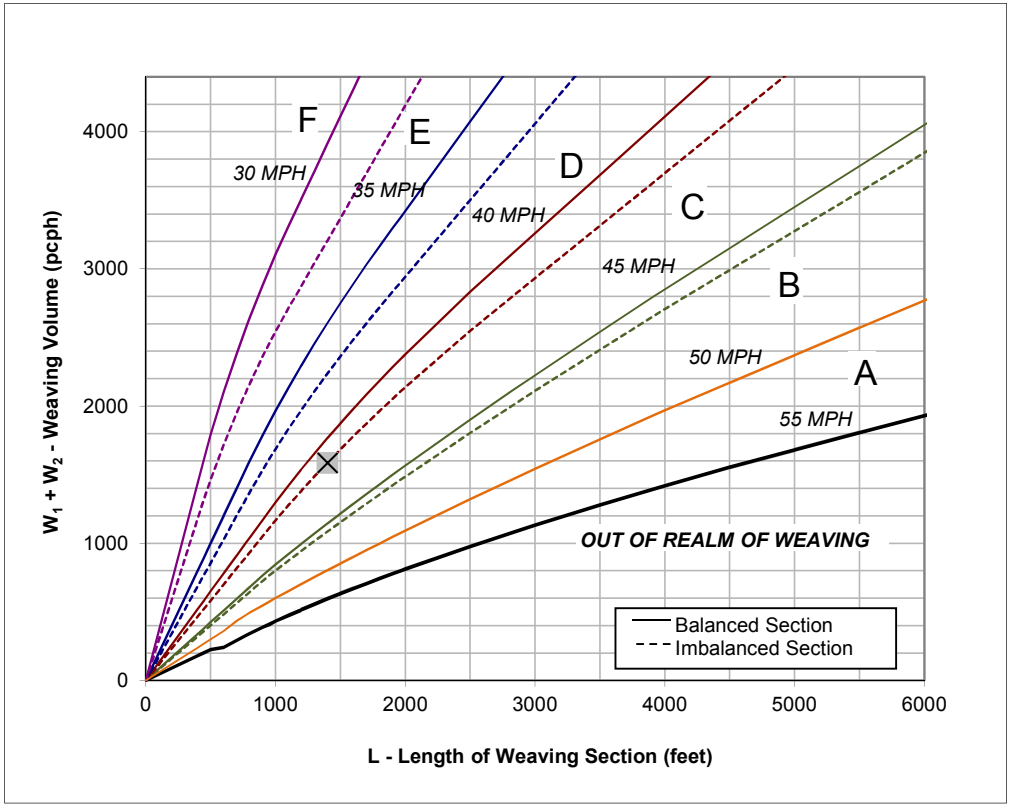
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,862	Volume (vph)*	1,081	Volume (vph)*	468
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,033	Volume (pcph)	1,108	Volume (pcph)	480

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario B) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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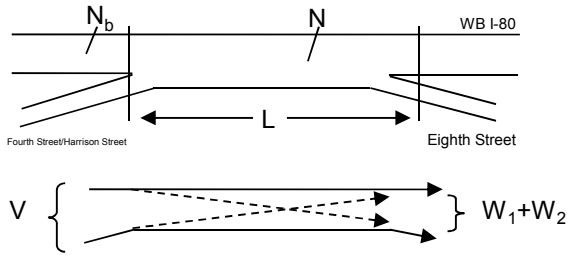


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **41.4**
4. Weaving Intensity Factor (k) **2.40**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,926**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

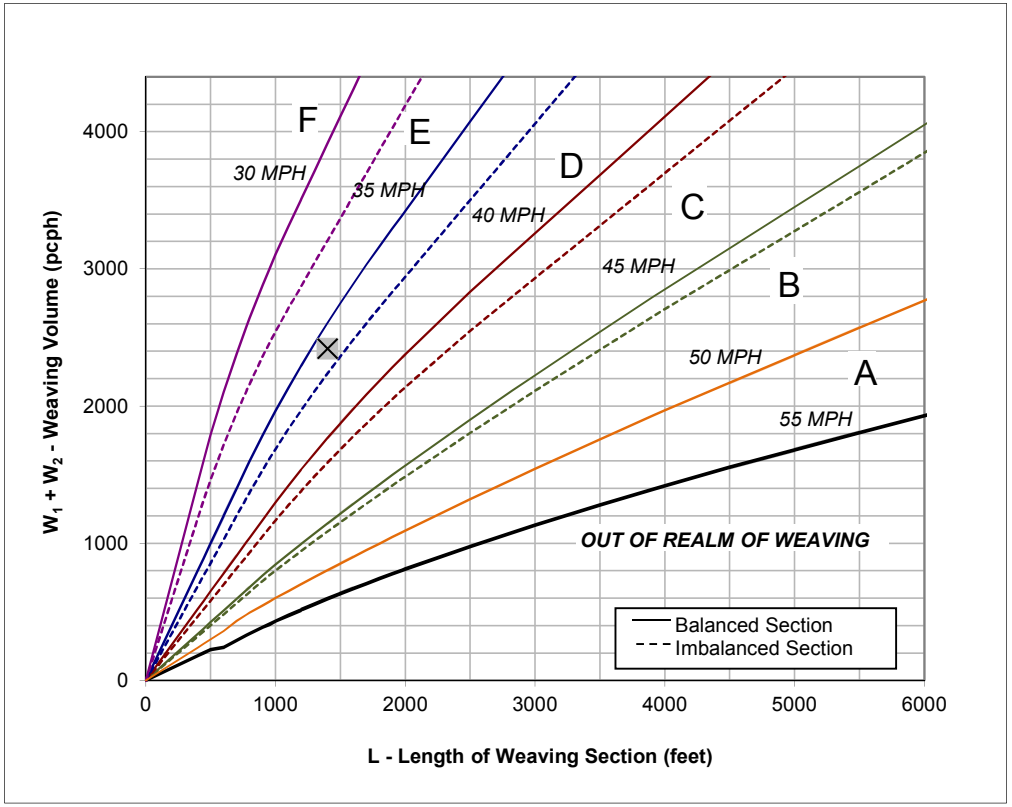
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,793	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,838	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario B) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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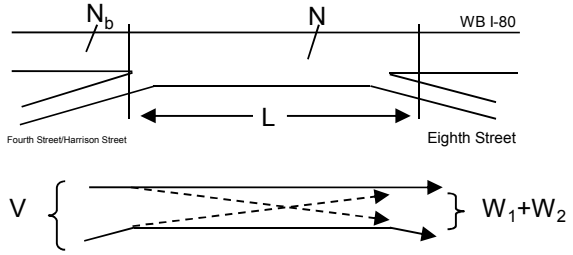


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **36.1**
4. Weaving Intensity Factor (k) **2.97**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **2,097**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

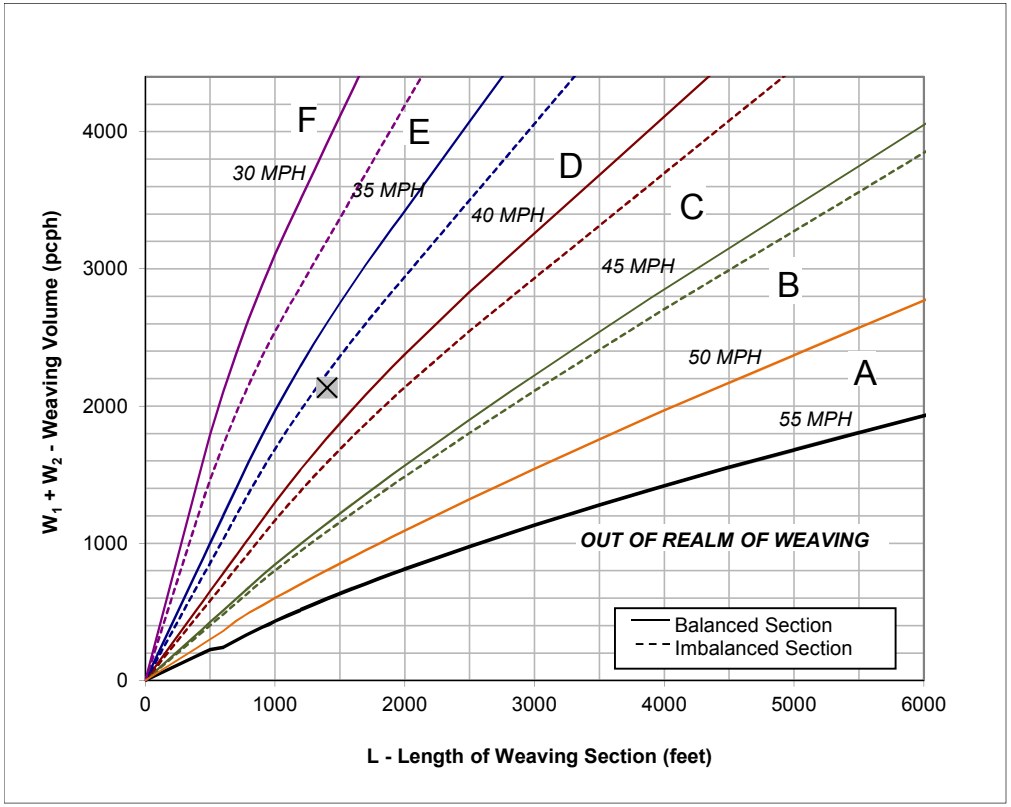
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario B) - PM w/Game
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,514.32	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,552	Volume (pcph)	583



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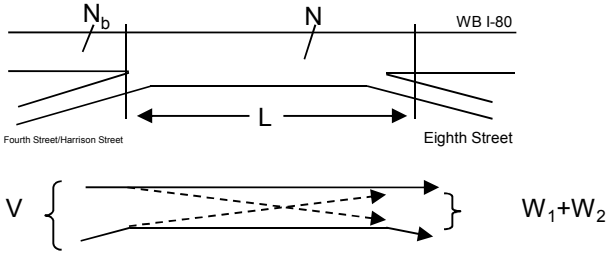


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	37.8
4. Weaving Intensity Factor (k)	2.72
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,060
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

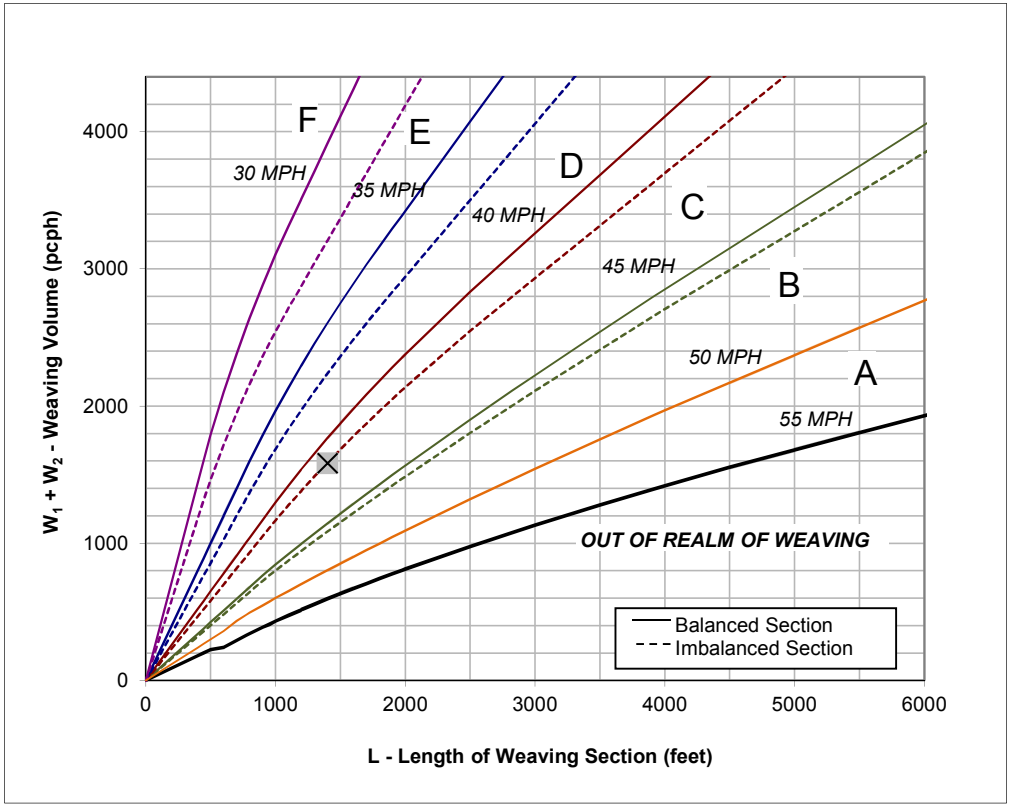
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

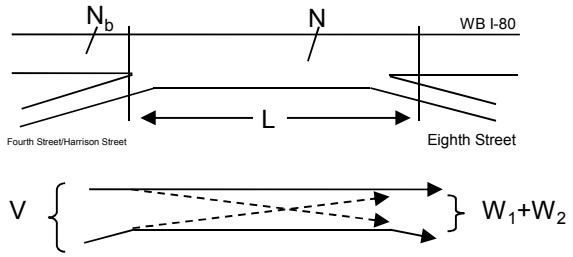
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,862	Volume (vph)*	1,079	Volume (vph)*	468
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,033	Volume (pcph)	1,106	Volume (pcph)	480

Project Information

Project	Seawall Lot
Scenario	Plus Project (Seawall Lot 337) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **41.5**
4. Weaving Intensity Factor (k) **2.39**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,925**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

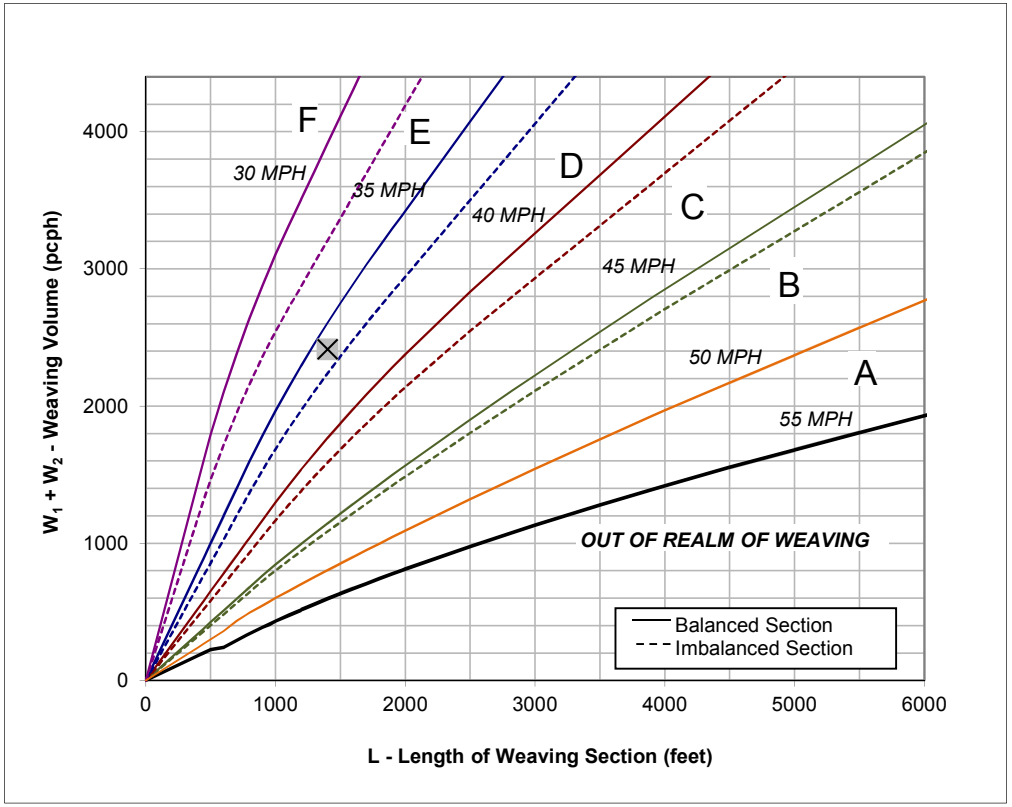
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

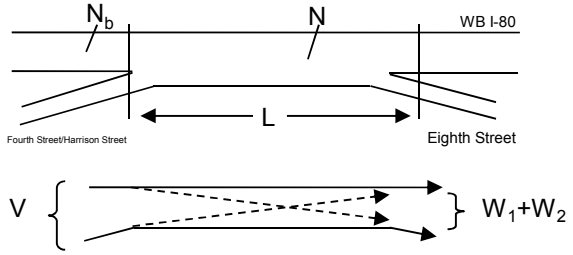
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,789	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,833	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	Plus Project (Seawall Lot 337) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **36.1**
4. Weaving Intensity Factor (k) **2.97**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **2,097**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

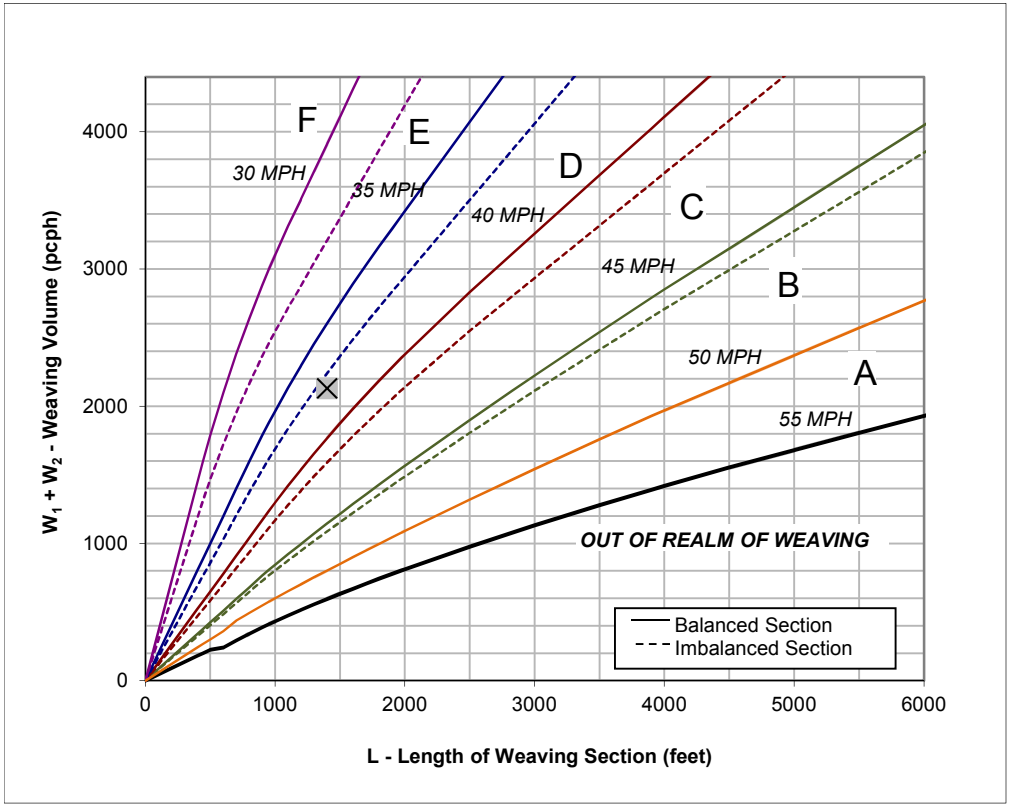
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

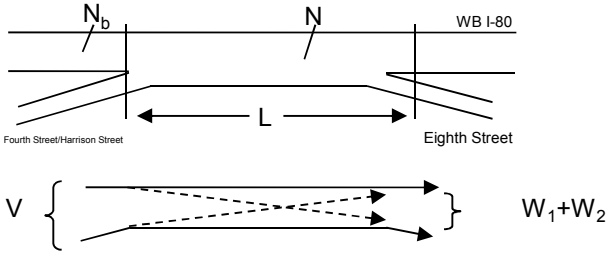
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,510	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,548	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	lus Project (Seawall Lot 337) - PM w/Gam
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	37.8
4. Weaving Intensity Factor (k)	2.72
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,060
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

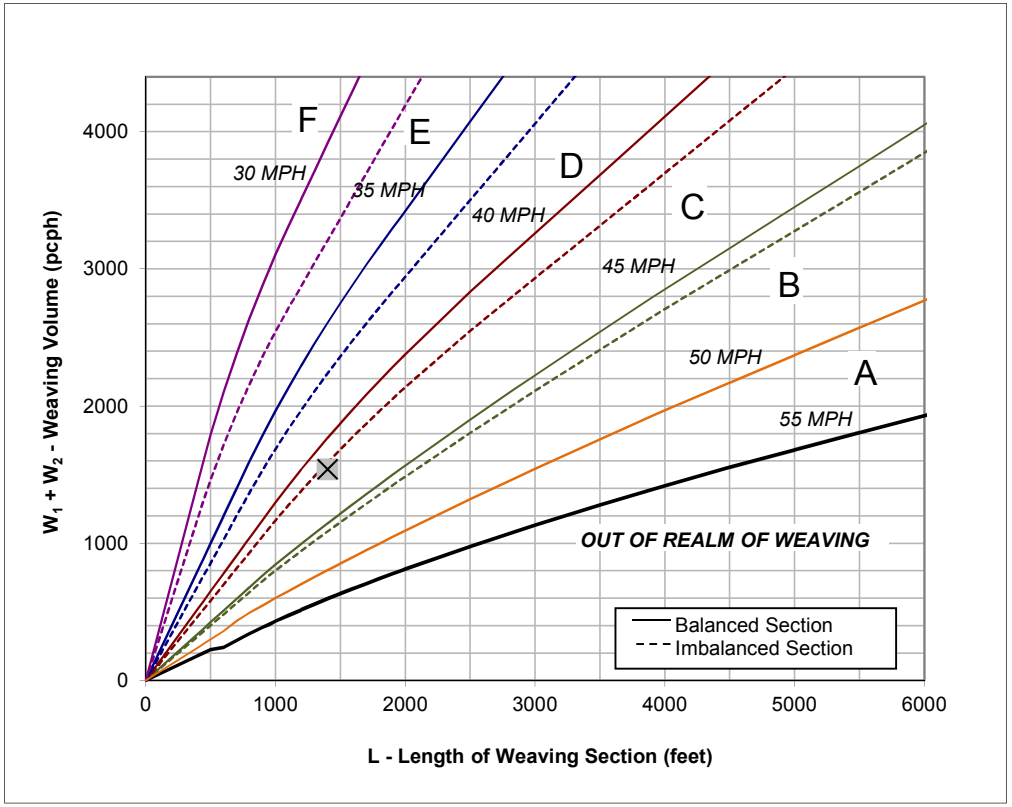
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,862	Volume (vph)*	1,035	Volume (vph)*	468
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,033	Volume (pcph)	1,061	Volume (pcph)	480

Project Information

Project	Seawall Lot
Scenario	Plus Project (Pier 48) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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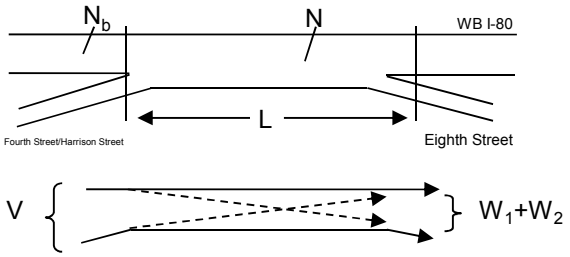


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**40 MPH** and **45 MPH**
If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.	
3. Interpolated Weaving Speed (S_w, mph)	41.8
4. Weaving Intensity Factor (k)	2.36
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	1,921
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

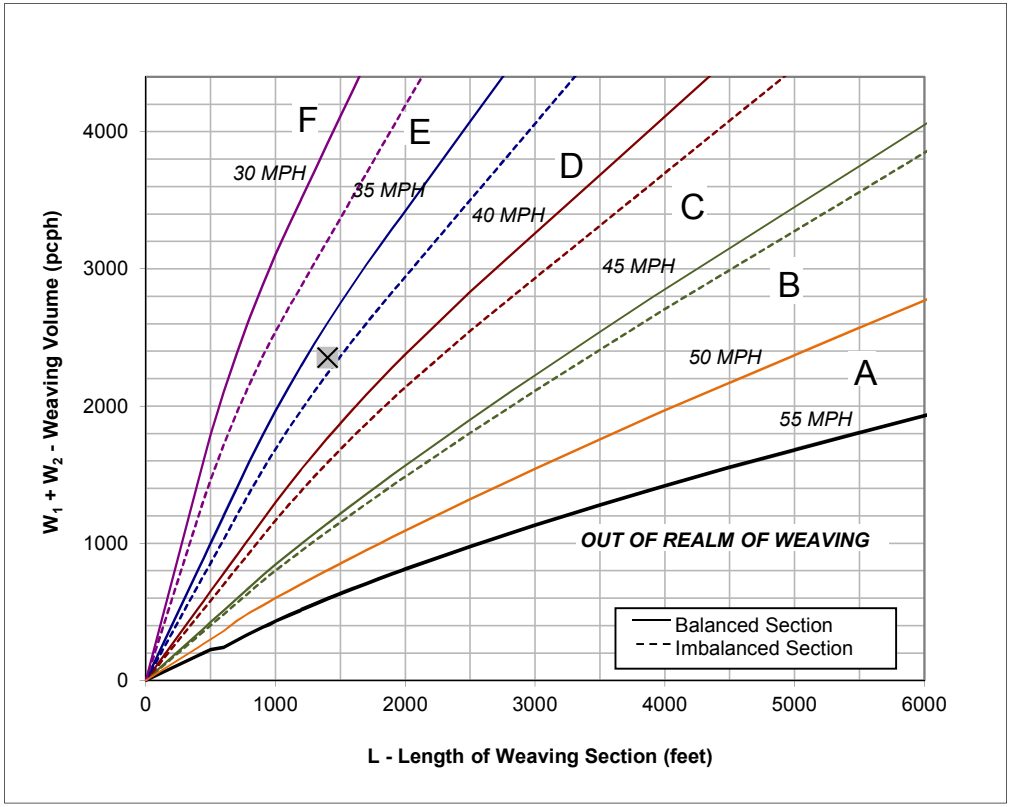
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,728	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,771	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	Plus Project (Pier 48) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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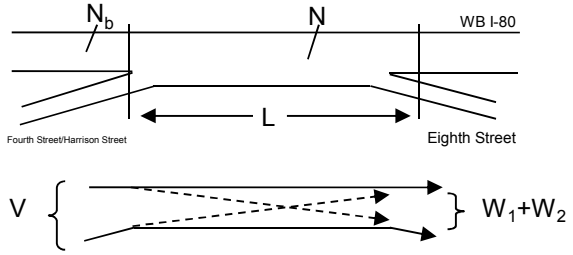


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **36.5**
4. Weaving Intensity Factor (k) **2.99**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **2,100**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

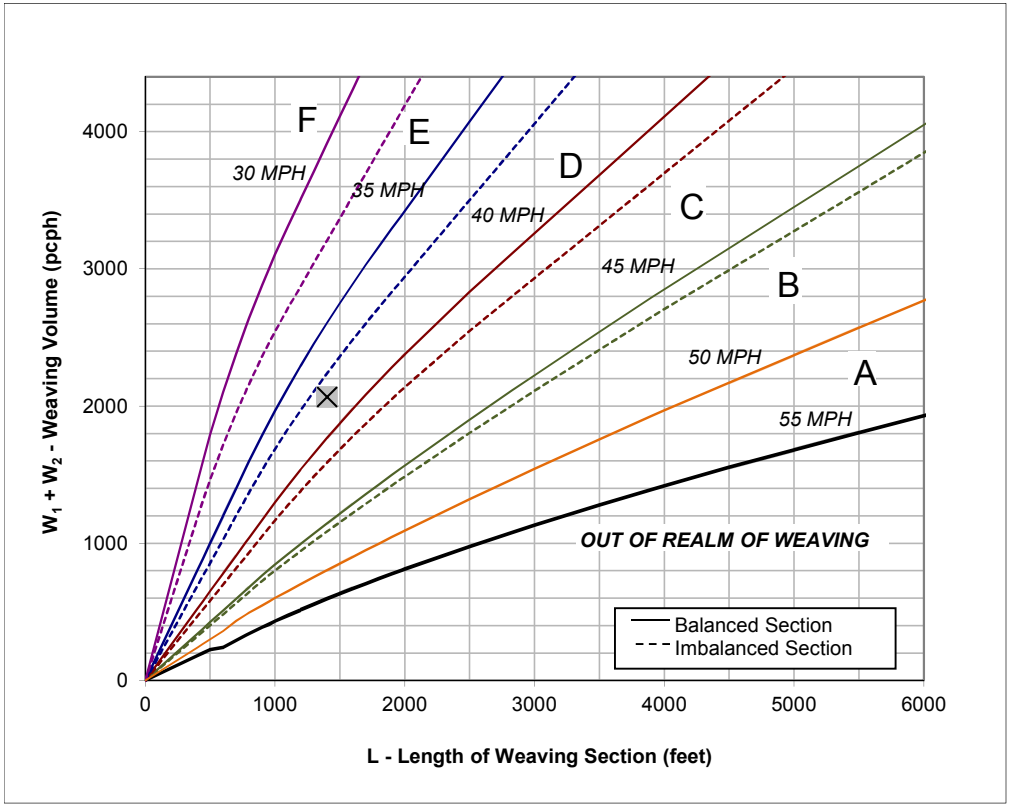
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,060	Volume (vph)*	1,449	Volume (vph)*	569
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,237	Volume (pcph)	1,486	Volume (pcph)	583

Project Information

Project	Seawall Lot
Scenario	Plus Project (Pier 48) - PM w/Game
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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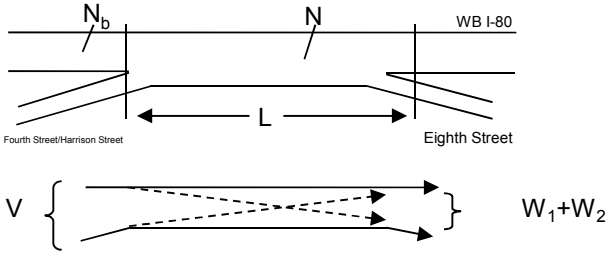


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	38.2
4. Weaving Intensity Factor (k)	2.69
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,056
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

HCM 2000
Merge Ramp Junctions
Capacity Analysis

Jurisdiction San Francisco — Agency or Company Fehr & Peers
Analysis Year Various — Date 10/31/2013
Analyst MH — Project Description Seawall Lot

General Information | *Freeway Data* | *Freeway Volume Adjustment* | *On-Ramp Data*

	Freeway/ Direction	On-ramp	Analysis Time Period	Lanes	S_{FF} (mph)	V (vph)	PHF	Terrain	Truck/ Bus %	RV %	E_T	E_R	f_{HV}	f_P	Effective Flow Rate v_p (pcph)	Type	Lanes	S_{FR} (mph)	V_R (vph)	Project V_R (vph)	%	Accel Lane (ft) L_{A1}	L_{A2}	L_{Aeff}	Flow Rate v_p (pcph)	P_{FM}	v_{12} (pcph)
Cumulative																											
M1	I-280 SB	Mariposa St	AM	3	60.0	3,180	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,543	Right	1	45.0	550	0	0%	480	0	550	613	0.593	2,101
	I-280 SB	Mariposa St	PM	3	60.0	5,970	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,651	Right	1	45.0	1,670	0	0%	480	0	550	1,861	0.593	3,944
	I-280 SB	Mariposa St	Gameday	3	60.0	6,020	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,707	Right	1	45.0	1,720	0	0%	480	0	550	1,916	0.593	3,977
M2	I-80 EB	Fifth St	AM	3	60.0	7,715	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,596	Left	1	45.0	1,040	0	0%	700	0	550	1,159	0.593	5,708
	I-80 EB	Fifth St	PM	3	60.0	8,940	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,960	Left	1	45.0	1,100	0	0%	700	0	550	1,226	0.593	6,614
	I-80 EB	Fifth St	Gameday	3	60.0	9,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	10,285	Left	1	45.0	1,066	0	0%	700	0	550	1,188	0.593	6,829
Cumulative Plus Project (Scenario A)																											
M1	I-280 SB	Mariposa St	AM	3	60.0	3,356	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,739	Right	1	45.0	638	0	0%	480	0	550	711	0.593	2,217
	I-280 SB	Mariposa St	PM	3	60.0	6,350	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,075	Right	1	45.0	1,860	0	0%	480	0	550	2,072	0.593	4,195
	I-280 SB	Mariposa St	Gameday	3	60.0	6,400	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,130	Right	1	45.0	1,910	0	0%	480	0	550	2,128	0.593	4,228
M2	I-80 EB	Fifth St	AM	3	60.0	7,715	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,596	Left	1	45.0	1,040	0	0%	700	0	550	1,159	0.593	5,708
	I-80 EB	Fifth St	PM	3	60.0	8,940	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,960	Left	1	45.0	1,100	0	0%	700	0	550	1,226	0.593	6,614
	I-80 EB	Fifth St	Gameday	3	60.0	9,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	10,285	Left	1	45.0	1,066	0	0%	700	0	550	1,188	0.593	6,829
Cumulative Plus Project (Seawall Lot 337 - Scenario A)																											
M1	I-280 SB	Mariposa St	AM	3	60.0	3,352	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,735	Right	1	45.0	636	0	0%	480	0	550	709	0.593	2,214
	I-280 SB	Mariposa St	PM	3	60.0	6,338	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,061	Right	1	45.0	1,854	0	0%	480	0	550	2,066	0.593	4,187
	I-280 SB	Mariposa St	Gameday	3	60.0	6,388	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,117	Right	1	45.0	1,904	0	0%	480	0	550	2,121	0.593	4,220
M2	I-80 EB	Fifth St	AM	3	60.0	7,715	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,596	Left	1	45.0	1,040	0	0%	700	0	550	1,159	0.593	5,708
	I-80 EB	Fifth St	PM	3	60.0	8,940	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,960	Left	1	45.0	1,100	0	0%	700	0	550	1,226	0.593	6,614
	I-80 EB	Fifth St	Gameday	3	60.0	9,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	10,285	Left	1	45.0	1,066	0	0%	700	0	550	1,188	0.593	6,829
Cumulative Plus Project (Scenario B)																											
M1	I-280 SB	Mariposa St	AM	3	60.0	3,392	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,779	Right	1	45.0	656	0	0%	480	0	550	731	0.593	2,241
	I-280 SB	Mariposa St	PM	3	60.0	6,322	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,044	Right	1	45.0	812	0	0%	480	0	550	905	0.593	4,176
	I-280 SB	Mariposa St	Gameday	3	60.0	6,372	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,099	Right	1	45.0	2,030	0	0%	480	0	550	2,262	0.593	4,209
M2	I-80 EB	Fifth St	AM	3	60.0	7,715	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,596	Left	1	45.0	1,904	0	0%	700	0	550	2,121	0.593	5,708
	I-80 EB	Fifth St	PM	3	60.0	8,940	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,960	Left	1	45.0	1,040	0	0%	700	0	550	1,159	0.593	6,614
	I-80 EB	Fifth St	Gameday	3	60.0	9,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	10,285	Left	1	45.0	1,100	0	0%	700	0	550	1,226	0.593	6,829
Cumulative Plus Project (Seawall Lot 337 - Scenario B)																											
M1	I-280 SB	Mariposa St	AM	3	60.0	3,382	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,768	Right	1	45.0	651	0	0%	480	0	550	725	0.593	2,234
	I-280 SB	Mariposa St	PM	3	60.0	6,302	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,021	Right	1	45.0	802	0	0%	480	0	550	894	0.593	4,163
	I-280 SB	Mariposa St	Gameday	3	60.0	6,352	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,077	Right	1	45.0	2,020	0	0%	480	0	550	2,251	0.593	4,196
M2	I-80 EB	Fifth St	AM	3	60.0	7,715	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,596	Left	1	45.0	1,904	0	0%	700	0	550	2,121	0.593	5,708
	I-80 EB	Fifth St	PM	3	60.0	8,940	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,960	Left	1	45.0	1,040	0	0%	700	0	550	1,159	0.593	6,614
	I-80 EB	Fifth St	Gameday	3	60.0	9,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	10,285	Left	1	45.0	1,100	0	0%	700	0	550	1,226	0.593	6,829
Cumulative Plus Project (Pier 48)																											
M1	I-280 SB	Mariposa St	AM	3	60.0	3,184	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	3,547	Right	1	45.0	552	0	0%	480	0	550	615	0.593	2,103
	I-280 SB	Mariposa St	PM	3	60.0	5,982	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,665	Right	1	45.0	1,676	0	0%	480	0	550	1,867	0.593	3,952
	I-280 SB	Mariposa St	Gameday	3	60.0	6,032	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,720	Right	1	45.0	1,726	0	0%	480	0	550	1,923	0.593	3,985
M2	I-80 EB	Fifth St	AM	3	60.0	7,715	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,596	Left	1	45.0	1,040	0	0%	700	0	550	1,159	0.593	5,708
	I-80 EB	Fifth St	PM	3	60.0	8,940	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,960	Left	1	45.0	1,100	0	0%	700	0	550	1,226	0.593	6,614
	I-80 EB	Fifth St	Gameday	3	60.0	9,231	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	10,285	Left	1	45.0	1,066	0	0%	700	0	550	1,188	0.593	6,829

HCM 2000
Merge Ramp Junctions
Capacity Analysis

General Information				*Capacity Checks*															*Results*		*Speed Estimation*			
	Freeway/ Direction	On-ramp	Analysis Time Period	v_{Fi} (pcph)	Max v_{Fi} (pcph)	LOS F?	v_{FO} (pcph)	Max v_{FO} (pcph)	LOS F?	v_3, v_{av34} (pcphpl)	v_3, v_{av34} > 2,700?	v_3, v_{av34} >1.5*v_{12}/2?	v_{12a} (pcph)	v_{R12a} (pcph)	Max v_{R12a} (pcph)	LOS F?	v_R (pcph)	Max v_R (pcph)	LOS F?	Density, D (pcplpm)	Level of Service	Int. Var. M_S	Inf. Area S_R (mph)	Out Lns. S_O (mph)	All vehs. S (mph)
Cumulative																								
M1	I-280 SB	Mariposa St	AM	3,543	7,050	No	4,156	7,050	No	1,442	No	No	2,101	2,713	4,600	No	613	2,100	No	**22.9**	**C**	0.330	54.1	56.6	54.9
	I-280 SB	Mariposa St	PM	6,651	7,050	No	8,512	7,050	Yes	2,708	Yes	No	3,951	5,812	4,600	Yes	1,861	2,100	No	-	**F**	1.575	31.6	51.1	36.0
	I-280 SB	Mariposa St	Gameday	6,707	7,050	No	8,623	7,050	Yes	2,730	Yes	No	4,007	5,923	4,600	Yes	1,916	2,100	No	-	**F**	1.729	28.9	51.1	33.4
M2	I-80 EB	Fifth St	AM	8,596	7,050	Yes	9,754	7,050	Yes	2,888	Yes	No	5,896	7,054	4,600	Yes	1,159	2,100	No	-	**F**	4.787	-26.2	51.1	-45.0
	I-80 EB	Fifth St	PM	9,960	7,050	Yes	11,186	7,050	Yes	3,346	Yes	No	7,260	8,486	4,600	Yes	1,226	2,100	No	-	**F**	19.170	-285.1	51.1	484.2
	I-80 EB	Fifth St	Gameday	10,285	7,050	Yes	11,472	7,050	Yes	3,455	Yes	No	7,585	8,772	4,600	Yes	1,188	2,100	No	-	**F**	25.436	-397.8	51.1	372.2
Cumulative Plus Project (Scenario A)																								
M1	I-280 SB	Mariposa St	AM	3,739	7,050	No	4,450	7,050	No	1,522	No	No	2,217	2,928	4,600	No	711	2,100	No	**24.5**	**C**	0.344	53.8	56.3	54.6
	I-280 SB	Mariposa St	PM	7,075	7,050	Yes	9,147	7,050	Yes	2,880	Yes	No	4,375	6,447	4,600	Yes	2,072	2,100	No	-	**F**	2.732	10.8	51.1	14.1
	I-280 SB	Mariposa St	Gameday	7,130	7,050	Yes	9,258	7,050	Yes	2,903	Yes	No	4,430	6,558	4,600	Yes	2,128	2,100	Yes	-	**F**	3.022	5.6	51.1	7.6
M2	I-80 EB	Fifth St	AM	8,596	7,050	Yes	9,754	7,050	Yes	2,888	Yes	No	5,896	7,054	4,600	Yes	1,159	2,100	No	-	**F**	4.787	-26.2	51.1	-45.0
	I-80 EB	Fifth St	PM	9,960	7,050	Yes	11,186	7,050	Yes	3,346	Yes	No	7,260	8,486	4,600	Yes	1,226	2,100	No	-	**F**	19.170	-285.1	51.1	484.2
	I-80 EB	Fifth St	Gameday	10,285	7,050	Yes	11,472	7,050	Yes	3,455	Yes	No	7,585	8,772	4,600	Yes	1,188	2,100	No	-	**F**	25.436	-397.8	51.1	372.2
Cumulative Plus Project (Seawall Lot 337 - Scenario A)																								
M1	I-280 SB	Mariposa St	AM	3,735	7,050	No	4,443	7,050	No	1,520	No	No	2,214	2,923	4,600	No	709	2,100	No	**24.5**	**C**	0.344	53.8	56.3	54.6
	I-280 SB	Mariposa St	PM	7,061	7,050	Yes	9,127	7,050	Yes	2,875	Yes	No	4,361	6,427	4,600	Yes	2,066	2,100	No	-	**F**	2.683	11.7	51.1	15.2
	I-280 SB	Mariposa St	Gameday	7,117	7,050	Yes	9,238	7,050	Yes	2,897	Yes	No	4,417	6,538	4,600	Yes	2,121	2,100	Yes	-	**F**	2.967	6.6	51.1	8.8
M2	I-80 EB	Fifth St	AM	8,596	7,050	Yes	9,754	7,050	Yes	2,888	Yes	No	5,896	7,054	4,600	Yes	1,159	2,100	No	-	**F**	4.787	-26.2	51.1	-45.0
	I-80 EB	Fifth St	PM	9,960	7,050	Yes	11,186	7,050	Yes	3,346	Yes	No	7,260	8,486	4,600	Yes	1,226	2,100	No	-	**F**	19.170	-285.1	51.1	484.2
	I-80 EB	Fifth St	Gameday	10,285	7,050	Yes	11,472	7,050	Yes	3,455	Yes	No	7,585	8,772	4,600	Yes	1,188	2,100	No	-	**F**	25.436	-397.8	51.1	372.2
Cumulative Plus Project (Scenario B)																								
M1	I-280 SB	Mariposa St	AM	3,779	7,050	No	4,510	7,050	No	1,538	No	No	2,241	2,972	4,600	No	731	2,100	No	**24.9**	**C**	0.348	53.7	56.3	54.6
	I-280 SB	Mariposa St	PM	7,044	7,050	No	7,948	7,050	Yes	2,867	Yes	No	4,344	5,248	4,600	Yes	905	2,100	No	-	**F**	1.013	41.8	51.1	44.5
	I-280 SB	Mariposa St	Gameday	7,099	7,050	Yes	9,361	7,050	Yes	2,890	Yes	No	4,399	6,661	4,600	Yes	2,262	2,100	Yes	-	**F**	3.318	0.3	51.1	0.4
M2	I-80 EB	Fifth St	AM	8,596	7,050	Yes	10,717	7,050	Yes	2,888	Yes	No	5,896	8,017	4,600	Yes	2,121	2,100	Yes	-	**F**	12.094	-157.7	51.1	5272.2
	I-80 EB	Fifth St	PM	9,960	7,050	Yes	11,119	7,050	Yes	3,346	Yes	No	7,260	8,419	4,600	Yes	1,159	2,100	No	-	**F**	17.948	-263.1	51.1	532.9
	I-80 EB	Fifth St	Gameday	10,285	7,050	Yes	11,510	7,050	Yes	3,455	Yes	No	7,585	8,810	4,600	Yes	1,226	2,100	No	-	**F**	26.407	-415.3	51.1	363.6
Cumulative Plus Project (Seawall Lot 337 - Scenario B)																								
M1	I-280 SB	Mariposa St	AM	3,768	7,050	No	4,493	7,050	No	1,534	No	No	2,234	2,959	4,600	No	725	2,100	No	**24.8**	**C**	0.347	53.8	56.3	54.6
	I-280 SB	Mariposa St	PM	7,021	7,050	No	7,915	7,050	Yes	2,858	Yes	No	4,321	5,215	4,600	Yes	894	2,100	No	-	**F**	0.989	42.2	51.1	44.9
	I-280 SB	Mariposa St	Gameday	7,077	7,050	Yes	9,328	7,050	Yes	2,881	Yes	No	4,377	6,628	4,600	Yes	2,251	2,100	Yes	-	**F**	3.218	2.1	51.1	2.9
M2	I-80 EB	Fifth St	AM	8,596	7,050	Yes	10,717	7,050	Yes	2,888	Yes	No	5,896	8,017	4,600	Yes	2,121	2,100	Yes	-	**F**	12.094	-157.7	51.1	5272.2
	I-80 EB	Fifth St	PM	9,960	7,050	Yes	11,119	7,050	Yes	3,346	Yes	No	7,260	8,419	4,600	Yes	1,159	2,100	No	-	**F**	17.948	-263.1	51.1	532.9
	I-80 EB	Fifth St	Gameday	10,285	7,050	Yes	11,510	7,050	Yes	3,455	Yes	No	7,585	8,810	4,600	Yes	1,226	2,100	No	-	**F**	26.407	-415.3	51.1	363.6
Cumulative Plus Project (Pier 48)																								
M1	I-280 SB	Mariposa St	AM	3,547	7,050	No	4,162	7,050	No	1,444	No	No	2,103	2,718	4,600	No	615	2,100	No	**22.9**	**C**	0.331	54.0	56.6	54.9
	I-280 SB	Mariposa St	PM	6,665	7,050	No	8,532	7,050	Yes	2,713	Yes	No	3,965	5,832	4,600	Yes	1,867	2,100	No	-	**F**	1.602	31.2	51.1	35.6
	I-280 SB	Mariposa St	Gameday	6,720	7,050	No	8,643	7,050	Yes	2,736	Yes	No	4,020	5,943	4,600	Yes	1,923	2,100	No	-	**F**	1.758	28.4	51.1	32.9
M2	I-80 EB	Fifth St	AM	8,596	7,050	Yes	9,754	7,050	Yes	2,888	Yes	No	5,896	7,054	4,600	Yes	1,159	2,100	No	-	**F**	4.787	-26.2	51.1	-45.0
	I-80 EB	Fifth St	PM	9,960	7,050	Yes	11,186	7,050	Yes	3,346	Yes	No	7,260	8,486	4,600	Yes	1,226	2,100	No	-	**F**	19.170	-285.1	51.1	484.2
	I-80 EB	Fifth St	Gameday	10,285	7,050	Yes	11,472	7,050	Yes	3,455	Yes	No	7,585	8,772	4,600	Yes	1,188	2,100	No	-	**F**	25.436	-397.8	51.1	372.2

HCM 2000
Diverge Ramp Junctions
Capacity Analysis

Jurisdiction San Francisco | Agency or Company Fehr & Peers
Analysis Year Various | Date 10/31/2013
Analyst MH | Project Description Seawall Lot

	Freeway/ Direction	Off-ramp	Analysis Time Period	Lanes	S_{FF} (mph)	V (vph)	Project Contribution (vph)	PHF	Terrain	Truck/ Bus %	RV %	E_T	E_R	f_{HV}	f_P	Effective Flow Rate v_p (pcph)	Off-Ramp Data Type	Lanes	S_{FR} (mph)	V_R (vph)	Project V_R (vph)	%	Decel Lane (ft) L_{D1}	L_{D2}	L_{Deff}	Flow Rate v_p (pcph)	P_{FD}	v_{12} (pcph)
Cumulative																												
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	8,023	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,939	Left	1	45.0	1,334	0	0%	50		50	1,486	0.436	5,209
	I-80 WB	Fremont/Harrison	PM	4	60.0	6,988	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,786	Left	1	45.0	440	0	0%	50		50	490	0.436	4,038
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	7,362	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,202	Left	1	45.0	705	0	0%	50		50	785	0.436	4,421
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	8,023	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,939	Right	1	45.0	1,120	0	0%	50		50	1,248	0.436	4,601
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	6,988	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,786	Right	1	45.0	940	0	0%	50		50	1,047	0.436	3,985
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	7,362	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,202	Right	1	45.0	892	0	0%	50		50	994	0.436	4,136
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	7,575	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,440	Left	2	45.0	1,647	0	0%	50		100	1,835	0.260	3,907
	I-80 WB	Fifth/Harrison	PM	4	60.0	7,355	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,194	Left	2	45.0	2,120	0	0%	50		100	2,362	0.260	4,266
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	7,605	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,473	Left	2	45.0	2,153	0	0%	50		100	2,399	0.260	4,376
D4	I-80 EB	Fourth Street	AM	4	60.0	8,035	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,952	Right	2	45.0	1,360	0	0%	1,200	2,400	1,515	0.260	3,449
	I-80 EB	Fourth Street	PM	4	60.0	8,000	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,913	Right	2	45.0	160	0	0%	1,200	2,400	178	0.260	2,449
	I-80 EB	Fourth Street	Gameday	4	60.0	8,333	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,284	Right	2	45.0	168	0	0%	1,200	2,400	187	0.260	2,552
D5	I-280 NB	Mariposa St	AM	4	60.0	7,790	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,679	Right	1	45.0	2,570	0	0%	1,250	1,250	2,863	0.436	5,399
	I-280 NB	Mariposa St	PM	4	60.0	5,280	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,883	Right	1	45.0	1,220	0	0%	1,250	1,250	1,359	0.436	3,331
	I-280 NB	Mariposa St	Gameday	4	60.0	5,846	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,513	Right	1	45.0	1,773	0	0%	1,250	1,250	1,975	0.436	3,954
Cumulative Plus Project (Scenario A)																												
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	8,198	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,133	Left	1	45.0	1,347	0	0%	50		50	1,501	0.436	5,311
	I-80 WB	Fremont/Harrison	PM	4	60.0	7,150	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,966	Left	1	45.0	451	0	0%	50		50	502	0.436	4,132
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	7,523	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,382	Left	1	45.0	716	0	0%	50		50	798	0.436	4,515
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	8,198	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,134	Right	1	45.0	1,132	0	0%	50		50	1,261	0.436	4,694
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	7,150	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,966	Right	1	45.0	952	0	0%	50		50	1,061	0.436	4,071
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	7,523	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,382	Right	1	45.0	904	0	0%	50		50	1,007	0.436	4,223
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	7,769	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,656	Left	2	45.0	1,841	0	0%	50		100	2,051	0.260	4,145
	I-80 WB	Fifth/Harrison	PM	4	60.0	7,534	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,394	Left	2	45.0	2,299	0	0%	50		100	2,561	0.260	4,486
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	7,784	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,672	Left	2	45.0	2,332	0	0%	50		100	2,598	0.260	4,595
D4	I-80 EB	Fourth Street	AM	4	60.0	8,121	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,048	Right	2	45.0	1,446	0	0%	1,200	2,400	1,611	0.260	3,545
	I-80 EB	Fourth Street	PM	4	60.0	8,055	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,974	Right	2	45.0	215	0	0%	1,200	2,400	240	0.260	2,511
	I-80 EB	Fourth Street	Gameday	4	60.0	8,388	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,345	Right	2	45.0	223	0	0%	1,200	2,400	248	0.260	2,614
D5	I-280 NB	Mariposa St	AM	4	60.0	7,963	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,872	Right	1	45.0	2,743	0	0%	1,250	1,250	3,056	0.436	5,592
	I-280 NB	Mariposa St	PM	4	60.0	5,401	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,017	Right	1	45.0	1,341	0	0%	1,250	1,250	1,494	0.436	3,466
	I-280 NB	Mariposa St	Gameday	4	60.0	5,967	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,648	Right	1	45.0	1,894	0	0%	1,250	1,250	2,110	0.436	4,089
Cumulative Plus Project (Seawall Lot 337 - Scenario A)																												
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	8,185	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,119	Left	1	45.0	1,347	0	0%	50		50	1,501	0.436	5,304
	I-80 WB	Fremont/Harrison	PM	4	60.0	7,130	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,944	Left	1	45.0	450	0	0%	50		50	501	0.436	4,121
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	7,504	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,360	Left	1	45.0	715	0	0%	50		50	797	0.436	4,504
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	8,185	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,119	Right	1	45.0	1,131	0	0%	50		50	1,260	0.436	4,687
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	7,130	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,944	Right	1	45.0	952	0	0%	50		50	1,061	0.436	4,062
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	7,504	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,360	Right	1	45.0	904	0	0%	50		50	1,007	0.436	4,213
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	7,753	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,638	Left	2	45.0	1,825	0	0%	50		100	2,033	0.260	4,126
	I-80 WB	Fifth/Harrison	PM	4	60.0	7,511	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,368	Left	2	45.0	2,276	0	0%	50		100	2,536	0.260	4,457
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	7,761	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,647	Left	2	45.0	2,309	0	0%	50		100	2,573	0.260	4,567
D4	I-80 EB	Fourth Street	AM	4	60.0	8,119	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,046	Right	2	45.0	1,444	0	0%	1,200	2,400	1,609	0.260	3,542
	I-80 EB	Fourth Street	PM	4	60.0	8,053	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,972	Right	2	45.0	213	0	0%	1,200	2,400	237	0.260	2,508
	I-80 EB	Fourth Street	Gameday	4	60.0	8,386	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,343	Right	2	45.0	221	0	0%	1,200	2,400	246	0.260	2,611
D5	I-280 NB	Mariposa St	AM	4	60.0	7,960	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,868	Right	1	45.0	2,740	0	0%	1,250	1,250	3,053	0.436	5,588
	I-280 NB	Mariposa St	PM	4	60.0	5,398	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,014	Right	1	45.0	1,338	0	0%	1,250	1,250	1,491	0.436	3,463
	I-280 NB	Mariposa St	Gameday	4	60.0	5,964	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,645	Right	1	45.0	1,891	0	0%	1,250	1,250	2,107	0.436	4,085

HCM 2000
Diverge Ramp Junctions
Capacity Analysis

				General Information			*Capacity Checks*												*Results*		*Speed Estimation*			
	Freeway/ Direction	Off-ramp	Analysis Time Period	v_{Fi} (pcph)	Max v_{Fi} (pcph)	LOS F?	v_3, v_{av34} (pcphpl)	v_3, v_{av34} > 2,700?	v_3, v_{av34} >1.5*v_{12}/2?	v_{12a} (pcph)	Max v_{12} (pcph)	LOS F?	v_{FO} (pcph)	Max v_{FO} (pcph)	LOS F?	v_R (pcph)	Max v_R (pcph)	LOS F?	Density, D (pcplpm)	Level of Service	Int. Var. D_S	Inf. Area S_R (mph)	Out Lns. S_O (mph)	All vehs. S (mph)
Cumulative																								
D1	I-80 WB	Fremont/Harrison	AM	8,939	9,400	No	1,865	No	No	5,209	4,400	Yes	7,453	9,400	No	1,486	2,100	No	-	F	0.432	52.2	62.4	56.1
	I-80 WB	Fremont/Harrison	PM	7,786	9,400	No	1,874	No	No	4,038	4,400	No	7,295	9,400	No	490	2,100	No	**38.5**	E	0.342	53.8	62.4	57.7
	I-80 WB	Fremont/Harrison	Gameday	8,202	9,400	No	1,890	No	No	4,421	4,400	Yes	7,416	9,400	No	785	2,100	No	-	F	0.369	53.4	62.3	57.2
D2	I-80 WB	Fremont/Folsom/Howard	AM	8,939	9,400	No	2,169	No	No	4,601	4,400	Yes	7,691	9,400	No	1,248	2,100	No	-	F	0.410	52.6	61.3	56.5
	I-80 WB	Fremont/Folsom/Howard	PM	7,786	9,400	No	1,900	No	No	3,985	4,400	No	6,738	9,400	No	1,047	2,100	No	**38.1**	E	0.392	52.9	62.3	57.1
	I-80 WB	Fremont/Folsom/Howard	Gameday	8,202	9,400	No	2,033	No	No	4,136	4,400	No	7,208	9,400	No	994	2,100	No	**39.4**	E	0.387	53.0	61.8	57.0
D3	I-80 WB	Fifth/Harrison	AM	8,440	9,400	No	2,266	No	No	3,907	4,400	No	6,605	9,400	No	1,835	4,100	No	**37.0**	E	0.463	51.7	60.9	56.2
	I-80 WB	Fifth/Harrison	PM	8,194	9,400	No	1,964	No	No	4,266	4,400	No	5,832	9,400	No	2,362	4,100	No	**40.0**	E	0.511	50.8	62.1	55.6
	I-80 WB	Fifth/Harrison	Gameday	8,473	9,400	No	2,049	No	No	4,376	4,400	No	6,074	9,400	No	2,399	4,100	No	**41.0**	E	0.514	50.8	61.7	55.5
D4	I-80 EB	Fourth Street	AM	8,952	9,400	No	2,752	Yes	Yes	3,552	4,400	No	7,437	9,400	No	1,515	4,100	No	**13.2**	B	0.434	52.2	59.2	56.2
	I-80 EB	Fourth Street	PM	8,913	9,400	No	3,232	Yes	Yes	3,513	4,400	No	8,735	9,400	No	178	4,100	No	**12.9**	B	0.314	54.3	59.2	57.2
	I-80 EB	Fourth Street	Gameday	9,284	9,400	No	3,366	Yes	Yes	3,884	4,400	No	9,097	9,400	No	187	4,100	No	**16.1**	B	0.315	54.3	59.2	57.1
D5	I-280 NB	Mariposa St	AM	8,679	9,400	No	1,640	No	No	5,399	4,400	Yes	5,816	9,400	No	2,863	2,100	Yes	-	F	0.556	50.0	63.3	54.3
	I-280 NB	Mariposa St	PM	5,883	9,400	No	1,276	No	No	3,331	4,400	No	4,523	9,400	No	1,359	2,100	No	**21.7**	C	0.420	52.4	64.7	57.1
	I-280 NB	Mariposa St	Gameday	6,513	9,400	No	1,280	No	No	3,954	4,400	No	4,538	9,400	No	1,975	2,100	No	**27.0**	C	0.476	51.4	64.7	56.0
Cumulative Plus Project (Scenario A)																								
D1	I-80 WB	Fremont/Harrison	AM	9,133	9,400	No	1,911	No	No	5,311	4,400	Yes	7,632	9,400	No	1,501	2,100	No	-	F	0.433	52.2	62.3	56.0
	I-80 WB	Fremont/Harrison	PM	7,966	9,400	No	1,917	No	No	4,132	4,400	No	7,463	9,400	No	502	2,100	No	**39.3**	E	0.343	53.8	62.2	57.6
	I-80 WB	Fremont/Harrison	Gameday	8,382	9,400	No	1,933	No	No	4,515	4,400	Yes	7,584	9,400	No	798	2,100	No	-	F	0.370	53.3	62.2	57.1
D2	I-80 WB	Fremont/Folsom/Howard	AM	9,134	9,400	No	2,220	No	No	4,694	4,400	Yes	7,873	9,400	No	1,261	2,100	No	-	F	0.412	52.6	61.1	56.4
	I-80 WB	Fremont/Folsom/Howard	PM	7,966	9,400	No	1,947	No	No	4,071	4,400	No	6,905	9,400	No	1,061	2,100	No	**38.8**	E	0.393	52.9	62.1	57.1
	I-80 WB	Fremont/Folsom/Howard	Gameday	8,382	9,400	No	2,080	No	No	4,223	4,400	No	7,375	9,400	No	1,007	2,100	No	**40.1**	E	0.389	53.0	61.6	57.0
D3	I-80 WB	Fifth/Harrison	AM	8,656	9,400	No	2,255	No	No	4,145	4,400	No	6,605	9,400	No	2,051	4,100	No	**39.0**	E	0.483	51.3	60.9	55.9
	I-80 WB	Fifth/Harrison	PM	8,394	9,400	No	1,954	No	No	4,486	4,400	Yes	5,832	9,400	No	2,561	4,100	No	-	F	0.529	50.5	62.1	55.3
	I-80 WB	Fifth/Harrison	Gameday	8,672	9,400	No	2,039	No	No	4,595	4,400	Yes	6,074	9,400	No	2,598	4,100	No	-	F	0.532	50.4	61.8	55.2
D4	I-80 EB	Fourth Street	AM	9,048	9,400	No	2,752	Yes	Yes	3,648	4,400	No	7,437	9,400	No	1,611	4,100	No	**14.0**	B	0.443	52.0	59.2	56.1
	I-80 EB	Fourth Street	PM	8,974	9,400	No	3,232	Yes	Yes	3,574	4,400	No	8,735	9,400	No	240	4,100	No	**13.4**	B	0.320	54.2	59.2	57.1
	I-80 EB	Fourth Street	Gameday	9,345	9,400	No	3,366	Yes	Yes	3,945	4,400	No	9,097	9,400	No	248	4,100	No	**16.6**	B	0.320	54.2	59.2	57.0
D5	I-280 NB	Mariposa St	AM	8,872	9,400	No	1,640	No	No	5,592	4,400	Yes	5,816	9,400	No	3,056	2,100	Yes	-	F	0.573	49.7	63.3	54.0
	I-280 NB	Mariposa St	PM	6,017	9,400	No	1,276	No	No	3,466	4,400	No	4,523	9,400	No	1,494	2,100	No	**22.8**	C	0.432	52.2	64.7	56.9
	I-280 NB	Mariposa St	Gameday	6,648	9,400	No	1,280	No	No	4,089	4,400	No	4,538	9,400	No	2,110	2,100	Yes	-	F	0.488	51.2	64.7	55.7
Cumulative Plus Project (Seawall Lot 337 - Scenario A)																								
D1	I-80 WB	Fremont/Harrison	AM	9,119	9,400	No	1,907	No	No	5,304	4,400	Yes	7,618	9,400	No	1,501	2,100	No	-	F	0.433	52.2	62.3	56.0
	I-80 WB	Fremont/Harrison	PM	7,944	9,400	No	1,912	No	No	4,121	4,400	No	7,443	9,400	No	501	2,100	No	**39.2**	E	0.343	53.8	62.3	57.6
	I-80 WB	Fremont/Harrison	Gameday	8,360	9,400	No	1,928	No	No	4,504	4,400	Yes	7,564	9,400	No	797	2,100	No	-	F	0.370	53.3	62.2	57.1
D2	I-80 WB	Fremont/Folsom/Howard	AM	9,119	9,400	No	2,216	No	No	4,687	4,400	Yes	7,859	9,400	No	1,260	2,100	No	-	F	0.411	52.6	61.1	56.4
	I-80 WB	Fremont/Folsom/Howard	PM	7,944	9,400	No	1,941	No	No	4,062	4,400	No	6,884	9,400	No	1,061	2,100	No	**38.7**	E	0.393	52.9	62.1	57.1
	I-80 WB	Fremont/Folsom/Howard	Gameday	8,360	9,400	No	2,074	No	No	4,213	4,400	No	7,353	9,400	No	1,007	2,100	No	**40.0**	E	0.389	53.0	61.6	57.0
D3	I-80 WB	Fifth/Harrison	AM	8,638	9,400	No	2,256	No	No	4,126	4,400	No	6,605	9,400	No	2,033	4,100	No	**38.8**	E	0.481	51.3	60.9	55.9
	I-80 WB	Fifth/Harrison	PM	8,368	9,400	No	1,955	No	No	4,457	4,400	Yes	5,832	9,400	No	2,536	4,100	No	-	F	0.526	50.5	62.1	55.3
	I-80 WB	Fifth/Harrison	Gameday	8,647	9,400	No	2,040	No	No	4,567	4,400	Yes	6,074	9,400	No	2,573	4,100	No	-	F	0.530	50.5	61.8	55.2
D4	I-80 EB	Fourth Street	AM	9,046	9,400	No	2,752	Yes	Yes	3,646	4,400	No	7,437	9,400	No	1,609	4,100	No	**14.0**	B	0.443	52.0	59.2	56.1
	I-80 EB	Fourth Street	PM	8,972	9,400	No	3,232	Yes	Yes	3,572	4,400	No	8,735	9,400	No	237	4,100	No	**13.4**	B	0.319	54.3	59.2	57.1
	I-80 EB	Fourth Street	Gameday	9,343	9,400	No	3,366	Yes	Yes	3,943	4,400	No	9,097	9,400	No	246	4,100	No	**16.6**	B	0.320	54.2	59.2	57.0
D5	I-280 NB	Mariposa St	AM	8,868	9,400	No	1,640	No	No	5,588	4,400	Yes	5,816	9,400	No	3,053	2,100	Yes	-	F	0.573	49.7	63.3	54.0
	I-280 NB	Mariposa St	PM	6,014	9,400	No	1,276	No	No	3,463	4,400	No	4,523	9,400	No	1,491	2,100	No	**22.8**	C	0.432	52.2	64.7	56.9
	I-280 NB	Mariposa St	Gameday	6,645	9,400	No	1,280	No	No	4,085	4,400	No	4,538	9,400	No	2,107	2,100	Yes	-	F	0.488	51.2	64.7	55.7

HCM 2000
Diverge Ramp Junctions
Capacity Analysis

Jurisdiction San Francisco | Agency or Company Fehr & Peers
Analysis Year Various | Date 10/31/2013
Analyst MH | Project Description Seawall Lot

General Information | *Freeway Data* | *Freeway Volume Adjustment* | *Off-Ramp Data*

	Freeway/ Direction	Off-ramp	Analysis Time Period	Lanes	S_{FF} (mph)	V (vph)	Project Contribution (vph)	PHF	Terrain	Truck/ Bus %	RV %	E_T	E_R	f_{HV}	f_P	Effective Flow Rate v_p (pcph)	Type	Lanes	S_{FR} (mph)	V_R (vph)	Project V_R (vph)	%	Decel Lane (ft) L_{D1}	L_{D2}	L_{Deff}	Flow Rate v_p (pcph)	P_{FD}	v_{12} (pcph)
Cumulative Plus Project (Scenario B)																												
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	8,172	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,105	Left	1	45.0	1,346	0	0%	50		50	1,500	0.436	5,297
	I-80 WB	Fremont/Harrison	PM	4	60.0	7,168	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,986	Left	1	45.0	455	0	0%	50		50	507	0.436	4,145
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	7,542	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,402	Left	1	45.0	720	0	0%	50		50	802	0.436	4,527
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	8,172	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,105	Right	1	45.0	1,131	0	0%	50		50	1,260	0.436	4,680
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	7,168	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,986	Right	1	45.0	953	0	0%	50		50	1,062	0.436	4,081
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	7,523	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,382	Right	1	45.0	905	0	0%	50		50	1,008	0.436	4,223
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	7,738	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,621	Left	2	45.0	1,810	0	0%	50		100	2,017	0.260	4,107
	I-80 WB	Fifth/Harrison	PM	4	60.0	7,552	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,414	Left	2	45.0	2,317	0	0%	50		100	2,581	0.260	4,508
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	7,802	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,692	Left	2	45.0	2,350	0	0%	50		100	2,618	0.260	4,617
D4	I-80 EB	Fourth Street	AM	4	60.0	8,106	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,031	Right	2	45.0	1,431	0	0%	1,200	2,400	1,594	0.260	3,528
	I-80 EB	Fourth Street	PM	4	60.0	8,057	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,977	Right	2	45.0	217	0	0%	1,200	2,400	242	0.260	2,513
	I-80 EB	Fourth Street	Gameday	4	60.0	8,390	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,348	Right	2	45.0	225	0	0%	1,200	2,400	251	0.260	2,616
D5	I-280 NB	Mariposa St	AM	4	60.0	7,952	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,860	Right	1	45.0	2,732	0	0%	1,250	1,250	3,044	0.436	5,579
	I-280 NB	Mariposa St	PM	4	60.0	5,424	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,043	Right	1	45.0	1,364	0	0%	1,250	1,250	1,520	0.436	3,492
	I-280 NB	Mariposa St	Gameday	4	60.0	5,990	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,674	Right	1	45.0	1,917	0	0%	1,250	1,250	2,136	0.436	4,114
Cumulative Plus Project (Seawall Lot 337 - Scenario B)																												
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	8,168	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,100	Left	1	45.0	1,346	0	0%	50		50	1,500	0.436	5,295
	I-80 WB	Fremont/Harrison	PM	4	60.0	7,158	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,975	Left	1	45.0	454	0	0%	50		50	506	0.436	4,138
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	7,531	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,391	Left	1	45.0	719	0	0%	50		50	801	0.436	4,521
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	8,203	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,139	Right	1	45.0	1,130	0	0%	50		50	1,259	0.436	4,695
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	7,158	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,975	Right	1	45.0	952	0	0%	50		50	1,061	0.436	4,075
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	7,531	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,391	Right	1	45.0	904	0	0%	50		50	1,007	0.436	4,226
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	7,734	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,617	Left	2	45.0	1,806	0	0%	50		100	2,012	0.260	4,102
	I-80 WB	Fifth/Harrison	PM	4	60.0	7,541	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,402	Left	2	45.0	2,306	0	0%	50		100	2,569	0.260	4,494
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	7,791	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,680	Left	2	45.0	2,339	0	0%	50		100	2,606	0.260	4,604
D4	I-80 EB	Fourth Street	AM	4	60.0	8,104	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,029	Right	2	45.0	1,429	0	0%	1,200	2,400	1,592	0.260	3,526
	I-80 EB	Fourth Street	PM	4	60.0	8,054	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,973	Right	2	45.0	214	0	0%	1,200	2,400	238	0.260	2,509
	I-80 EB	Fourth Street	Gameday	4	60.0	8,387	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,344	Right	2	45.0	222	0	0%	1,200	2,400	247	0.260	2,613
D5	I-280 NB	Mariposa St	AM	4	60.0	7,944	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,851	Right	1	45.0	2,724	0	0%	1,250	1,250	3,035	0.436	5,571
	I-280 NB	Mariposa St	PM	4	60.0	5,416	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,034	Right	1	45.0	1,356	0	0%	1,250	1,250	1,511	0.436	3,483
	I-280 NB	Mariposa St	Gameday	4	60.0	5,982	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,665	Right	1	45.0	1,909	0	0%	1,250	1,250	2,127	0.436	4,105
Cumulative Plus Project (Pier 48)																												
D1	I-80 WB	Fremont/Harrison	AM	4	60.0	8,027	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,943	Left	1	45.0	1,334	0	0%	50		50	1,486	0.436	5,211
	I-80 WB	Fremont/Harrison	PM	4	60.0	6,998	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,797	Left	1	45.0	441	0	0%	50		50	491	0.436	4,044
	I-80 WB	Fremont/Harrison	Gameday	4	60.0	7,372	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,213	Left	1	45.0	706	0	0%	50		50	787	0.436	4,427
D2	I-80 WB	Fremont/Folsom/Howard	AM	4	60.0	8,027	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,943	Right	1	45.0	1,120	0	0%	50		50	1,248	0.436	4,803
	I-80 WB	Fremont/Folsom/Howard	PM	4	60.0	6,998	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	7,797	Right	1	45.0	941	0	0%	50		50	1,048	0.436	3,991
	I-80 WB	Fremont/Folsom/Howard	Gameday	4	60.0	7,372	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,213	Right	1	45.0	893	0	0%	50		50	995	0.436	4,142
D3	I-80 WB	Fifth/Harrison	AM	4	60.0	7,580	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,445	Left	2	45.0	1,652	0	0%	50		100	1,841	0.260	3,914
	I-80 WB	Fifth/Harrison	PM	4	60.0	7,366	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,207	Left	2	45.0	2,131	0	0%	50		100	2,374	0.260	4,280
	I-80 WB	Fifth/Harrison	Gameday	4	60.0	7,616	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,485	Left	2	45.0	2,164	0	0%	50		100	2,411	0.260	4,389
D4	I-80 EB	Fourth Street	AM	4	60.0	8,038	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,955	Right	2	45.0	1,363	0	0%	1,200	2,400	1,519	0.260	3,452
	I-80 EB	Fourth Street	PM	4	60.0	8,003	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,916	Right	2	45.0	163	0	0%	1,200	2,400	182	0.260	2,453
	I-80 EB	Fourth Street	Gameday	4	60.0	8,336	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	9,287	Right	2	45.0	171	0	0%	1,200	2,400	191	0.260	2,556
D5	I-280 NB	Mariposa St	AM	4	60.0	7,795	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	8,685	Right	1	45.0	2,575	0	0%	1,250	1,250	2,869	0.436	5,405
	I-280 NB	Mariposa St	PM	4	60.0	5,286	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	5,889	Right	1	45.0	1,226	0	0%	1,250	1,250	1,366	0.436	3,338
	I-280 NB	Mariposa St	Gameday	4	60.0	5,852	0	0.92	Level	5.0%	0.0%	1.5	1.2	0.98	1.00	6,520	Right	1	45.0	1,779	0	0%	1,250	1,250	1,982	0.436	3,961

HCM 2000
Diverge Ramp Junctions
Capacity Analysis

General Information				*Capacity Checks*														*Results*		*Speed Estimation*			
	Freeway/ Direction	Off-ramp	Analysis Time Period	v_{Fi} (pcph)	Max v_{Fi} (pcph)	LOS F?	v_3, v_{av34} (pcphpl)	v_3, v_{av34} > 2,700?	v_3, v_{av34} >1.5*v_{12}/2?	v_{12a} (pcph)	Max v_{12} (pcph)	LOS F?	v_{FO} (pcph)	Max v_{FO} (pcph)	LOS F?	v_R (pcph)	Max v_R (pcph)	LOS F?	Density, D (pcplpm)	Level of Service	Int. Var. D_S	Inf. Area S_R (mph)	Out Lns. S_O (mph)	All vehs. S (mph)
Cumulative Plus Project (Scenario B)																							
D1	I-80 WB	Fremont/Harrison	AM	9,105	9,400	No	1,904	No	No	5,297	4,400	Yes	7,605	9,400	No	1,500	2,100	No	-	F	0.433	52.2	62.3	56.0
	I-80 WB	Fremont/Harrison	PM	7,986	9,400	No	1,921	No	No	4,145	4,400	No	7,479	9,400	No	507	2,100	No	**39.4**	E	0.344	53.8	62.2	57.6
	I-80 WB	Fremont/Harrison	Gameday	8,402	9,400	No	1,937	No	No	4,527	4,400	Yes	7,600	9,400	No	802	2,100	No	-	F	0.370	53.3	62.2	57.1
D2	I-80 WB	Fremont/Folsom/Howard	AM	9,105	9,400	No	2,212	No	No	4,680	4,400	Yes	7,845	9,400	No	1,260	2,100	No	-	F	0.411	52.6	61.1	56.4
	I-80 WB	Fremont/Folsom/Howard	PM	7,986	9,400	No	1,953	No	No	4,081	4,400	No	6,924	9,400	No	1,062	2,100	No	**38.9**	E	0.394	52.9	62.1	57.0
	I-80 WB	Fremont/Folsom/Howard	Gameday	8,382	9,400	No	2,079	No	No	4,223	4,400	No	7,374	9,400	No	1,008	2,100	No	**40.1**	E	0.389	53.0	61.6	57.0
D3	I-80 WB	Fifth/Harrison	AM	8,621	9,400	No	2,257	No	No	4,107	4,400	No	6,605	9,400	No	2,017	4,100	No	**38.7**	E	0.479	51.4	60.9	56.0
	I-80 WB	Fifth/Harrison	PM	8,414	9,400	No	1,953	No	No	4,508	4,400	Yes	5,832	9,400	No	2,581	4,100	No	-	F	0.530	50.5	62.1	55.3
	I-80 WB	Fifth/Harrison	Gameday	8,692	9,400	No	2,038	No	No	4,617	4,400	Yes	6,074	9,400	No	2,618	4,100	No	-	F	0.534	50.4	61.8	55.2
D4	I-80 EB	Fourth Street	AM	9,031	9,400	No	2,752	Yes	Yes	3,631	4,400	No	7,437	9,400	No	1,594	4,100	No	**13.9**	B	0.441	52.1	59.2	56.1
	I-80 EB	Fourth Street	PM	8,977	9,400	No	3,232	Yes	Yes	3,577	4,400	No	8,735	9,400	No	242	4,100	No	**13.4**	B	0.320	54.2	59.2	57.1
	I-80 EB	Fourth Street	Gameday	9,348	9,400	No	3,366	Yes	Yes	3,948	4,400	No	9,097	9,400	No	251	4,100	No	**16.6**	B	0.321	54.2	59.2	57.0
D5	I-280 NB	Mariposa St	AM	8,860	9,400	No	1,640	No	No	5,579	4,400	Yes	5,816	9,400	No	3,044	2,100	Yes	-	F	0.572	49.7	63.3	54.0
	I-280 NB	Mariposa St	PM	6,043	9,400	No	1,276	No	No	3,492	4,400	No	4,523	9,400	No	1,520	2,100	No	**23.0**	C	0.435	52.2	64.7	56.8
	I-280 NB	Mariposa St	Gameday	6,674	9,400	No	1,280	No	No	4,114	4,400	No	4,538	9,400	No	2,136	2,100	Yes	-	F	0.490	51.2	64.7	55.6
Cumulative Plus Project (Seawall Lot 337 - Scenario B)																							
D1	I-80 WB	Fremont/Harrison	AM	9,100	9,400	No	1,903	No	No	5,295	4,400	Yes	7,601	9,400	No	1,500	2,100	No	-	F	0.433	52.2	62.3	56.0
	I-80 WB	Fremont/Harrison	PM	7,975	9,400	No	1,918	No	No	4,138	4,400	No	7,469	9,400	No	506	2,100	No	**39.4**	E	0.344	53.8	62.2	57.6
	I-80 WB	Fremont/Harrison	Gameday	8,391	9,400	No	1,935	No	No	4,521	4,400	Yes	7,590	9,400	No	801	2,100	No	-	F	0.370	53.3	62.2	57.1
D2	I-80 WB	Fremont/Folsom/Howard	AM	9,139	9,400	No	2,222	No	No	4,695	4,400	Yes	7,880	9,400	No	1,259	2,100	No	-	F	0.411	52.6	61.1	56.4
	I-80 WB	Fremont/Folsom/Howard	PM	7,975	9,400	No	1,950	No	No	4,075	4,400	No	6,914	9,400	No	1,061	2,100	No	**38.8**	E	0.393	52.9	62.1	57.0
	I-80 WB	Fremont/Folsom/Howard	Gameday	8,391	9,400	No	2,082	No	No	4,226	4,400	No	7,384	9,400	No	1,007	2,100	No	**40.1**	E	0.389	53.0	61.6	56.9
D3	I-80 WB	Fifth/Harrison	AM	8,617	9,400	No	2,257	No	No	4,102	4,400	No	6,605	9,400	No	2,012	4,100	No	**38.6**	E	0.479	51.4	60.9	56.0
	I-80 WB	Fifth/Harrison	PM	8,402	9,400	No	1,954	No	No	4,494	4,400	Yes	5,832	9,400	No	2,569	4,100	No	-	F	0.529	50.5	62.1	55.3
	I-80 WB	Fifth/Harrison	Gameday	8,680	9,400	No	2,038	No	No	4,604	4,400	Yes	6,074	9,400	No	2,606	4,100	No	-	F	0.533	50.4	61.8	55.2
D4	I-80 EB	Fourth Street	AM	9,029	9,400	No	2,752	Yes	Yes	3,629	4,400	No	7,437	9,400	No	1,592	4,100	No	**13.9**	B	0.441	52.1	59.2	56.1
	I-80 EB	Fourth Street	PM	8,973	9,400	No	3,232	Yes	Yes	3,573	4,400	No	8,735	9,400	No	238	4,100	No	**13.4**	B	0.319	54.2	59.2	57.1
	I-80 EB	Fourth Street	Gameday	9,344	9,400	No	3,366	Yes	Yes	3,944	4,400	No	9,097	9,400	No	247	4,100	No	**16.6**	B	0.320	54.2	59.2	57.0
D5	I-280 NB	Mariposa St	AM	8,851	9,400	No	1,640	No	No	5,571	4,400	Yes	5,816	9,400	No	3,035	2,100	Yes	-	F	0.571	49.7	63.3	54.0
	I-280 NB	Mariposa St	PM	6,034	9,400	No	1,276	No	No	3,483	4,400	No	4,523	9,400	No	1,511	2,100	No	**23.0**	C	0.434	52.2	64.7	56.9
	I-280 NB	Mariposa St	Gameday	6,665	9,400	No	1,280	No	No	4,105	4,400	No	4,538	9,400	No	2,127	2,100	Yes	-	F	0.489	51.2	64.7	55.7
Cumulative Plus Project (Pier 48)																							
D1	I-80 WB	Fremont/Harrison	AM	8,943	9,400	No	1,866	No	No	5,211	4,400	Yes	7,457	9,400	No	1,486	2,100	No	-	F	0.432	52.2	62.4	56.1
	I-80 WB	Fremont/Harrison	PM	7,797	9,400	No	1,876	No	No	4,044	4,400	No	7,306	9,400	No	491	2,100	No	**38.6**	E	0.342	53.8	62.4	57.6
	I-80 WB	Fremont/Harrison	Gameday	8,213	9,400	No	1,893	No	No	4,427	4,400	Yes	7,427	9,400	No	787	2,100	No	-	F	0.369	53.4	62.3	57.2
D2	I-80 WB	Fremont/Folsom/Howard	AM	8,943	9,400	No	2,170	No	No	4,603	4,400	Yes	7,696	9,400	No	1,248	2,100	No	-	F	0.410	52.6	61.3	56.5
	I-80 WB	Fremont/Folsom/Howard	PM	7,797	9,400	No	1,903	No	No	3,991	4,400	No	6,749	9,400	No	1,048	2,100	No	**38.1**	E	0.392	52.9	62.3	57.1
	I-80 WB	Fremont/Folsom/Howard	Gameday	8,213	9,400	No	2,036	No	No	4,142	4,400	No	7,218	9,400	No	995	2,100	No	**39.4**	E	0.388	53.0	61.8	57.0
D3	I-80 WB	Fifth/Harrison	AM	8,445	9,400	No	2,266	No	No	3,914	4,400	No	6,605	9,400	No	1,841	4,100	No	**37.0**	E	0.464	51.7	60.9	56.2
	I-80 WB	Fifth/Harrison	PM	8,207	9,400	No	1,963	No	No	4,280	4,400	No	5,832	9,400	No	2,374	4,100	No	**40.2**	E	0.512	50.8	62.1	55.6
	I-80 WB	Fifth/Harrison	Gameday	8,485	9,400	No	2,048	No	No	4,389	4,400	No	6,074	9,400	No	2,411	4,100	No	**41.1**	E	0.515	50.7	61.7	55.5
D4	I-80 EB	Fourth Street	AM	8,955	9,400	No	2,752	Yes	Yes	3,555	4,400	No	7,437	9,400	No	1,519	4,100	No	**13.2**	B	0.435	52.2	59.2	56.2
	I-80 EB	Fourth Street	PM	8,916	9,400	No	3,232	Yes	Yes	3,516	4,400	No	8,735	9,400	No	182	4,100	No	**12.9**	B	0.314	54.3	59.2	57.2
	I-80 EB	Fourth Street	Gameday	9,287	9,400	No	3,366	Yes	Yes	3,887	4,400	No	9,097	9,400	No	191	4,100	No	**16.1**	B	0.315	54.3	59.2	57.1
D5	I-280 NB	Mariposa St	AM	8,685	9,400	No	1,640	No	No	5,405	4,400	Yes	5,816	9,400	No	2,869	2,100	Yes	-	F	0.556	50.0	63.3	54.3
	I-280 NB	Mariposa St	PM	5,889	9,400	No	1,276	No	No	3,338	4,400	No	4,523	9,400	No	1,366	2,100	No	**21.7**	C	0.421	52.4	64.7	57.1
	I-280 NB	Mariposa St	Gameday	6,520	9,400	No	1,280	No	No	3,961	4,400	No	4,538	9,400	No	1,982	2,100	No	**27.1**	C	0.476	51.4	64.7	55.9

Leisch Method for Weaving Analysis

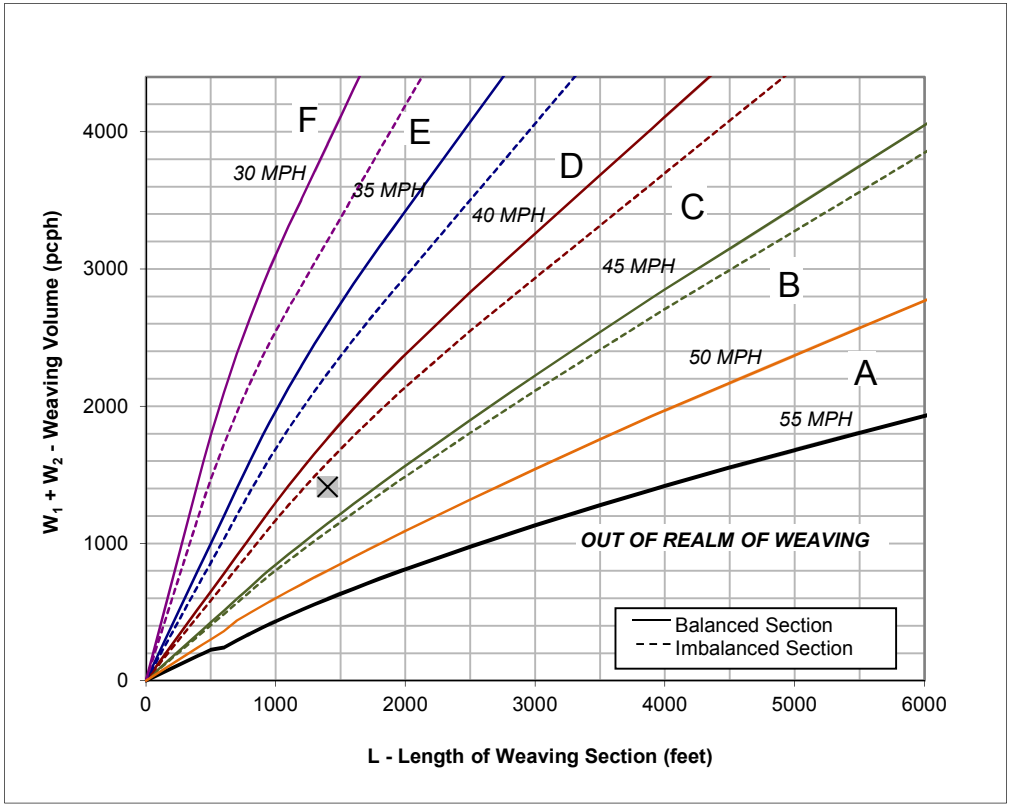
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

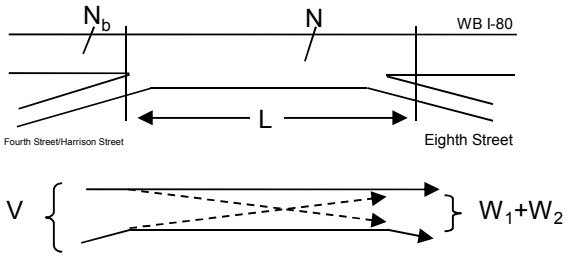
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,871	Volume (vph)*	943	Volume (vph)*	435
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,043	Volume (pcph)	967	Volume (pcph)	446

Project Information

Project	Seawall Lot
Scenario	Existing - 2013 - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **42.8**
4. Weaving Intensity Factor (k) **2.24**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,899**
6. Level of Service (LOS) **E**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

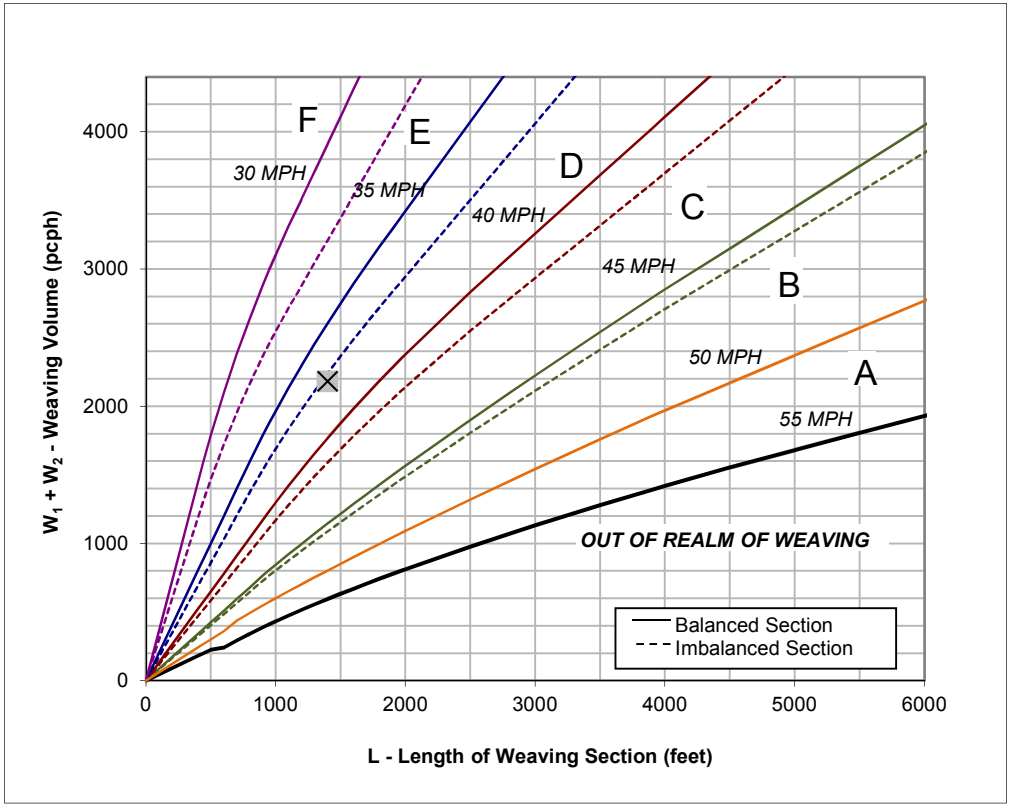
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,805	Volume (vph)*	1,570	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	6,975	Volume (pcph)	1,609	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Existing - 2013 - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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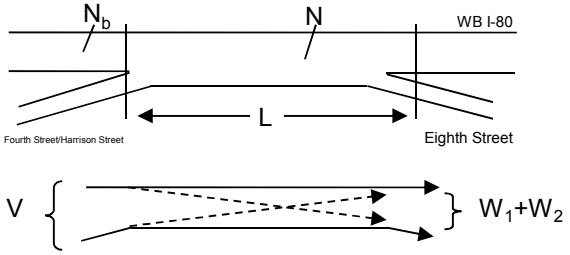


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **37.5**
4. Weaving Intensity Factor (k) **2.74**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,994**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

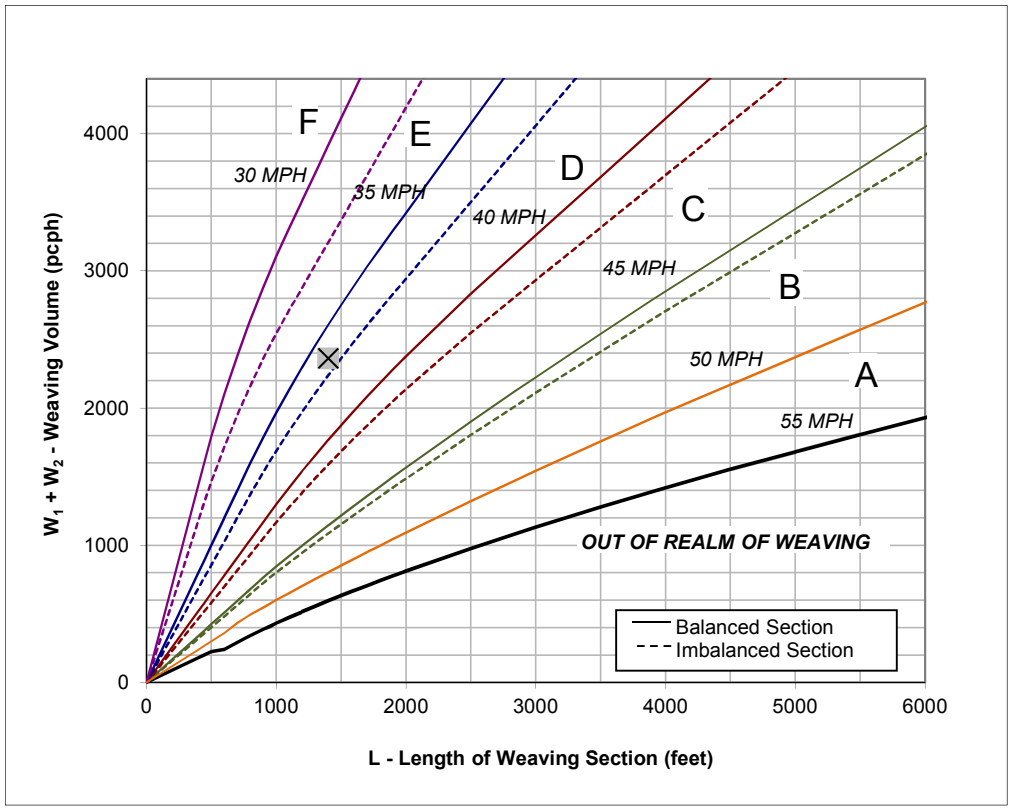
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

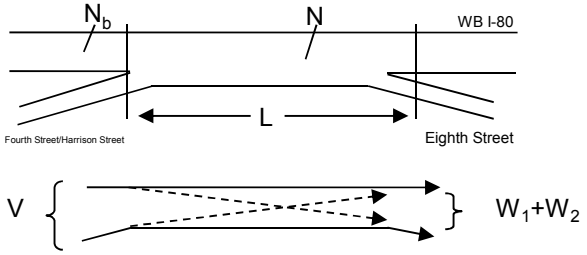
Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,198	Volume (vph)*	1,746	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,378	Volume (pcph)	1,790	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Existing - 2013 - PM with Ballgame
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



Figure



Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **36.4**
4. Weaving Intensity Factor (k) **2.97**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **2,128**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

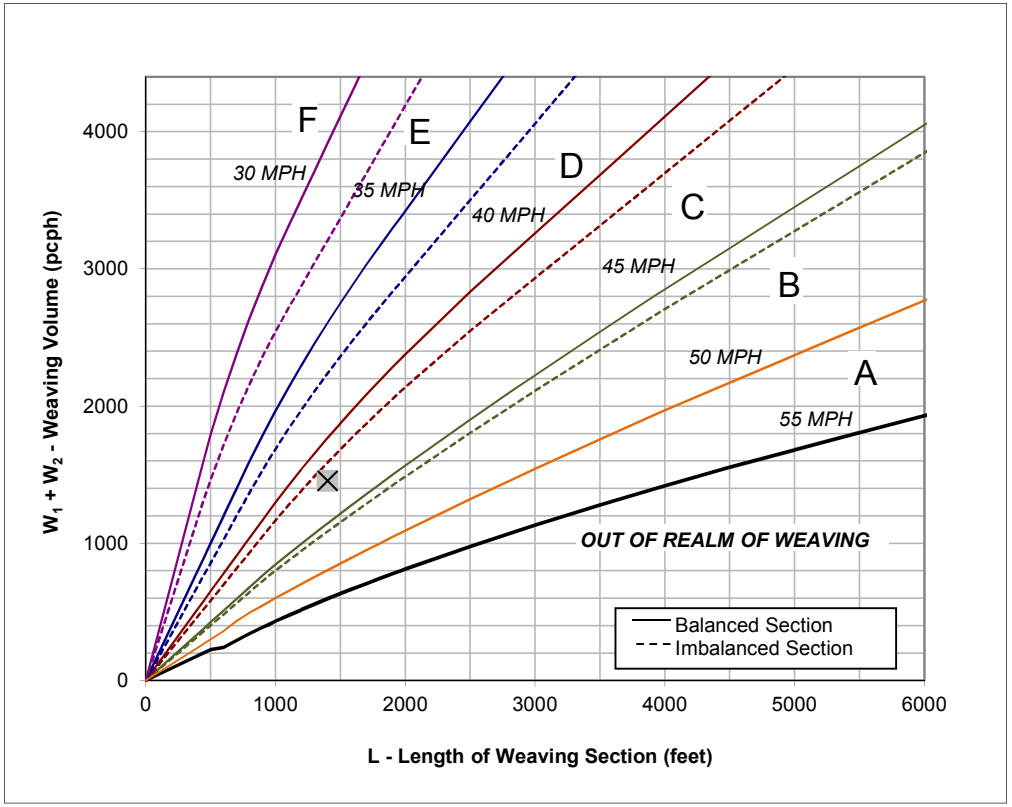
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,871	Volume (vph)*	987	Volume (vph)*	435
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,043	Volume (pcph)	1,012	Volume (pcph)	446

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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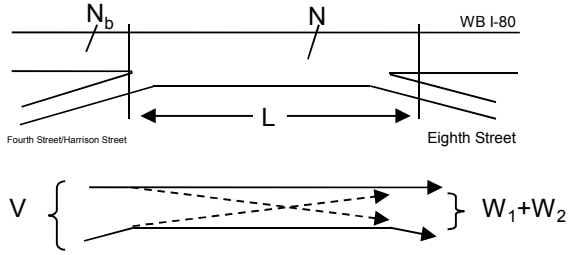


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **42.5**
4. Weaving Intensity Factor (k) **2.28**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,903**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

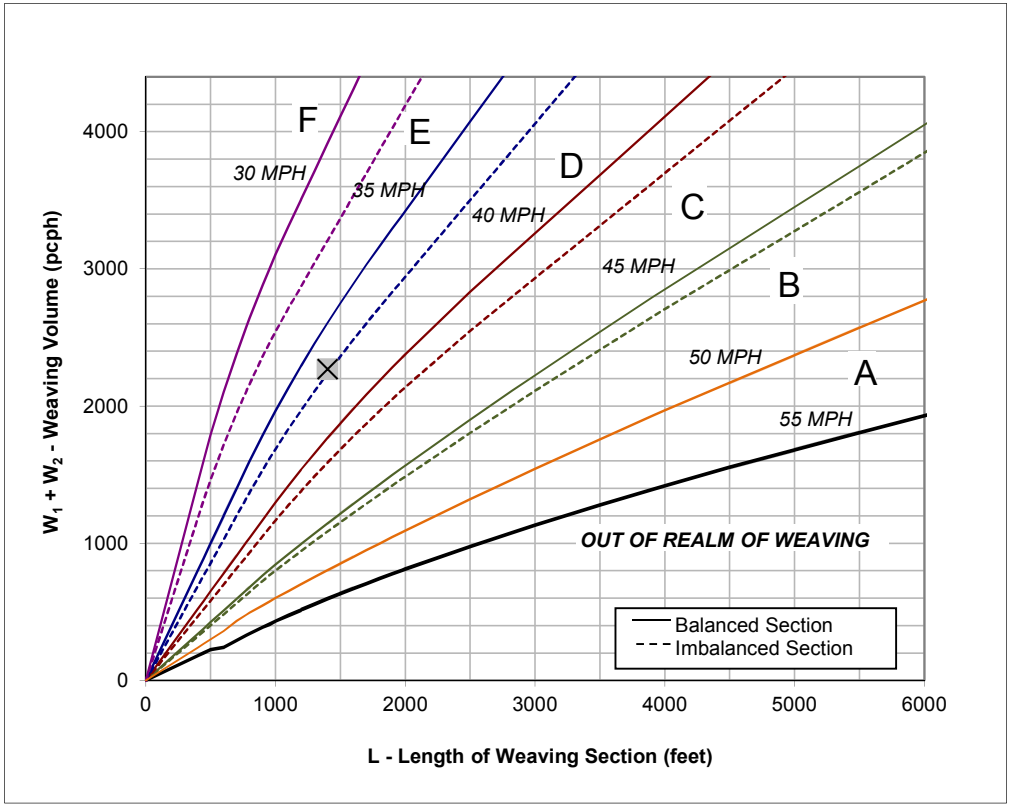
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,805	Volume (vph)*	1,656	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	6,975	Volume (pcph)	1,697	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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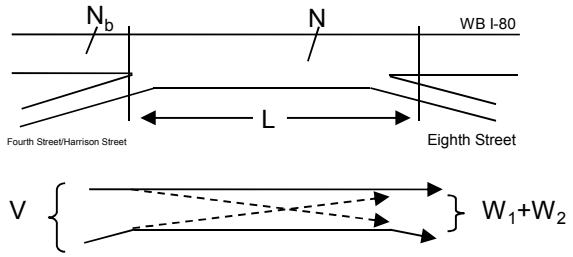


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **37.0**
4. Weaving Intensity Factor (k) **2.78**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,999**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

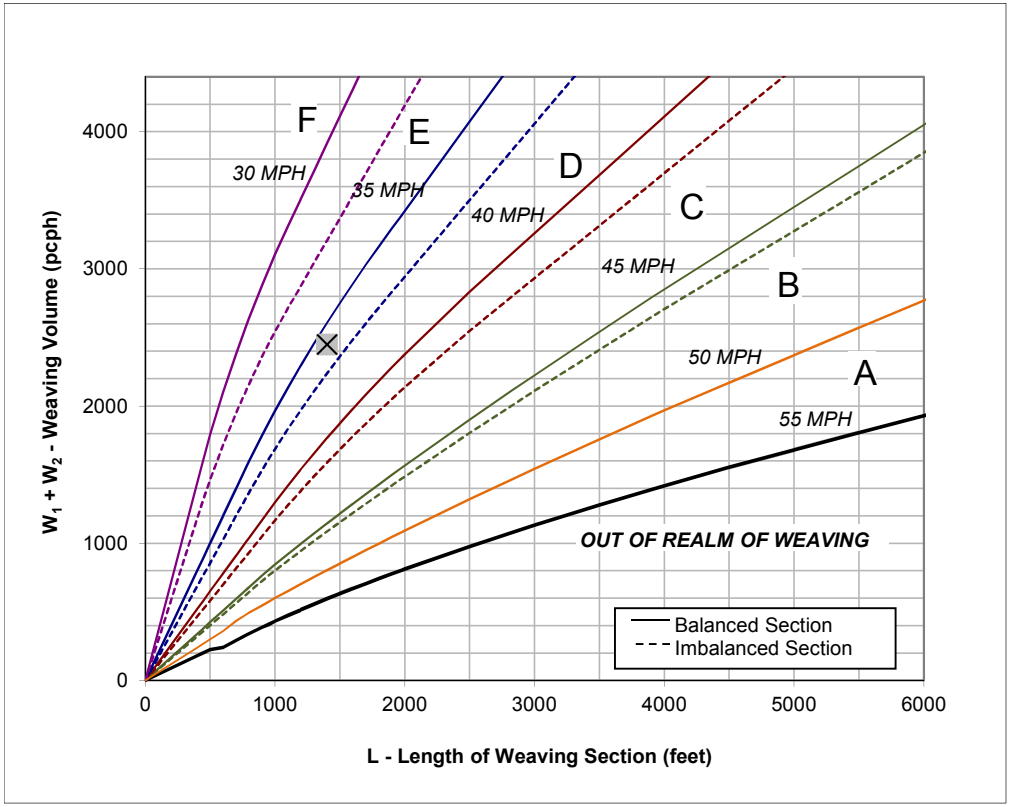
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,198	Volume (vph)*	1,832	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,378	Volume (pcph)	1,878	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - PM w/Game
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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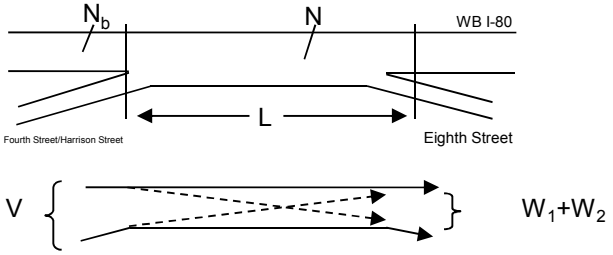


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	35.9
4. Weaving Intensity Factor (k)	2.95
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,124
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

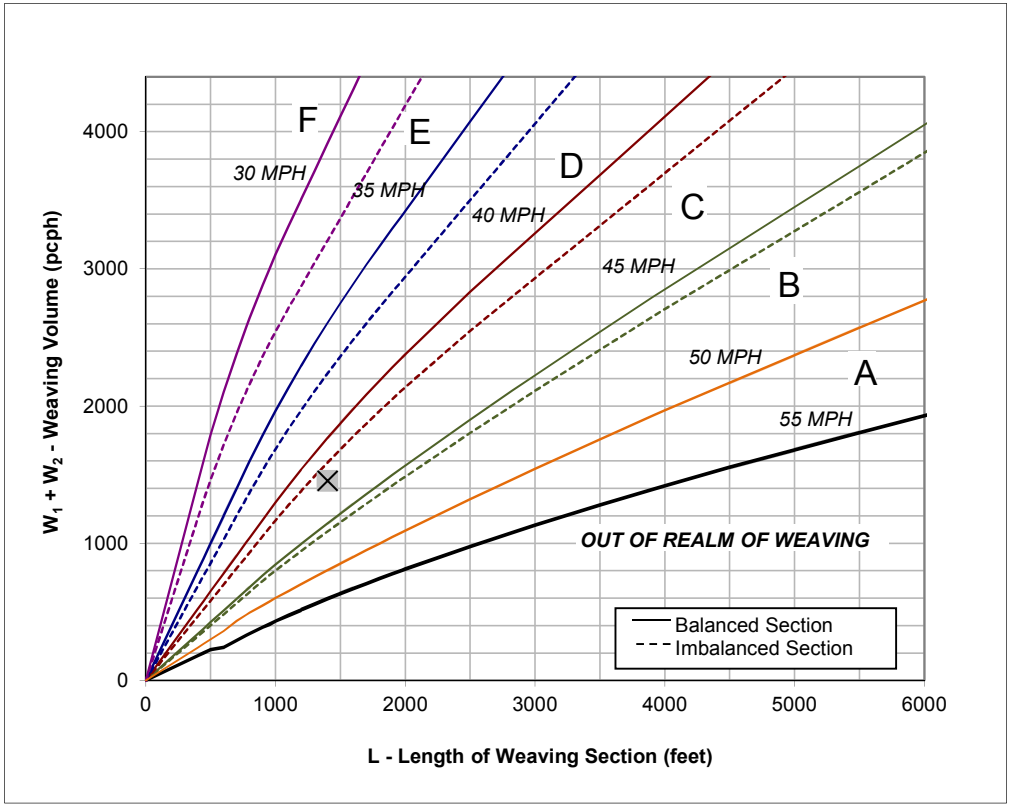
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	6,871	986	435
Truck Percentage	5%	5%	5%
PCE for Trucks	1.5	1.5	1.5
Volume (pcph)	7,043	1,011	446

Project Information

Project	Seawall Lot
Scenario	Plus Project (Seawall Lot 337) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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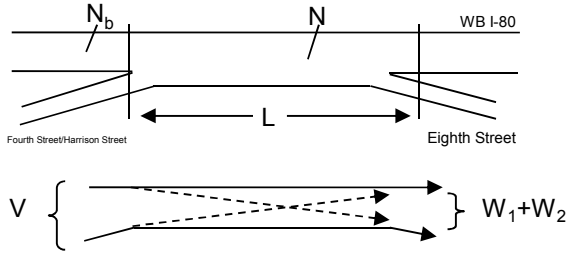


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**40 MPH** and **45 MPH**
If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.	
3. Interpolated Weaving Speed (S_w, mph)	42.5
4. Weaving Intensity Factor (k)	2.28
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	1,903
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

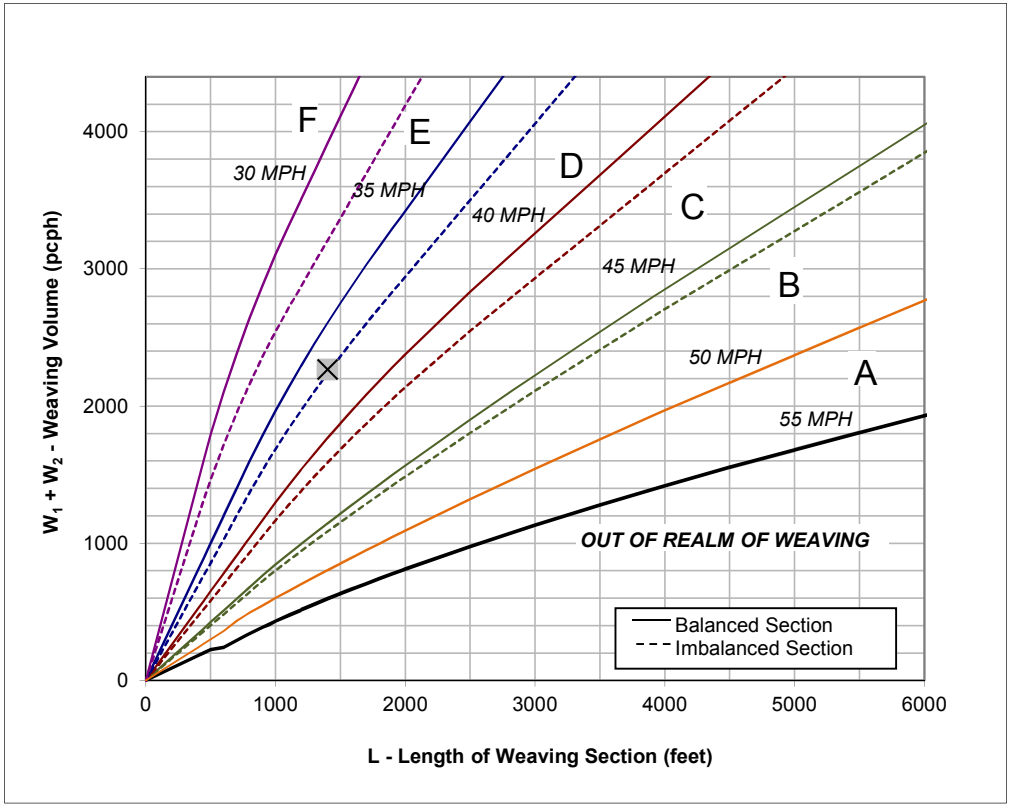
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,805	Volume (vph)*	1,654	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	6,975	Volume (pcph)	1,695	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Plus Project (Seawall Lot 337) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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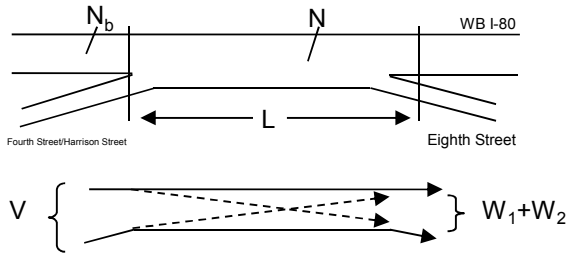


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **37.0**
4. Weaving Intensity Factor (k) **2.78**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,999**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

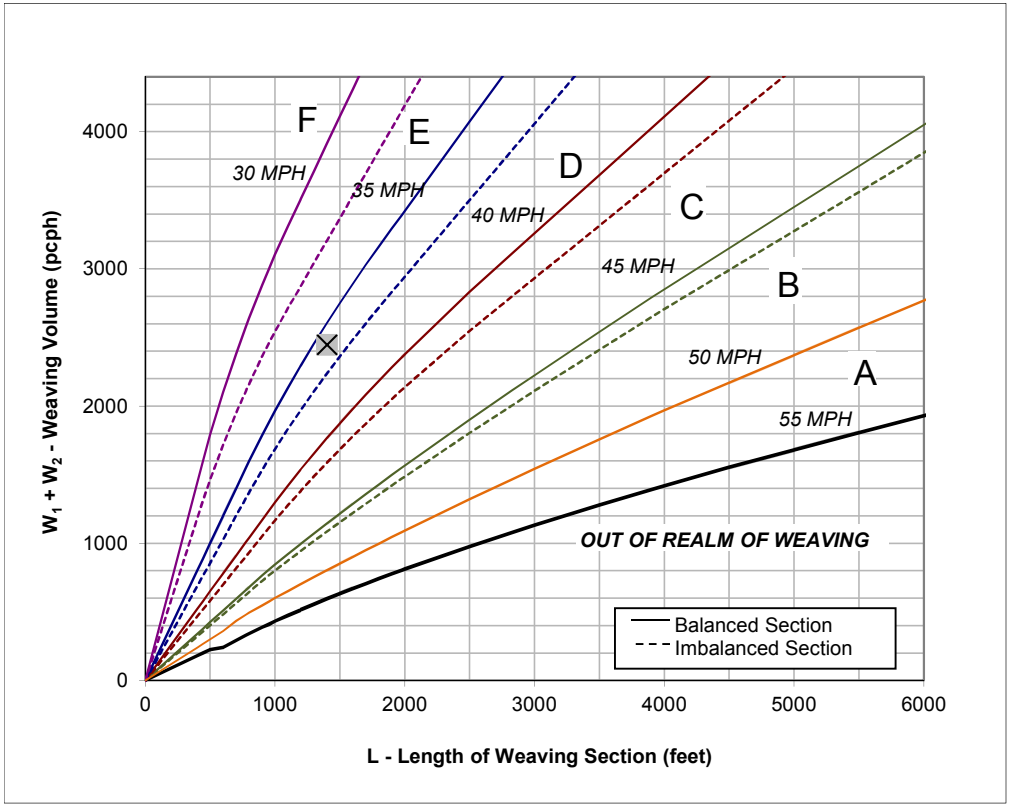
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Project Information

Project	Seawall Lot
Scenario	lus Project (Seawall Lot 337) - PM w/Gam
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,198	Volume (vph)*	1,830	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,378	Volume (pcph)	1,876	Volume (pcph)	574



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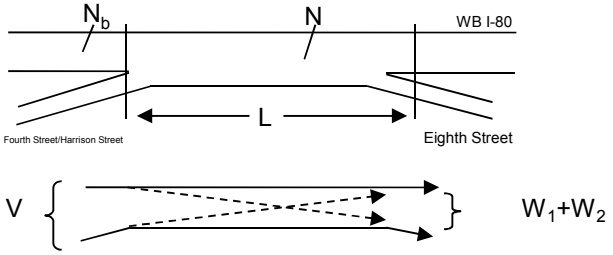


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	35.9
4. Weaving Intensity Factor (k)	2.95
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,125
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

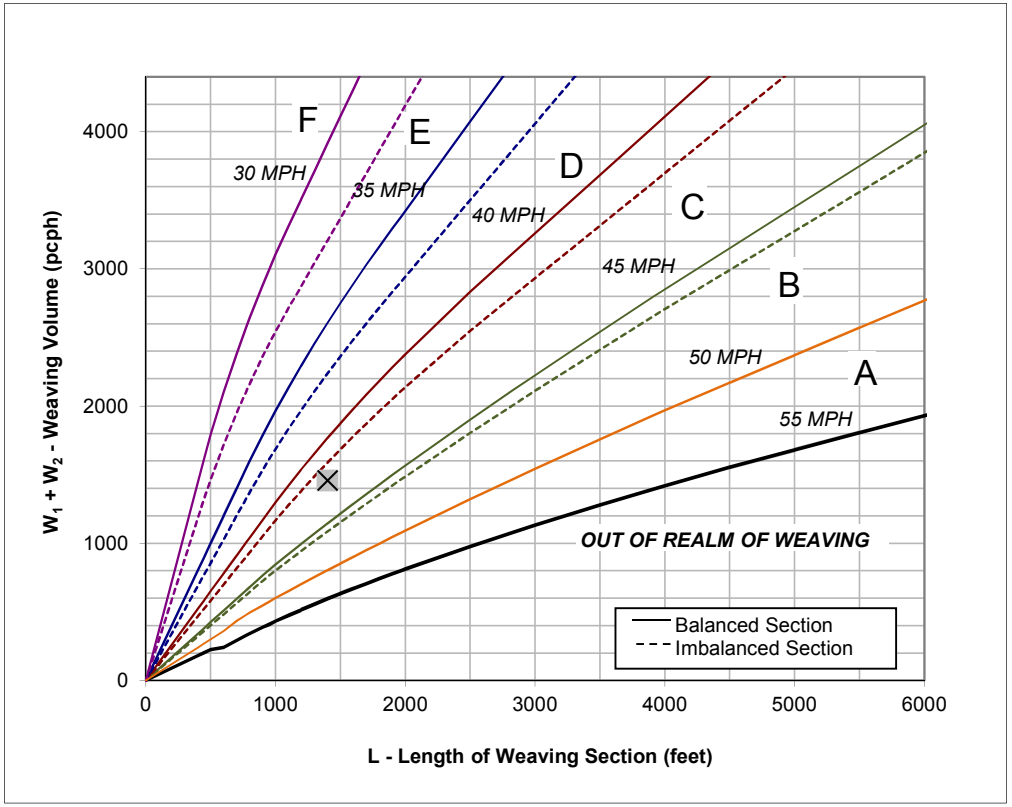
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,871	Volume (vph)*	990	Volume (vph)*	435
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,043	Volume (pcph)	1,015	Volume (pcph)	446

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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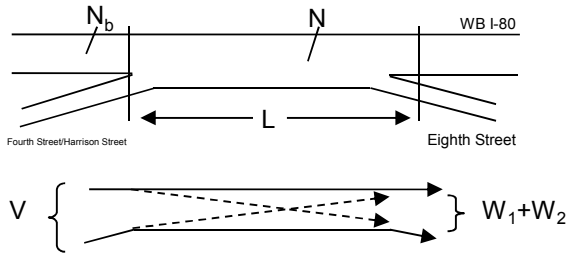


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **42.5**
4. Weaving Intensity Factor (k) **2.28**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,903**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

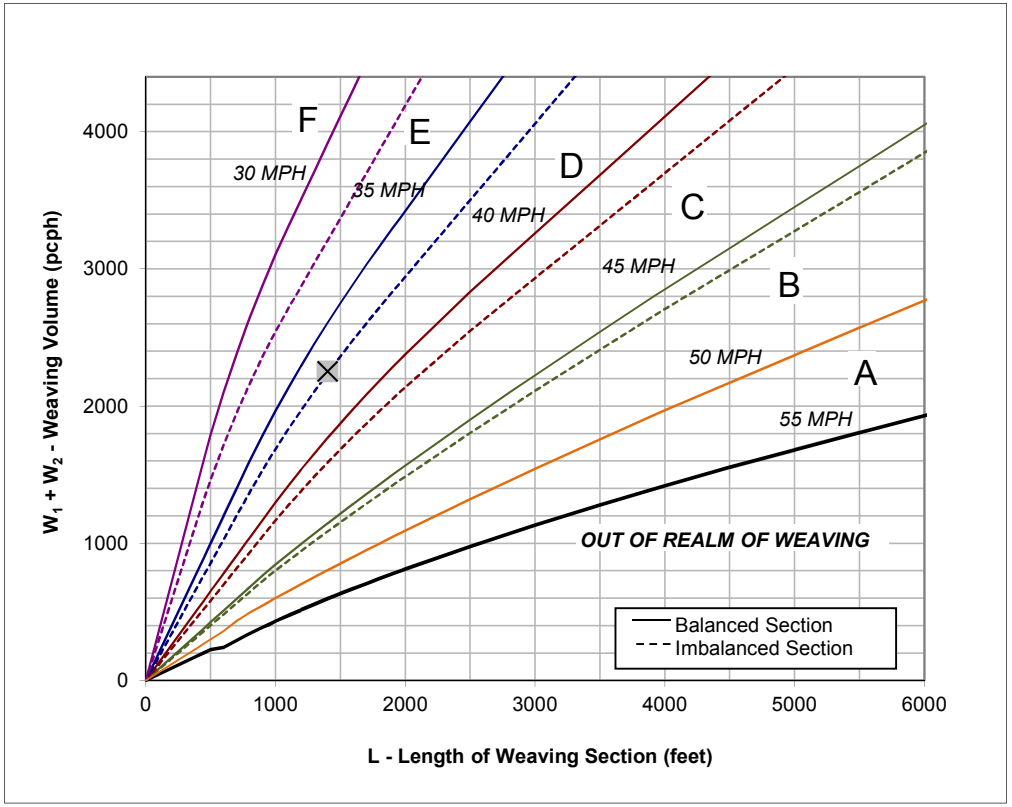
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,805	Volume (vph)*	1,640	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	6,975	Volume (pcph)	1,681	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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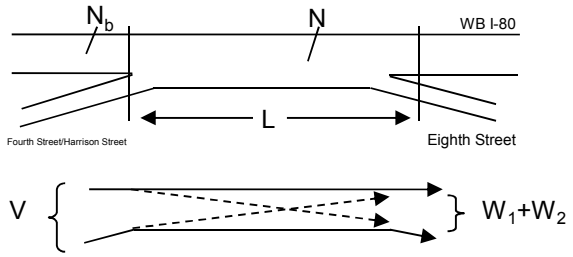


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **37.1**
4. Weaving Intensity Factor (k) **2.77**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,998**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

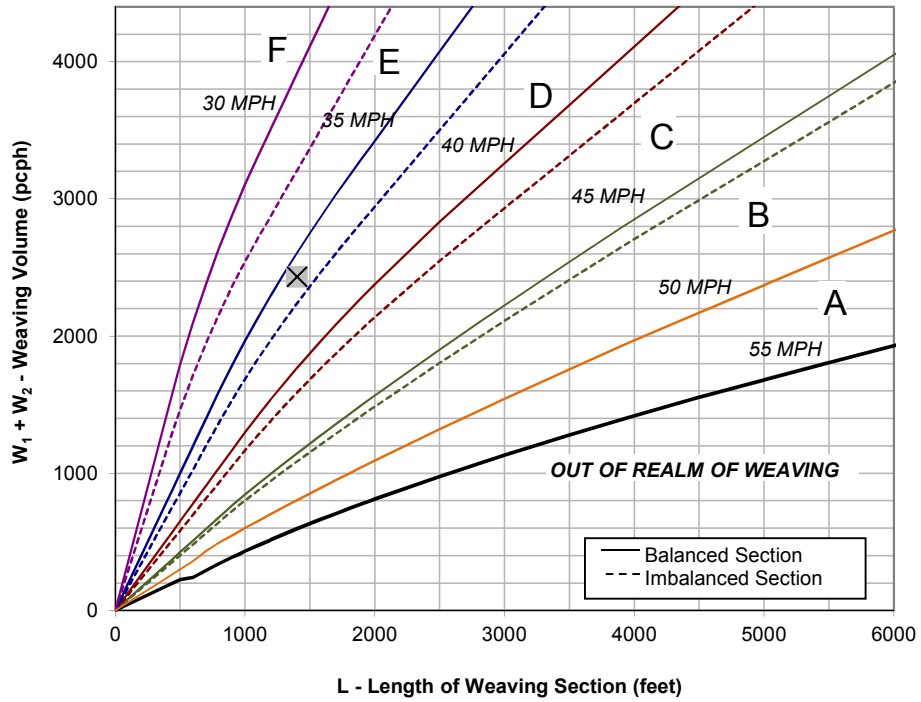
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,198	Volume (vph)*	1,816	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,378	Volume (pcph)	1,861	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Plus Project (Scenario A) - PM w/Game
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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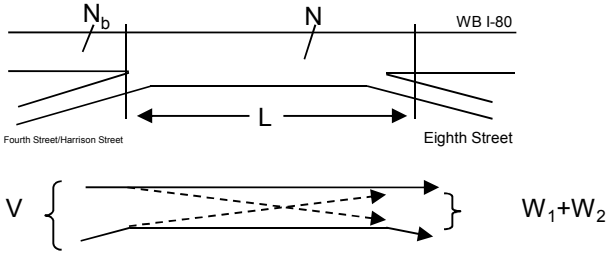


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	36.0
4. Weaving Intensity Factor (k)	2.95
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,125
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

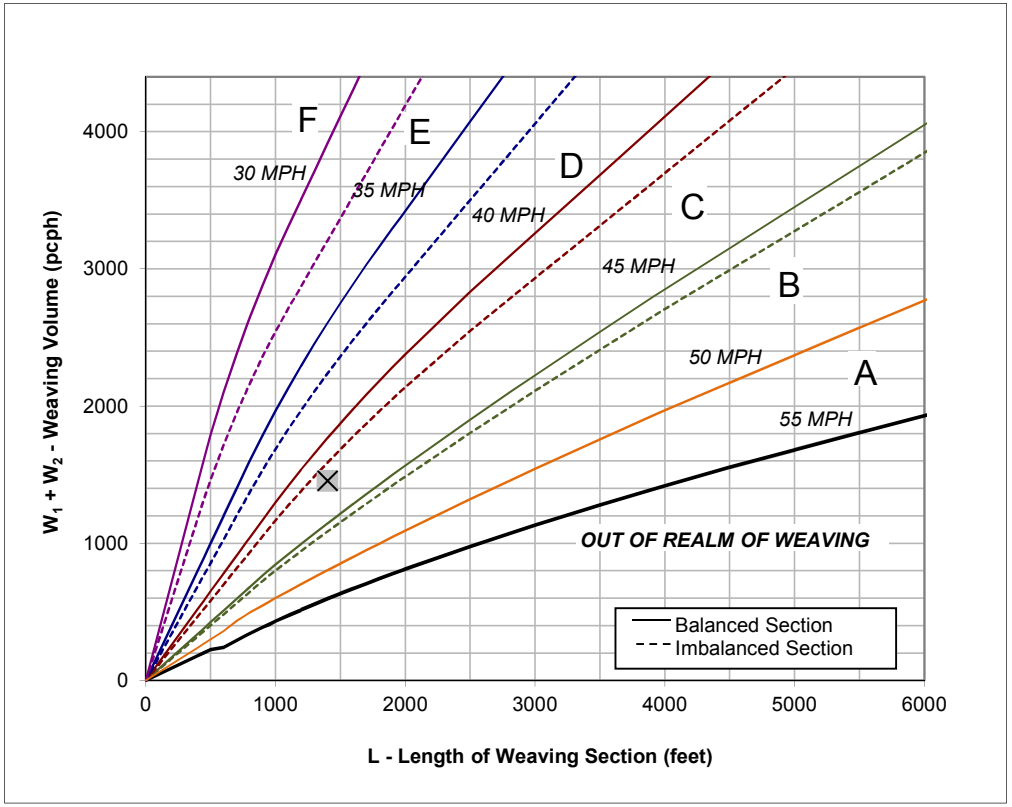
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,871	Volume (vph)*	988	Volume (vph)*	435
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,043	Volume (pcph)	1,013	Volume (pcph)	446

Project Information

Project	Seawall Lot
Scenario	Plus Project (Seawall Lot 337) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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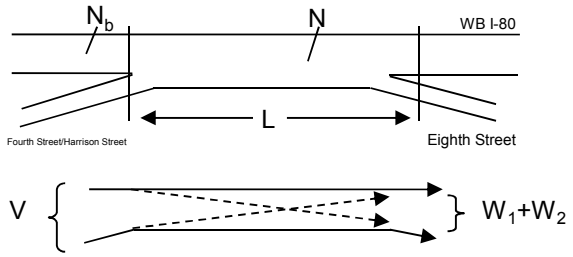


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**40 MPH** and **45 MPH**
If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.	
3. Interpolated Weaving Speed (S_w, mph)	42.5
4. Weaving Intensity Factor (k)	2.28
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	1,903
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

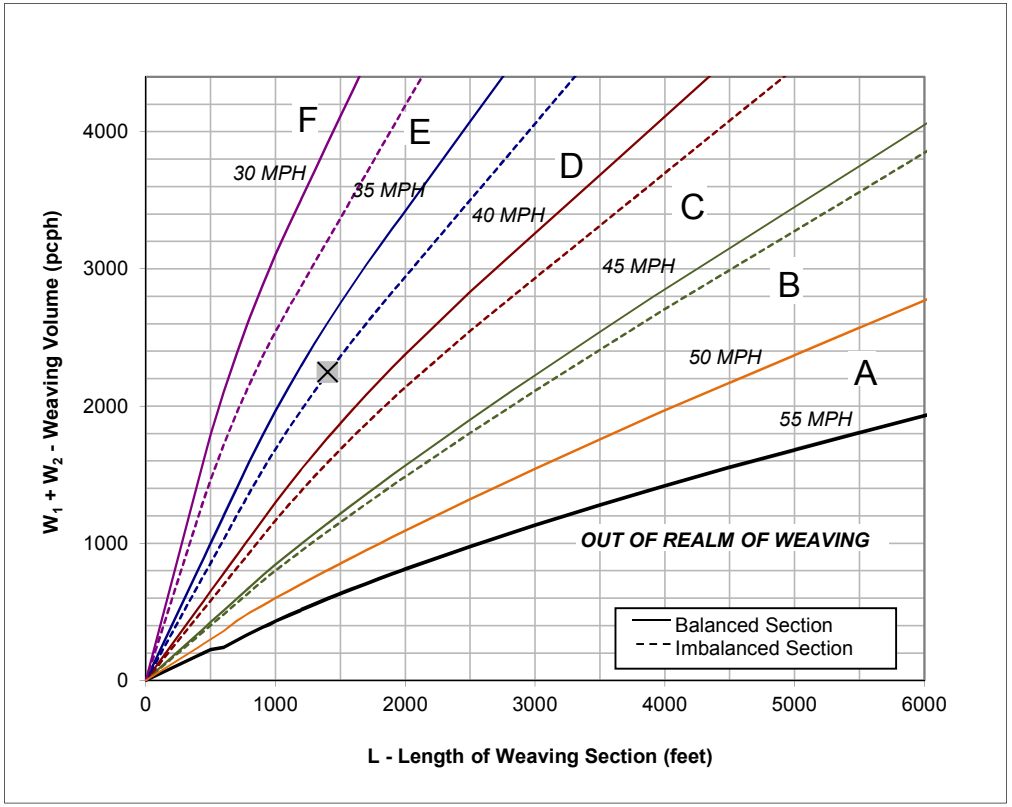
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,805	Volume (vph)*	1,636	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	6,975	Volume (pcph)	1,677	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Plus Project (Seawall Lot 337) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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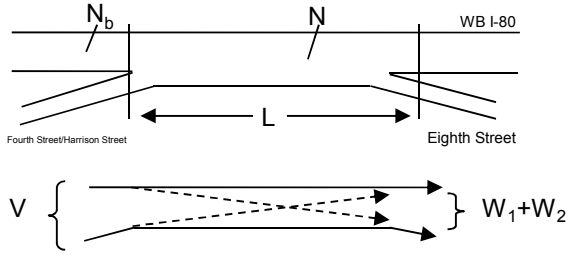


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **37.1**
4. Weaving Intensity Factor (k) **2.77**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,998**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

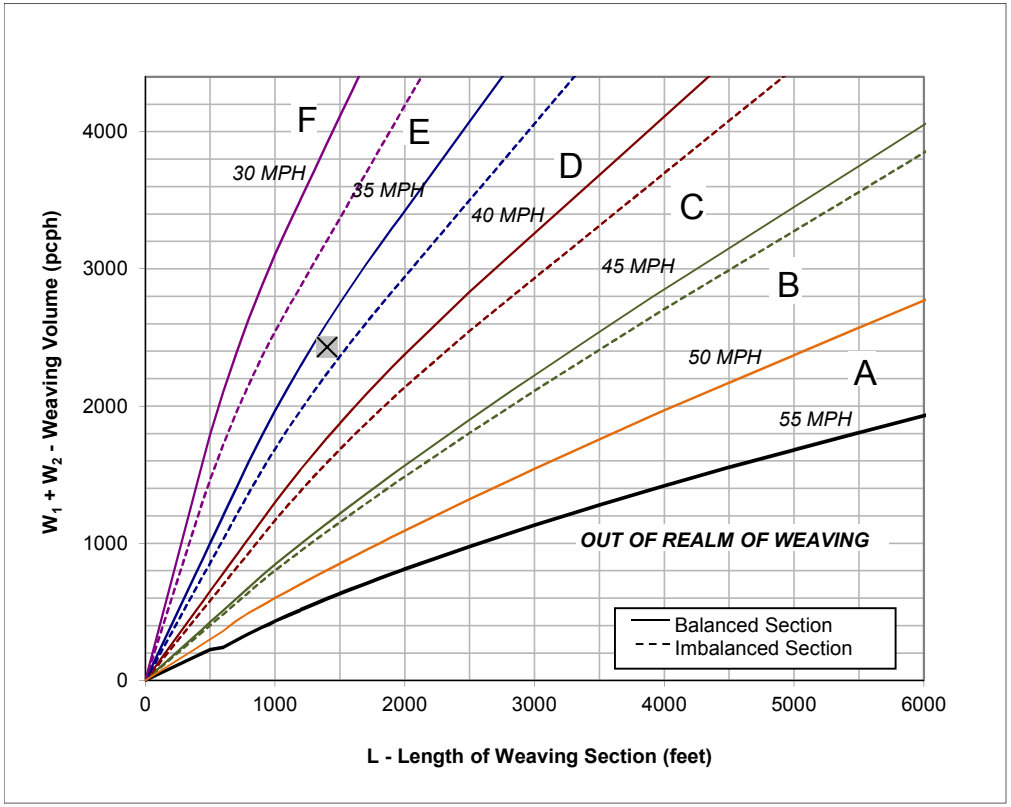
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,198	Volume (vph)*	1,812	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,378	Volume (pcph)	1,857	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	lus Project (Seawall Lot 337) - PM w/Gam
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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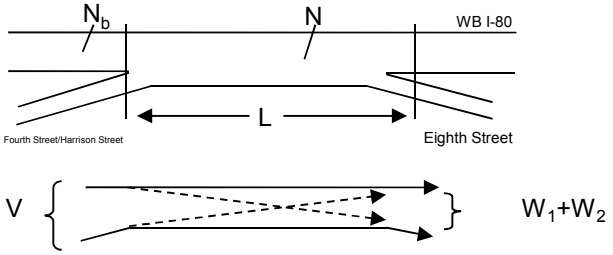


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	36.0
4. Weaving Intensity Factor (k)	2.96
5. Service Volume (SV, pcph) SV = (1/N)*[V + (k - 1)*min(W_1, W_2)]	2,125
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

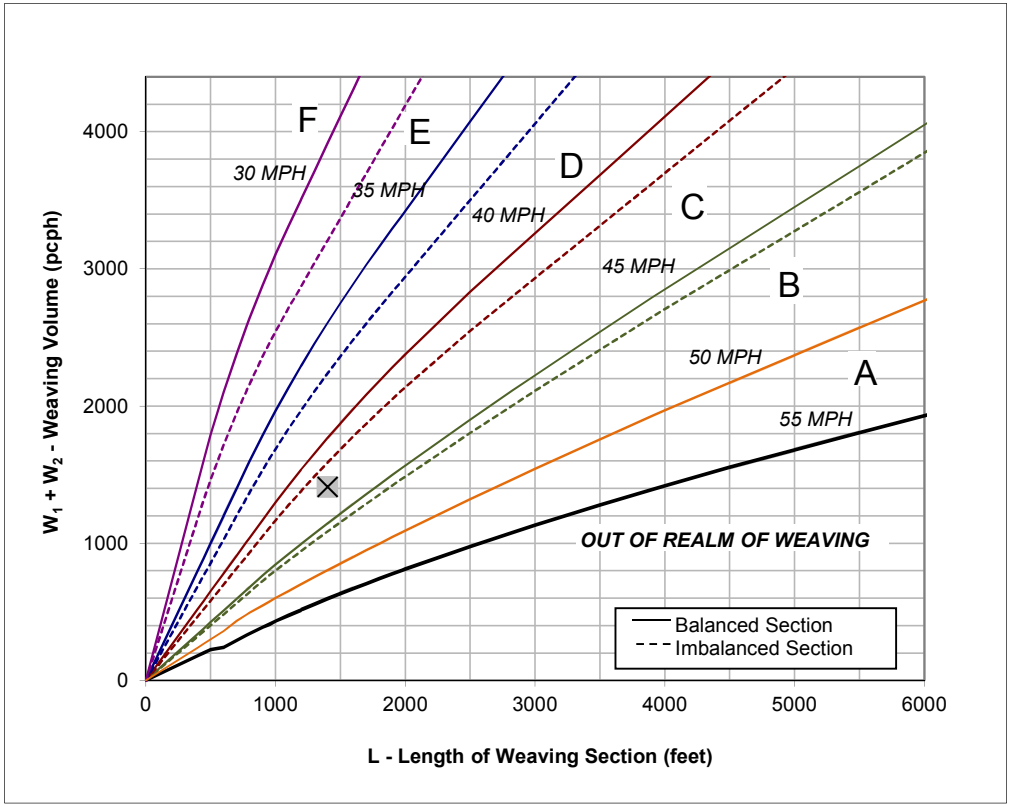
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

	Total Weaving Section (V)	On-ramp to Mainline (W_1)	Mainline to Off-ramp (W_2)
Volume (vph)*	6,871	944	435
Truck Percentage	5%	5%	5%
PCE for Trucks	1.5	1.5	1.5
Volume (pcph)	7,043	968	446

Project Information

Project	Seawall Lot
Scenario	Plus Project (Pier 48) - AM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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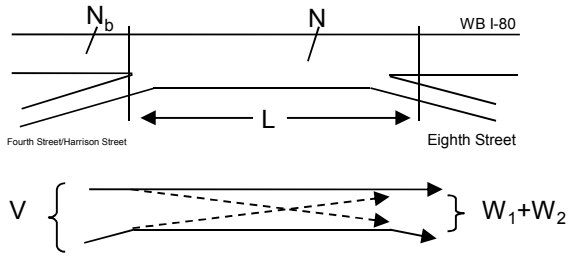


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   40 MPH and **45 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **42.8**
4. Weaving Intensity Factor (k) **2.24**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,899**
6. Level of Service (LOS) **E**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

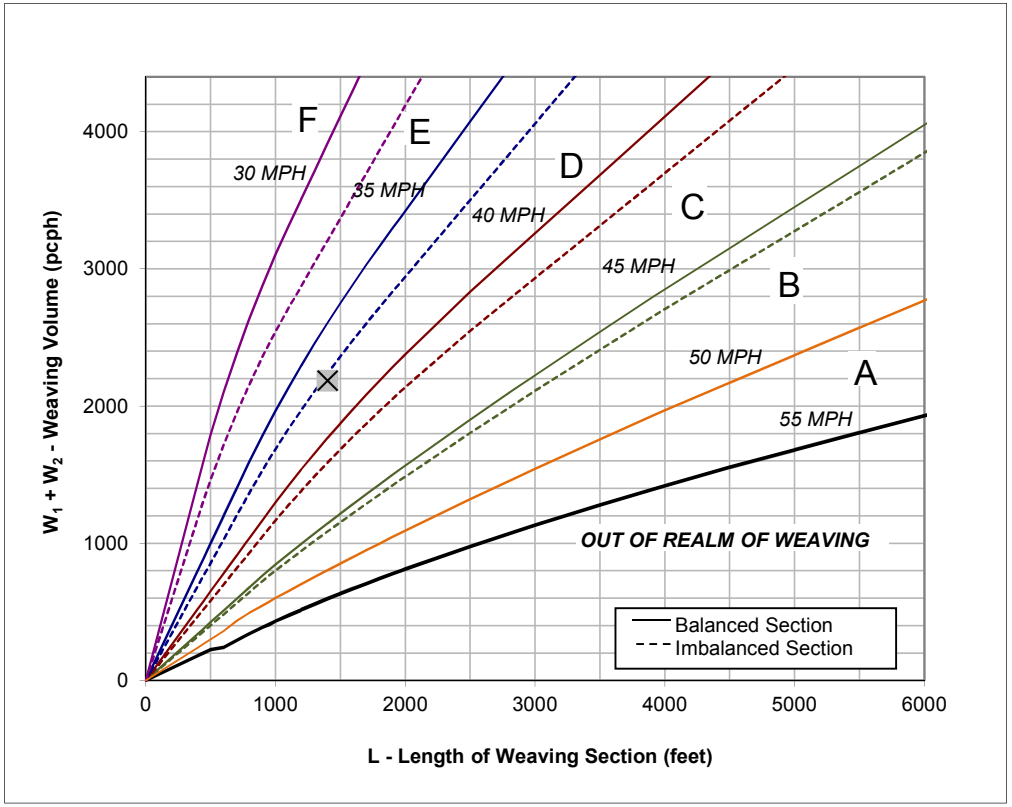
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	6,805	Volume (vph)*	1,575	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	6,975	Volume (pcph)	1,614	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Plus Project (Pier 48) - PM
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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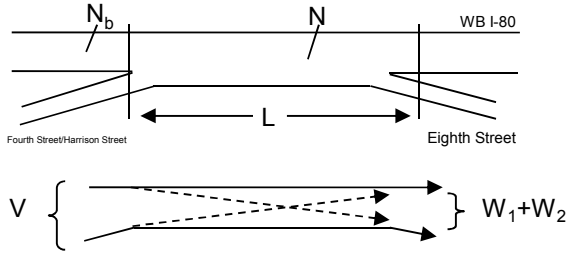


Capacity Analysis

1. Is the weaving section balanced (Y / N)? **Y**
   [If optional exit lane, then "Y". Otherwise "N".]
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
   35 MPH and **40 MPH**
   If below the 55 MPH curve, out of the realm of weaving.
   If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph) **37.5**
4. Weaving Intensity Factor (k) **2.74**
5. Service Volume (SV, pcph)
   $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$ **1,994**
6. Level of Service (LOS) **F**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

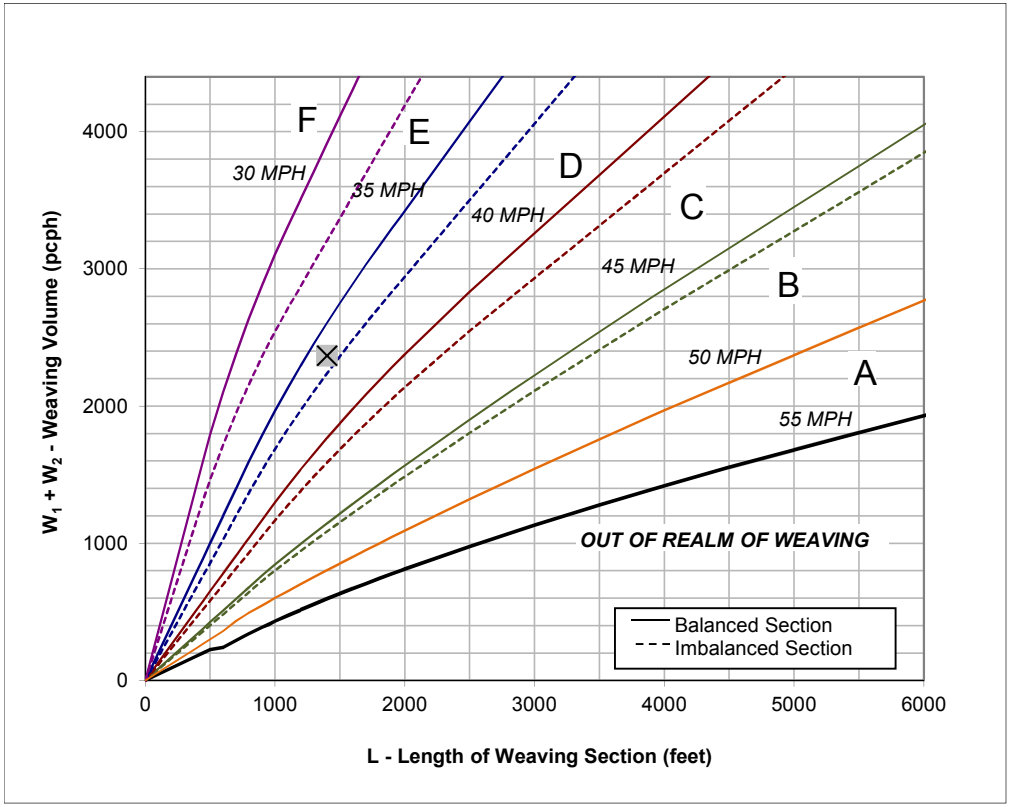
Data Input

Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	1,400

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	7,198	Volume (vph)*	1,751	Volume (vph)*	560
Truck Percentage	5%	Truck Percentage	5%	Truck Percentage	5%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	7,378	Volume (pcph)	1,795	Volume (pcph)	574

Project Information

Project	Seawall Lot
Scenario	Plus Project (Pier 48) - PM w/Game
Freeway	WB I-80
On-ramp	Fourth Street/Harrison Street
Off-ramp	Eighth Street



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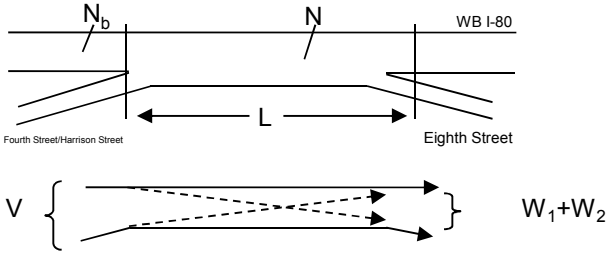


Capacity Analysis

1. Is the weaving section balanced (Y / N)? [If optional exit lane, then "Y". Otherwise "N".]	Y
2. In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?	**35 MPH** and **40 MPH**
	If below the 55 MPH curve, out of the realm of weaving. If left of the 30 MPH curve, LOS is F.
3. Interpolated Weaving Speed (S_w, mph)	36.4
4. Weaving Intensity Factor (k)	2.97
5. Service Volume (SV, pcph) $SV = (1/N)*[V + (k - 1)*\min(W_1, W_2)]$	2,127
6. Level of Service (LOS)	F

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF).** The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

APPENDIX J: QUEUE ANALYSIS

Mission Rock Transportation – Queue Summary
3.14.17 version

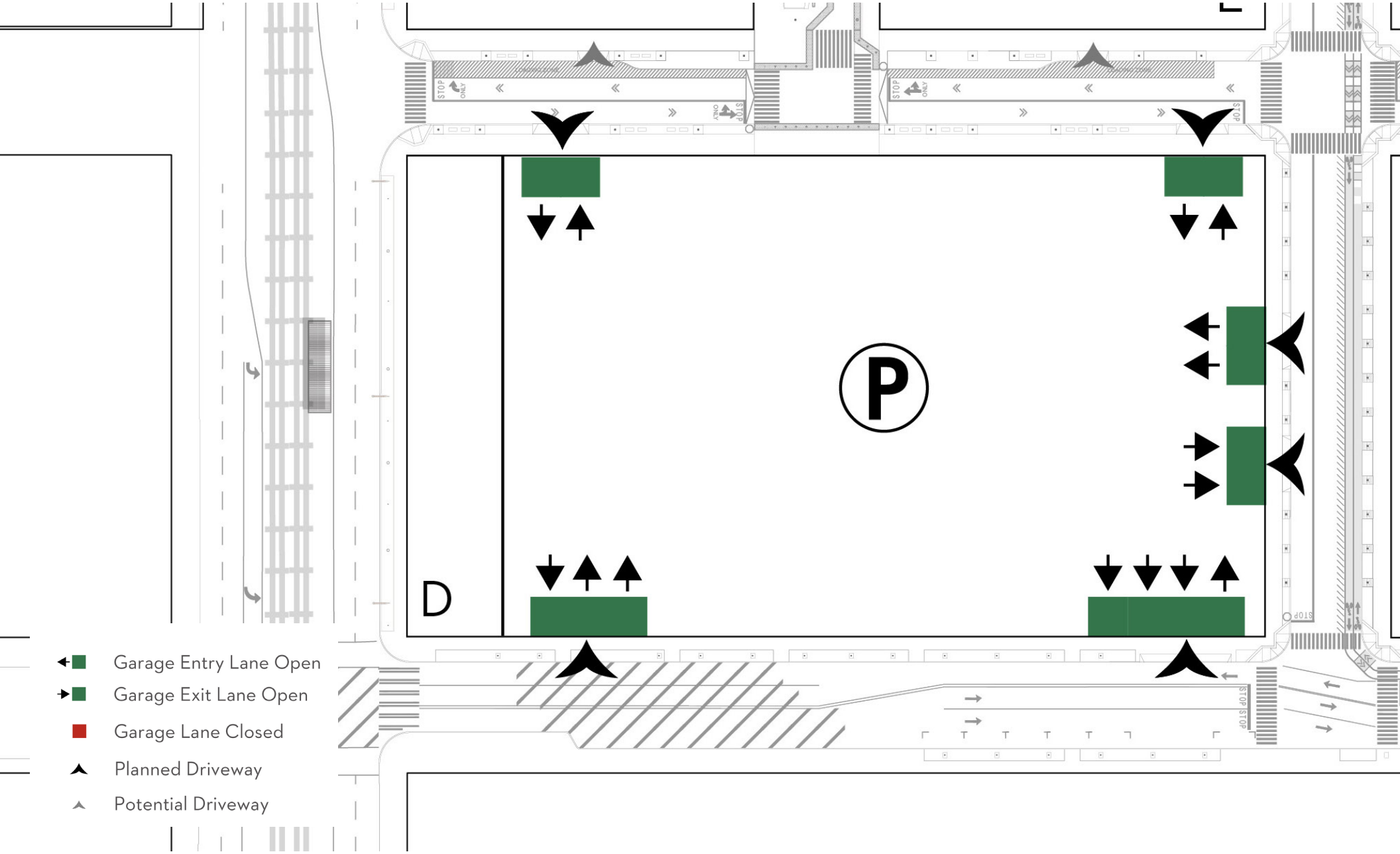
PROJECT – TWO GARAGE SCENARIO

QUEUE LOCATION	IMPACT SUMMARY	IMPACT TYPE	MITIGATION MEASURE
PARKING GARAGE DRIVEWAY QUEUES			
1. Mission Rock West	A. AM Peak – EB queue extends into Third St.	A. Transit delay	A. Eliminate driveway or restrict to right-in, right-out movements at all times by providing raised median or delineators between westbound through and left lanes on Mission Rock Street
2. Mission Rock East	- No impact	-	-
3. Long Bridge West	- No impact	-	-
4. Long Bridge East	A. Queue of EB cars stopping at Long Bridge/ Bridgeview intersection multi-way stop blocks WB cars wanting to enter driveway, which is 25 feet from intersection. WB cars waiting to turn left into garage driveway would queue into intersection.	A. Traffic hazard	A. Restrict easternmost driveway on Long Bridge Street to right-in, right-out only movements at all times by providing raised median or delineators in center of Long Bridge Street
5. Bridgeview North	A. Peak Event Hour – SB queues extends to Long Bridge St. intersection	A. Traffic hazard	A. PCO at Bridgeview/Long Bridge during events
6. Bridgeview South	- No impact	-	-
THIRD STREET/MISSION ROCK INTERSECTION QUEUES			
1. SB Left Turn Lane	A. Max. queue exceeds SB pocket length	A. Transit delay	A. Restripe to extend SB left turn lane to 325 feet
2. WB Through Lane	A. Max. queue extends to Terry Francois	A. Transit delay	A. Stripe Keep Clear zone at Mission Rock east garage driveway

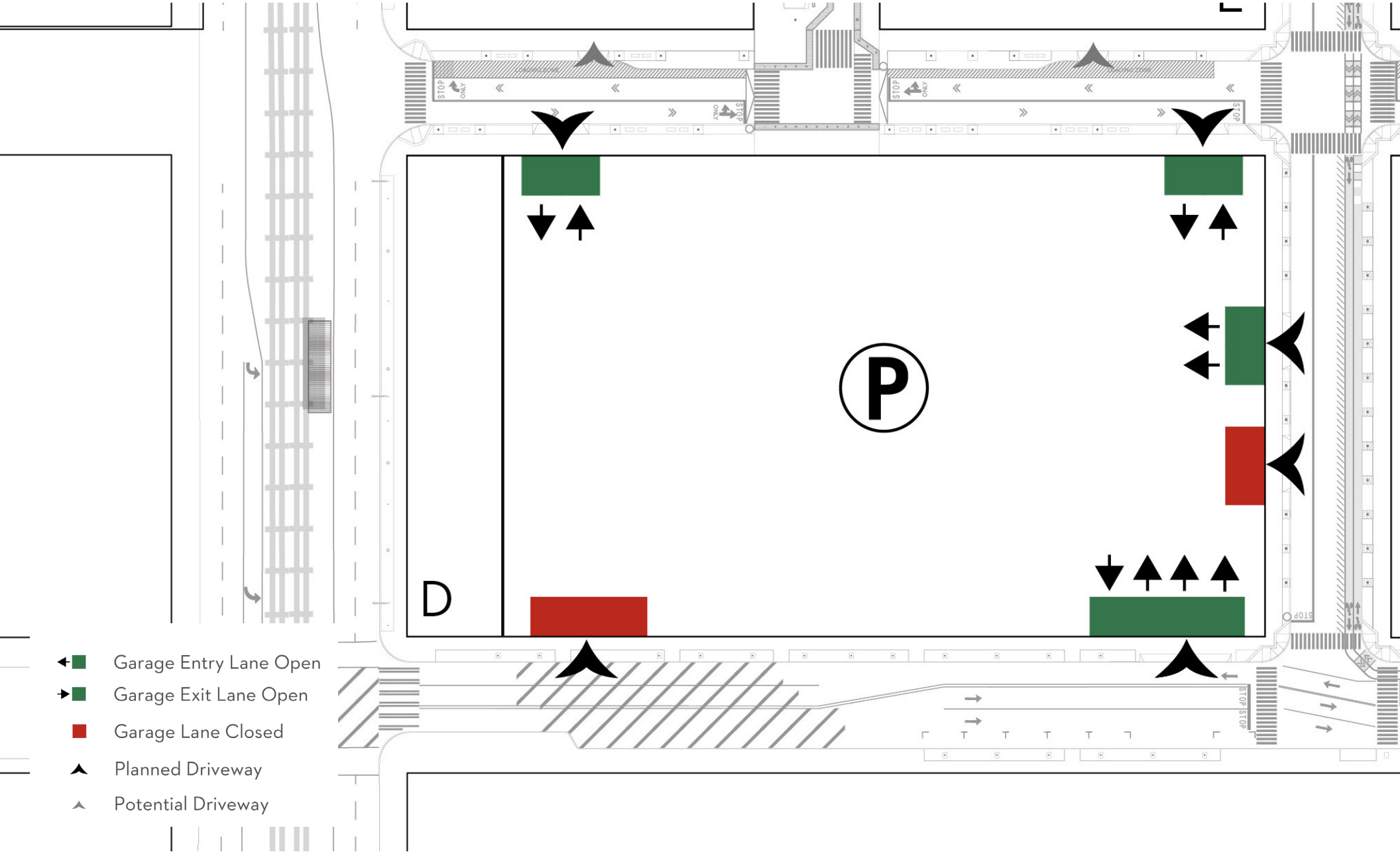
VARIANT – ONE GARAGE SCENARIO

QUEUE LOCATION	IMPACT SUMMARY	IMPACT TYPE	MITIGATION MEASURE
PARKING GARAGE DRIVEWAY QUEUES			
1. Mission Rock	- No impact	-	-
2. Long Bridge	A. Pre-event 5-6 pm – EB queue extends into Third St. intersection	A. Traffic hazard	A. PCO at Third/Long Bridge intersection starting at 5 pm
3. Bridgeview	A. Peak Event Hour – SB queues extends to Long Bridge St. intersection	A. Traffic hazard	A. PCO at Bridgeview/Long Bridge during events
THIRD STREET/MISSION ROCK INTERSECTION QUEUES			
1. SB Left Turn Lane	A. Max. queue exceeds SB pocket length	A. Transit delay	A. Restripe to extend SB left turn lane to 325 feet
2. WB Through Lane	A. Max. queue extends to Terry Francois	A. Transit delay	A. Stripe Keep Clear zone at Mission Rock east garage driveway

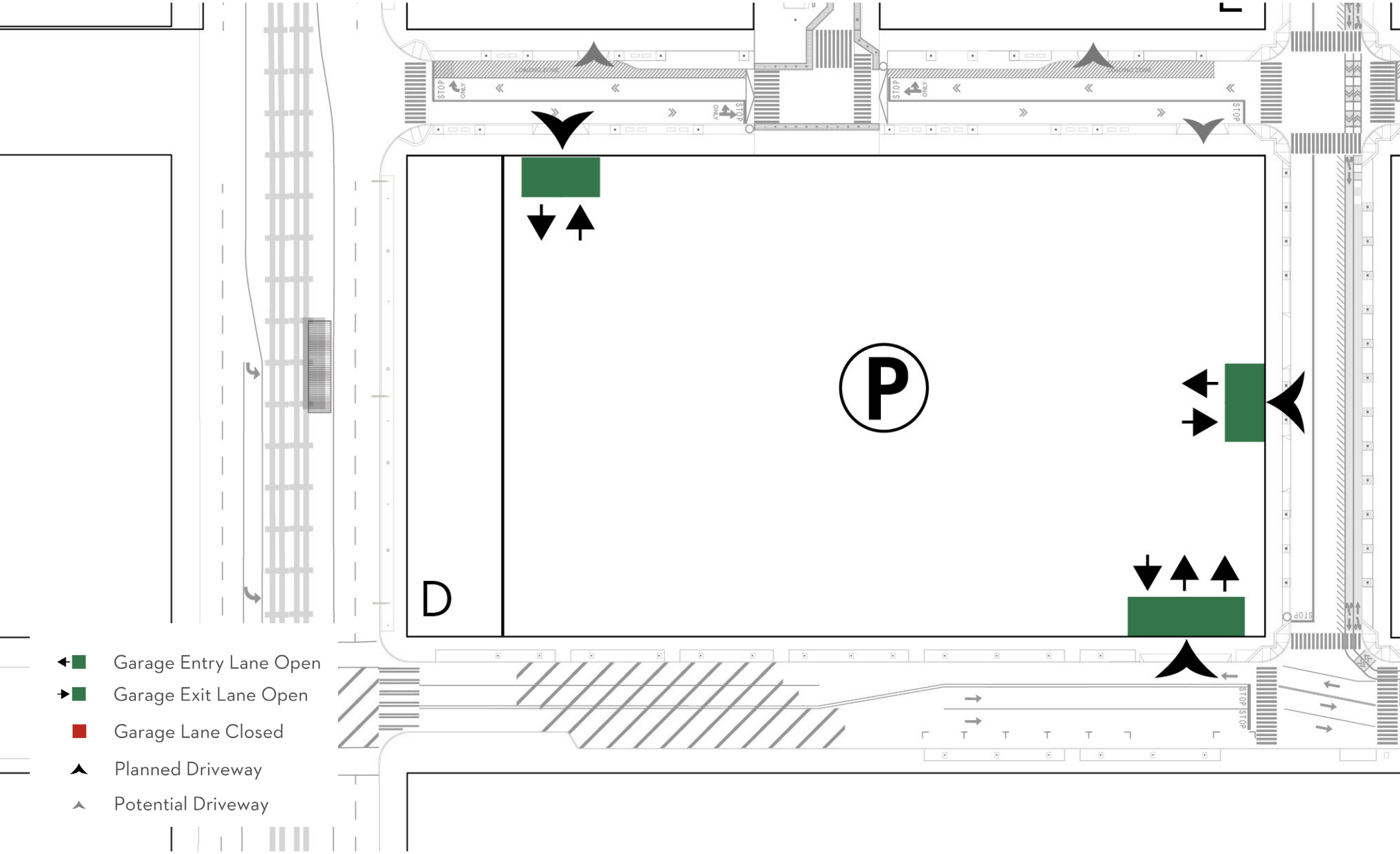
Two Garage Typical Conditions



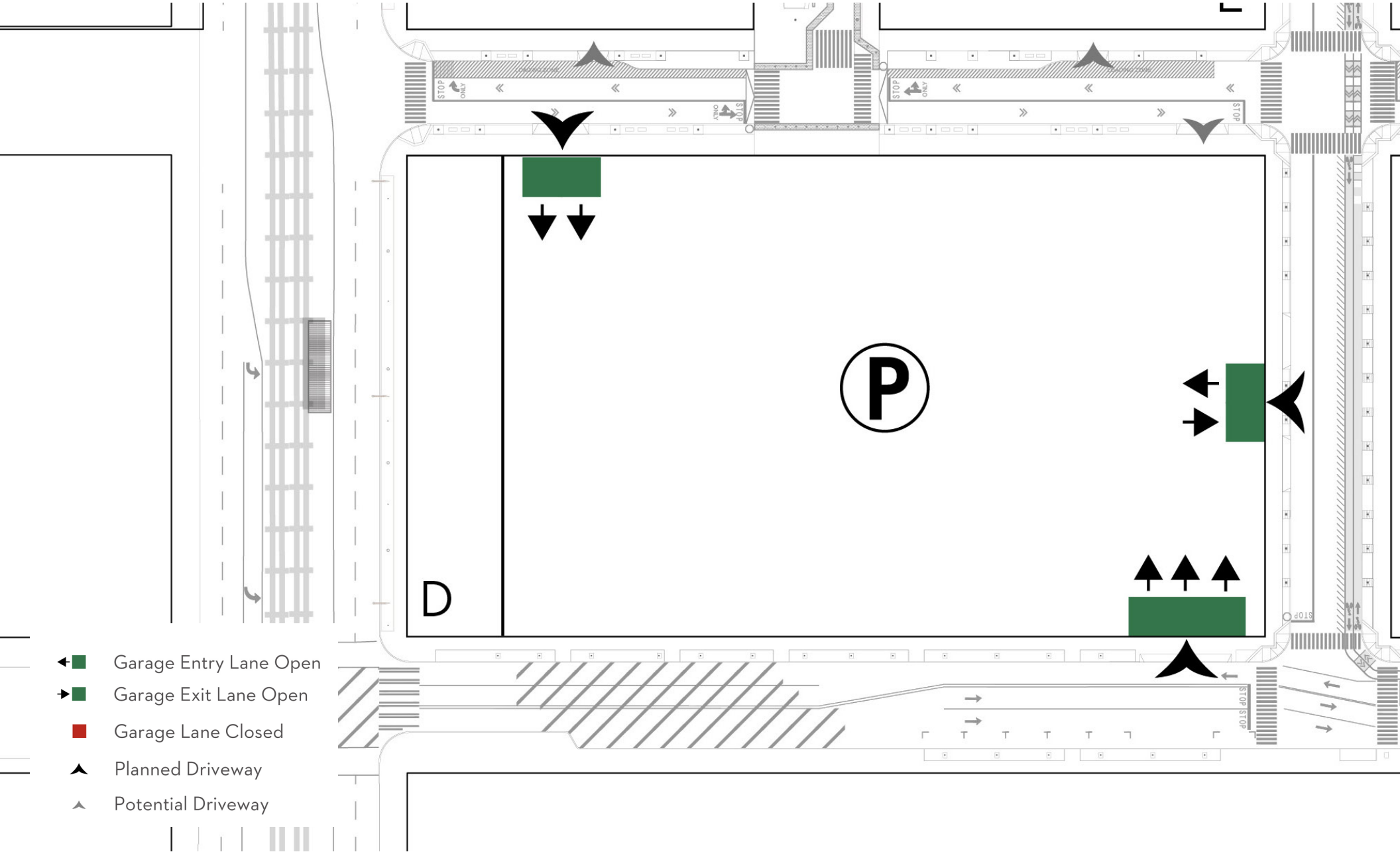
Two Garage Pregame



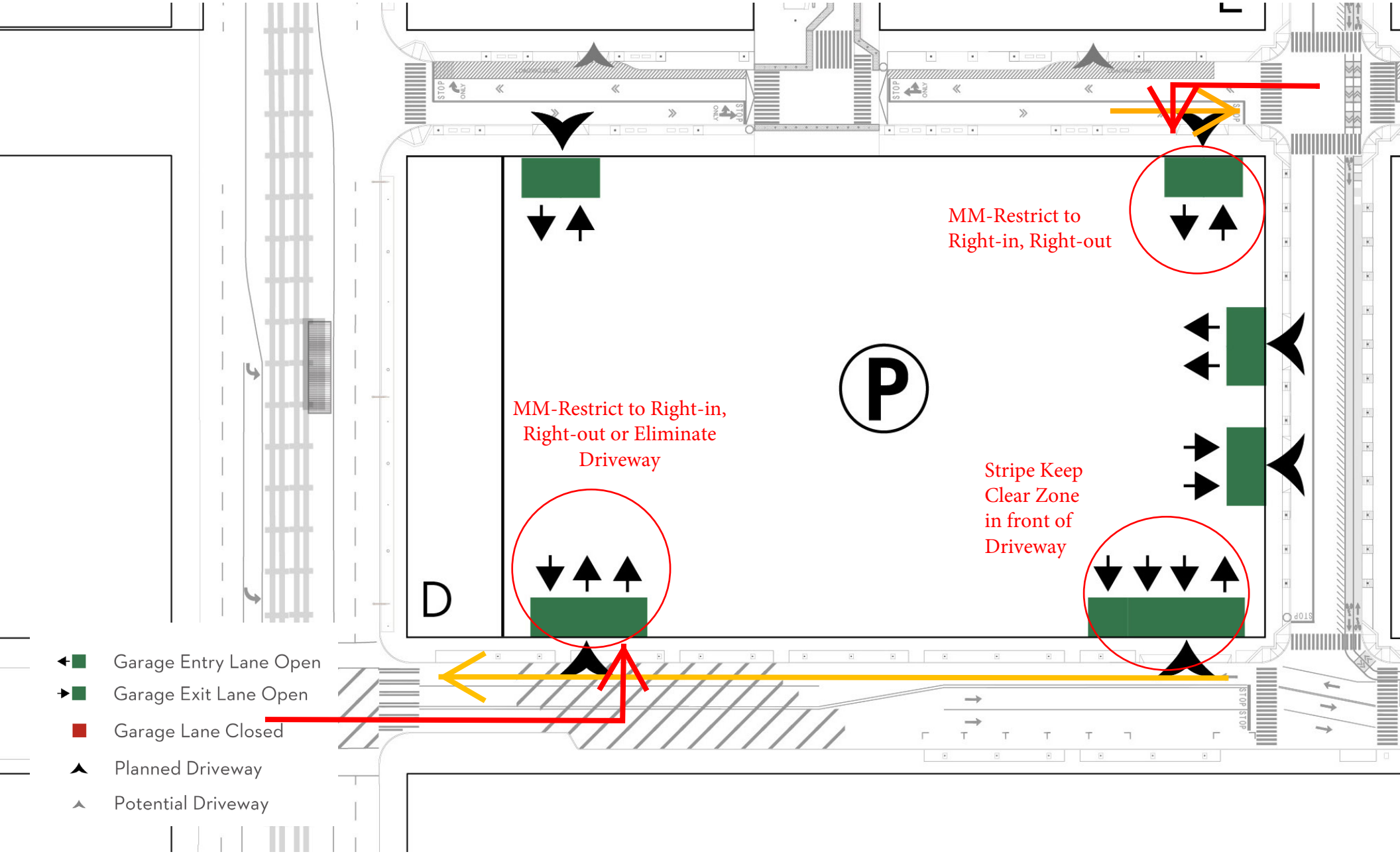
One Garage: Typical Conditions



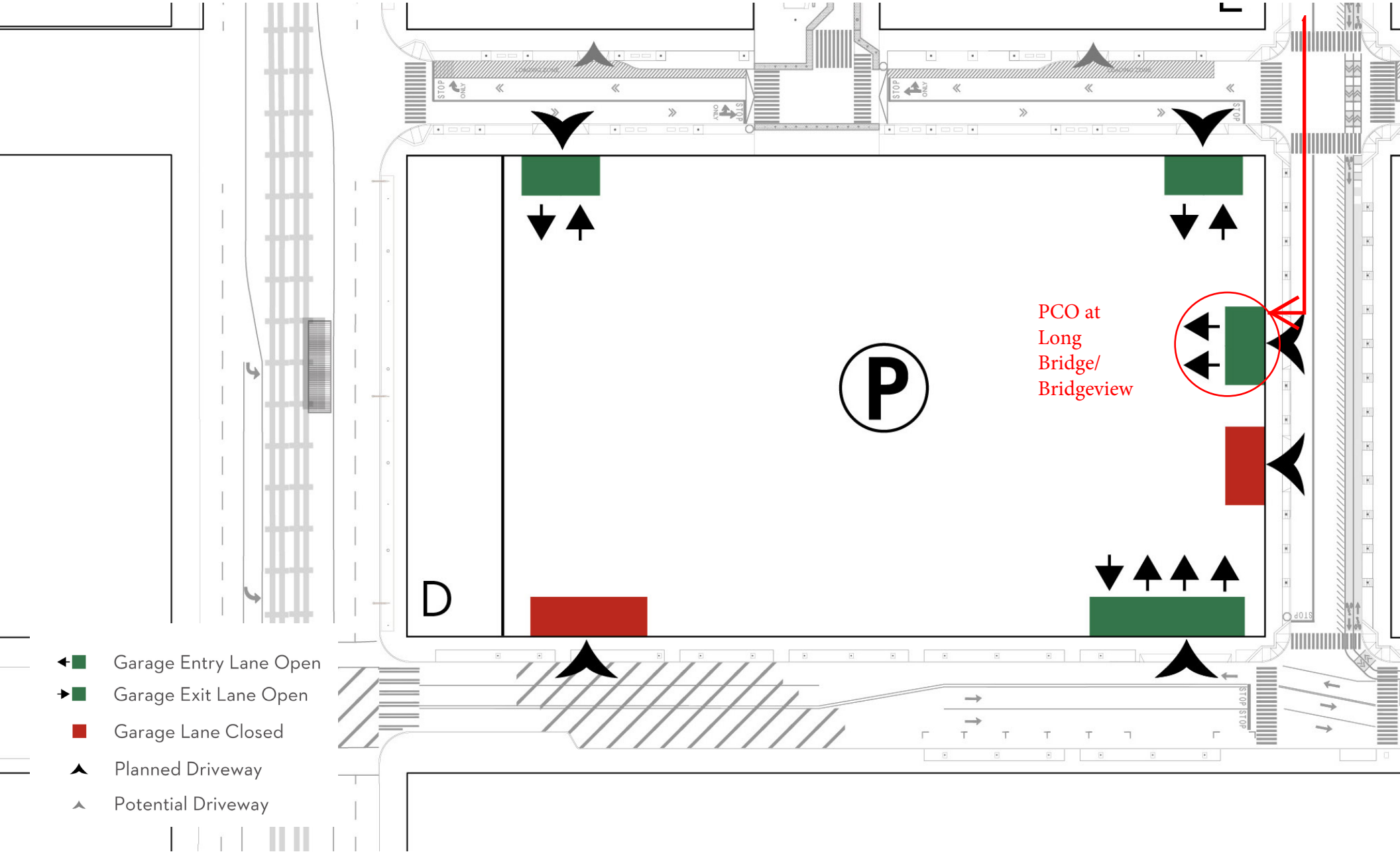
One Garage: Pregame



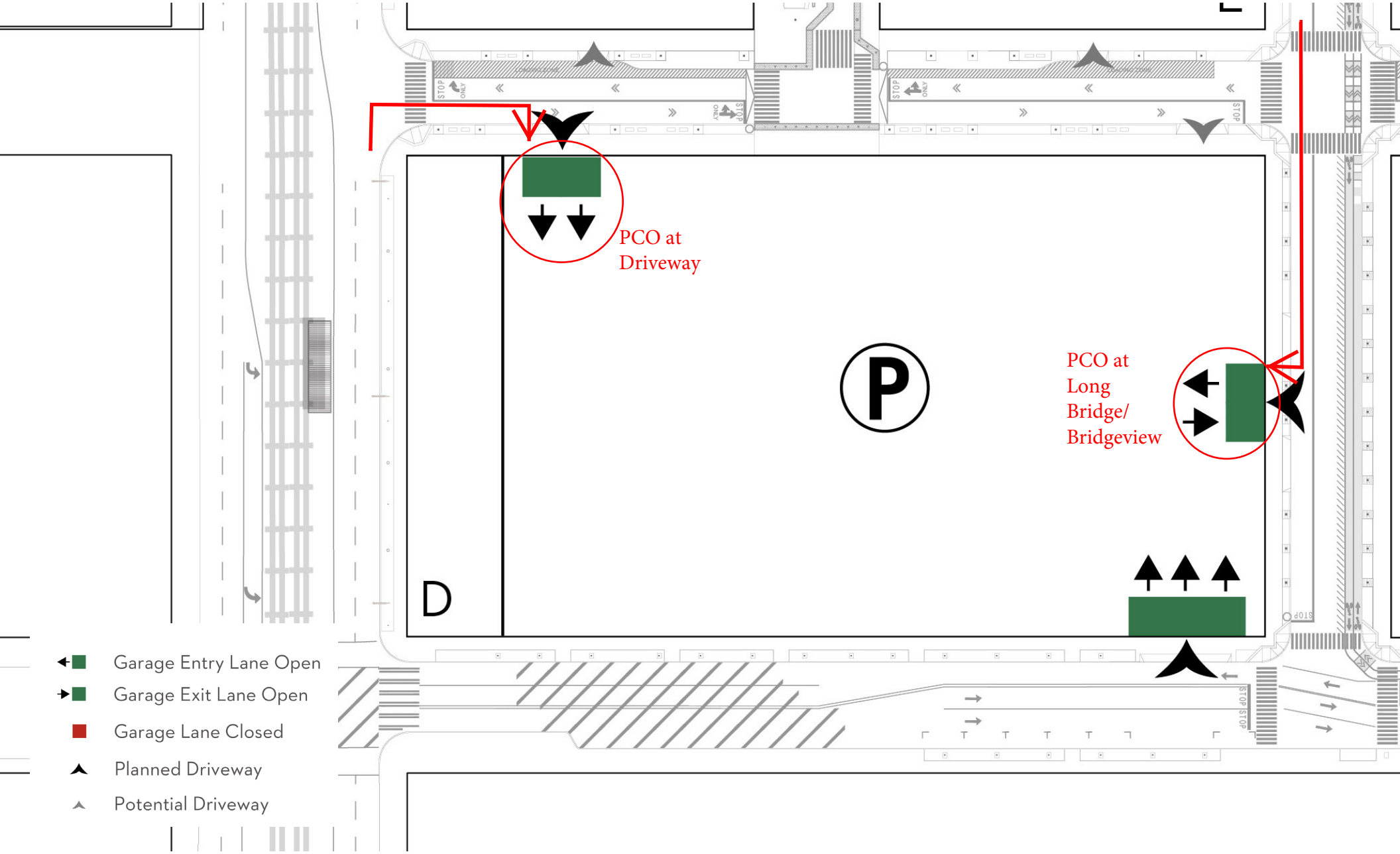
Two Garage Typical Conditions



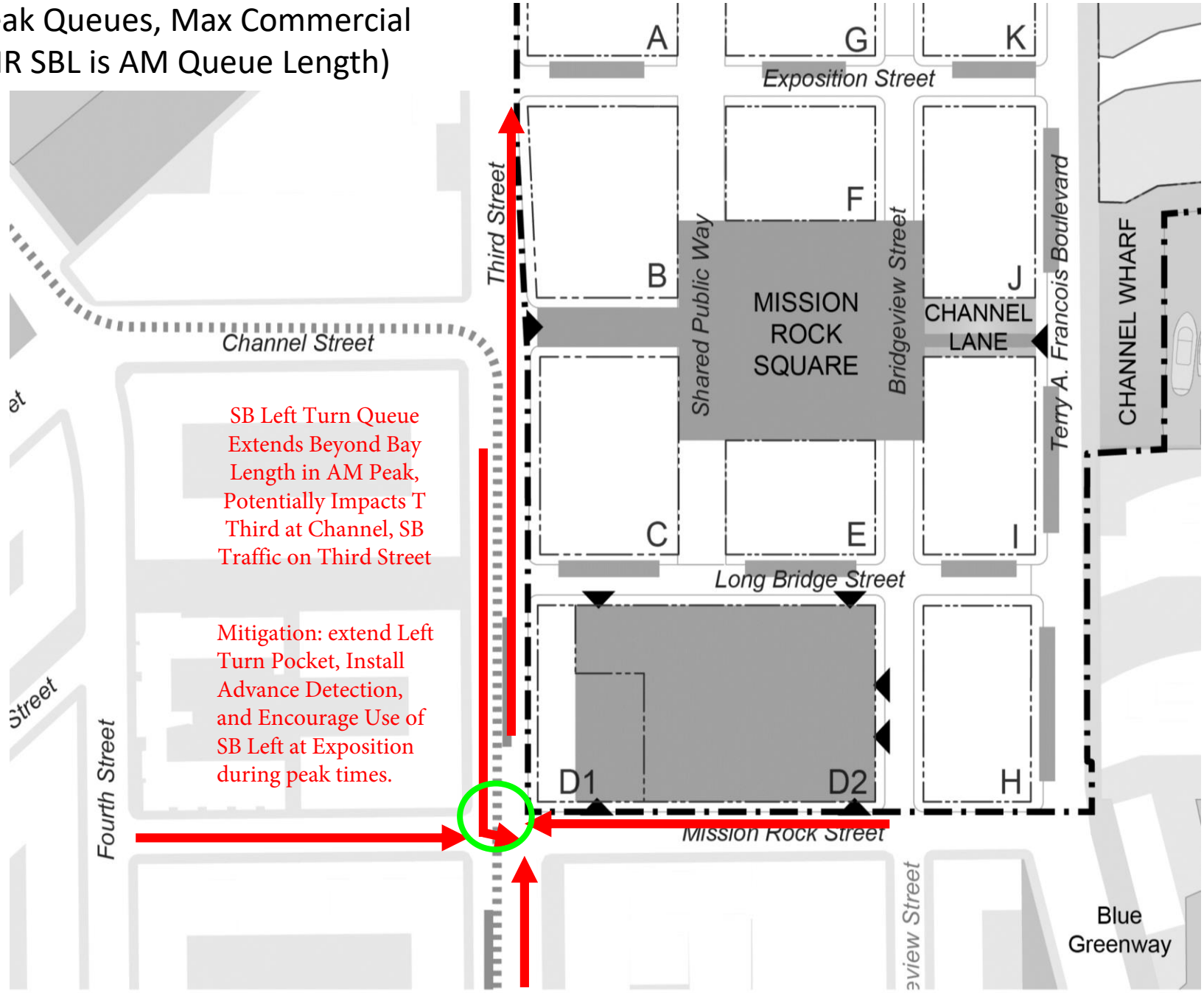
Two Garage Pregame



One Garage: Pregame



PM Peak Queues, Max Commercial
(3rd/MR SBL is AM Queue Length)



APPENDIX K: TURNING RADII ANALYSIS

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PIER 48

PIER 50

TERRY A FRANCOIS BOULEVARD

BRIDGEVIEW STREET

SHARED PUBLIC WAY

3rd STREET

CHANNEL STREET

EXPOSITION STREET

LONG BRIDGE STREET

MISSION ROCK STREET

MISSION ROCK SQUARE

BLOCK A
TYPE I BUILDING CONSTRUCTION
240' TOWER MAX HEIGHT
65' PODIUM MAX HEIGHT

BLOCK B
TYPE I BUILDING CONSTRUCTION
120' TOWER MAX HEIGHT
65' & 90' PODIUM MAX HEIGHTS

BLOCK C
TYPE I BUILDING CONSTRUCTION
190' TOWER MAX HEIGHT
65' & 90' PODIUMS MAX HEIGHTS

BLOCK D
TYPE I BUILDING CONSTRUCTION
240' TOWER MAX HEIGHT
100' PODIUM MAX HEIGHT

BLOCK E
TYPE I BUILDING CONSTRUCTION
90' PODIUM MAX HEIGHT

BLOCK F
TYPE I BUILDING CONSTRUCTION
240' TOWER MAX HEIGHT
65' PODIUM MAX HEIGHT

BLOCK G
TYPE I BUILDING CONSTRUCTION
190' TOWER MAX HEIGHT
90' PODIUM MAX HEIGHT

BLOCK H
TYPE I BUILDING CONSTRUCTION
90' TOWER MAX HEIGHT
45' & 65' PODIUM MAX HEIGHT

BLOCK I
TYPE I BUILDING CONSTRUCTION
120' TOWER MAX HEIGHT
45' & 65' PODIUM MAX HEIGHTS

BLOCK J
TYPE I BUILDING CONSTRUCTION
120' TOWER MAX HEIGHT
45' & 65' PODIUM MAX HEIGHTS

BLOCK K
TYPE I BUILDING CONSTRUCTION
160' TOWER MAX HEIGHT
45' PODIUM MAX HEIGHT

PROPOSED KIOSK WITH STANDPIPE

BLOCK G STANDPIPE

PRIVATE FH

PRIVATE FH

AWSS

AWSS

FH

LEGEND

- 215' LOT DIMENSIONS
- PROPOSED LPW FIRE HYDRANT
- PROPOSED AWSS FIRE HYDRANT
- 2015 SUBDIVISION REGULATION COMPLIANTFIRE ACCESS ROUTE

NOTE: SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.

GRAPHIC SCALE
40' 0 40' 80'

BKF 100+ YEARS
150 CALIFORNIA ST., SUITE 650
SAN FRANCISCO, CA 94111
(415) 930-7900
ENGINEERS . SURVEYORS . PLANNERS

MISSION ROCK
FIRE DEPARTMENT EXHIBITS
57' ARTICULATED TRUCK - V1
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

Revisions

No.			

Date	4/25/16
Scale	AS SHOWN
Design	AMJ, JVH
Drawn	JVH
Approved	MAO
Job No	20080006

Drawing Number:

7 OF 19

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PIER 48

PIER 50

TERRY A FRANCOIS BOULEVARD

BRIDGEVIEW STREET

SHARED PUBLIC WAY

3rd STREET

CHANNEL STREET

EXPOSITION STREET

LONG BRIDGE STREET

MISSION ROCK STREET

MISSION ROCK SQUARE

PROPOSED KIOSK WITH STANDPIPE

BLOCK G STANDPIPE

PRIVATE FH

PRIVATE FH

BLOCK K
TYPE I BUILDING CONSTRUCTION
160' TOWER MAX HEIGHT
45' PODIUM MAX HEIGHT

BLOCK J
TYPE I BUILDING CONSTRUCTION
120' TOWER MAX HEIGHT
45' & 65' PODIUM MAX HEIGHTS

BLOCK I
TYPE I BUILDING CONSTRUCTION
120' TOWER MAX HEIGHT
45' & 65' PODIUM MAX HEIGHTS

BLOCK H
TYPE I BUILDING CONSTRUCTION
90' TOWER MAX HEIGHT
45' & 65' PODIUM MAX HEIGHT

BLOCK G
TYPE I BUILDING CONSTRUCTION
190' TOWER MAX HEIGHT
90' PODIUM MAX HEIGHT

BLOCK F
TYPE I BUILDING CONSTRUCTION
240' TOWER MAX HEIGHT
65' PODIUM MAX HEIGHT

BLOCK E
TYPE I BUILDING CONSTRUCTION
90' PODIUM MAX HEIGHT

BLOCK D
TYPE I BUILDING CONSTRUCTION
240' TOWER MAX HEIGHT
100' PODIUM MAX HEIGHT

BLOCK A
TYPE I BUILDING CONSTRUCTION
240' TOWER MAX HEIGHT
65' PODIUM MAX HEIGHT

BLOCK B
TYPE I BUILDING CONSTRUCTION
120' TOWER MAX HEIGHT
65' & 90' PODIUM MAX HEIGHTS

BLOCK C
TYPE I BUILDING CONSTRUCTION
190' TOWER MAX HEIGHT
65' & 90' PODIUMS MAX HEIGHTS

LEGEND

- 215' LOT DIMENSIONS
- PROPOSED LPW FIRE HYDRANT
- PROPOSED AWSS FIRE HYDRANT
- 2015 SUBDIVISION REGULATION COMPLIANTFIRE ACCESS ROUTE

NOTE: SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.

GRAPHIC SCALE
40' 0 40' 80'

BKF 100+ YEARS
150 CALIFORNIA ST., SUITE 650
SAN FRANCISCO, CA 94111
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MISSION ROCK
FIRE DEPARTMENT EXHIBITS
57' ARTICULATED TRUCK - V2
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

Revisions

No.		

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

Drawing Number:
8 OF 19

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PIER 48

PIER 50

TERRY A FRANCOIS BOULEVARD

BRIDGEVIEW STREET

SHARED PUBLIC WAY

3rd STREET

CHANNEL STREET

MISSION ROCK STREET

EXPOSITION STREET

LONG BRIDGE STREET

MISSION ROCK SQUARE

PROPOSED KIOSK WITH STANDPIPE

BLOCK G STANDPIPE

PRIVATE FH

BLOCK K
TYPE I BUILDING CONSTRUCTION
160' TOWER MAX HEIGHT
45' PODIUM MAX HEIGHT

BLOCK J
TYPE I BUILDING CONSTRUCTION
120' TOWER MAX HEIGHT
45' & 65' PODIUM MAX HEIGHTS

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TYPE I BUILDING CONSTRUCTION
120' TOWER MAX HEIGHT
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TYPE I BUILDING CONSTRUCTION
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BLOCK C
TYPE I BUILDING CONSTRUCTION
190' TOWER MAX HEIGHT
65' & 90' PODIUMS MAX HEIGHTS

LEGEND

215' LOT DIMENSIONS

PROPOSED LPW FIRE HYDRANT

PROPOSED AWSS FIRE HYDRANT

2015 SUBDIVISION REGULATION COMPLIANTFIRE ACCESS ROUTE

NOTE: SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.

GRAPHIC SCALE
40' 0 40' 80'

BKF 100+ YEARS
150 CALIFORNIA ST., SUITE 650
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FIRE DEPARTMENT EXHIBITS
FIRE ENGINE

CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

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Approved MAO
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PIER 48

PIER 50

TERRY A FRANCOIS BOULEVARD

BRIDGEVIEW STREET

SHARED PUBLIC WAY

EXPOSITION STREET

LONG BRIDGE STREET

MISSION ROCK STREET

3rd STREET

CHANNEL STREET

MISSION ROCK SQUARE

PROPOSED KIOSK WITH STANDPIPE

BLOCK G STANDPIPE

PRIVATE FH

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65' & 90' PODIUMS MAX HEIGHTS

LEGEND

- 215' LOT DIMENSIONS
- PROPOSED LPW FIRE HYDRANT
- PROPOSED AWSS FIRE HYDRANT
- 2015 SUBDIVISION REGULATION COMPLIANTFIRE ACCESS ROUTE

NOTE: SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.

GRAPHIC SCALE
40' 0 40' 80'

BKF 100+ YEARS
150 CALIFORNIA ST., SUITE 650
SAN FRANCISCO, CA 94111
(415) 930-7900
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MISSION ROCK
FIRE DEPARTMENT EXHIBITS
RESCUE SQUAD
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

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Drawn JVH
Approved MAO
Job No 20080006

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PIER 48

PIER 50

TERRY A FRANCOIS BOULEVARD

BRIDGEVIEW STREET

SHARED PUBLIC WAY

3rd STREET

CHANNEL STREET

EXPOSITION STREET

LONG BRIDGE STREET

MISSION ROCK STREET

MISSION ROCK SQUARE

PROPOSED KIOSK WITH STANDPIPE

BLOCK G STANDPIPE

PRIVATE FH

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TYPE I BUILDING CONSTRUCTION
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65' & 90' PODIUMS MAX HEIGHTS

LEGEND

- 215' LOT DIMENSIONS
- PROPOSED LPW FIRE HYDRANT
- PROPOSED AWSS FIRE HYDRANT
- 2015 SUBDIVISION REGULATION COMPLIANTFIRE ACCESS ROUTE

NOTE: SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.

GRAPHIC SCALE
40' 0 40' 80'

BKF 100+ YEARS
150 CALIFORNIA ST., SUITE 650
SAN FRANCISCO, CA 94111
(415) 930-7900
ENGINEERS . SURVEYORS . PLANNERS

MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERMEDIATE SEMI-TRAILER
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

Revisions

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Drawn JVH
Approved MAO
Job No 20080006

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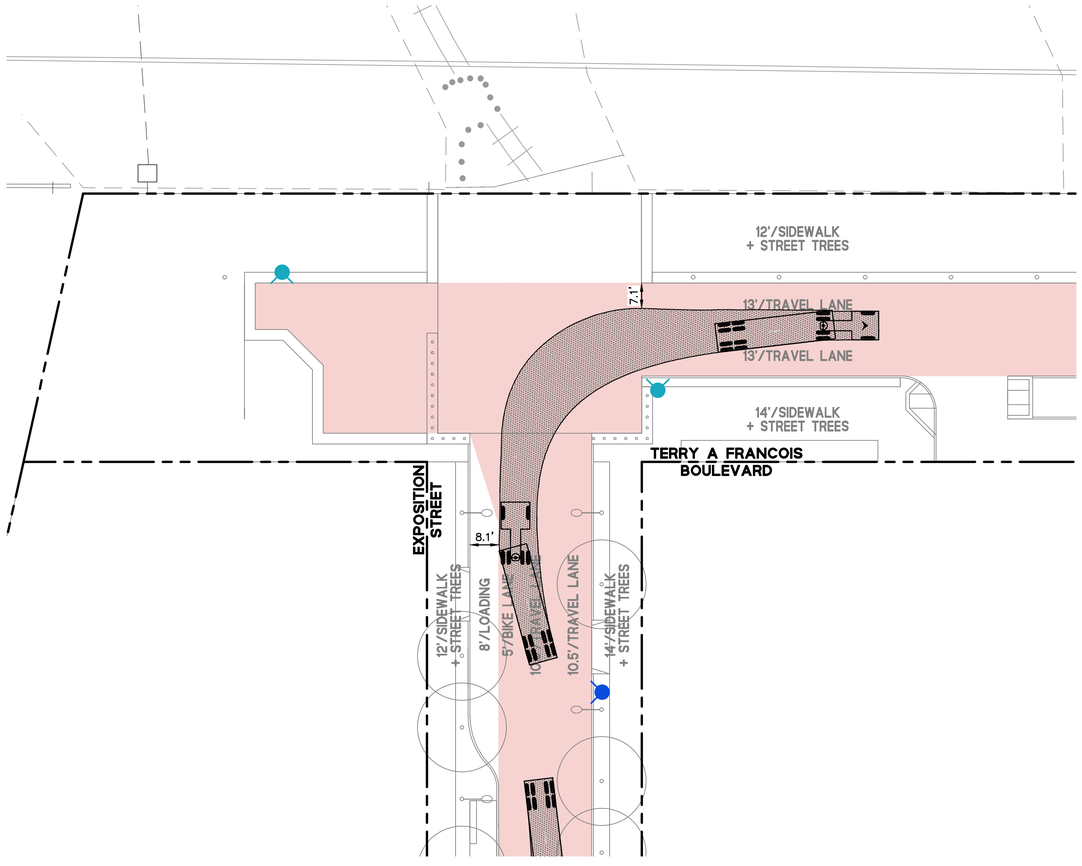

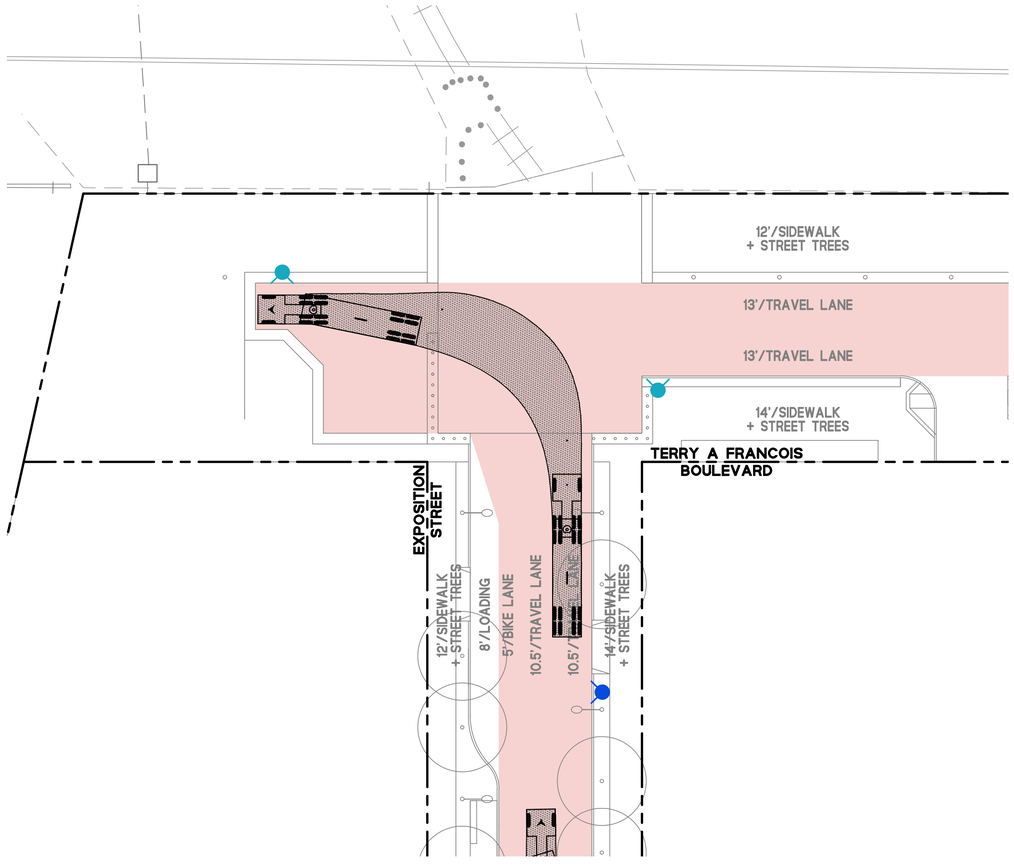

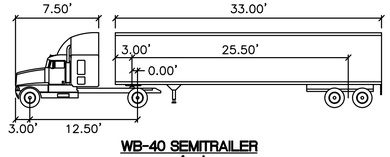

WB-40 SEMITRAILER
feet

TRACTOR WIDTH	: 8.00	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.00	STEERING ANGLE	: 20.3
TRACTOR TRACK	: 8.00	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.00		

LEGEND

2'/5'	LOT DIMENSIONS
	PROPOSED LPW FIRE HYDRANT
	PROPOSED AWSS FIRE HYDRANT
	2015 SUBDIVISION REGULATION COMPLIANT FIRE ACCESS ROUTE
	VEHICLE TURNING PATH

NOTE:
1. SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.
2. FIRE ACCESSIBLE BOLLARD TYPE AND LOCATIONS TO BE COORDINATED AND APPROVED BY THE SFFD AND DPW.

GRAPHIC SCALE
20' 0 20' 40'

BKF 100+ YEARS
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150 CALIFORNIA ST., SUITE 650
SAN FRANCISCO, CA 94111
(415) 930-7900

MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERSECTION OF EXPOSITION ST & TERRY A FRANCOIS BLVD
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

No.	Revisions

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

Drawing Number:

12 OF 19

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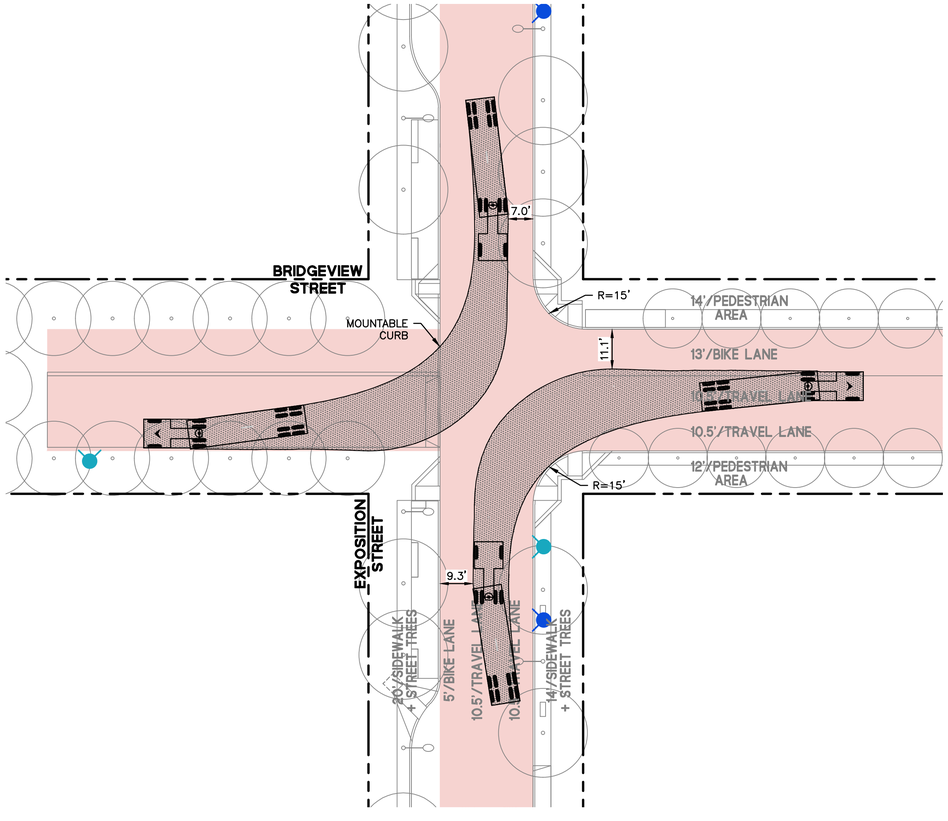

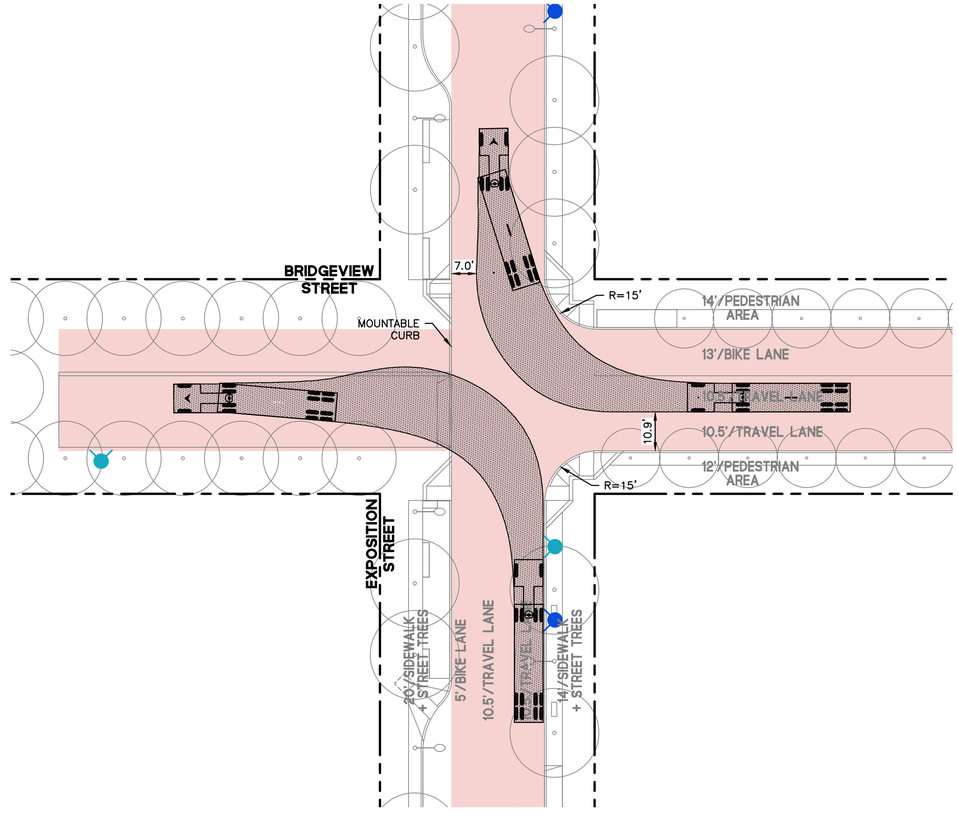

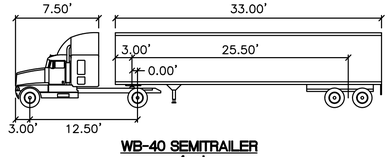

WB-40 SEMITRAILER
feet

TRACTOR WIDTH	: 8.00	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.00	STEERING ANGLE	: 20.3
TRACTOR TRACK	: 8.00	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.00		

LEGEND

2'5'	LOT DIMENSIONS
	PROPOSED LPW FIRE HYDRANT
	PROPOSED AWSS FIRE HYDRANT
	2015 SUBDIVISION REGULATION COMPLIANT FIRE ACCESS ROUTE
	VEHICLE TURNING PATH

NOTE:
1. SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.
2. FIRE ACCESSIBLE BOLLARD TYPE AND LOCATIONS TO BE COORDINATED AND APPROVED BY THE SFFD AND DPW.

GRAPHIC SCALE
20' 0 20' 40'

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
150 CALIFORNIA ST., SUITE 650
SAN FRANCISCO, CA 94111
(415) 930-7900

MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERSECTION OF EXPOSITION ST & BRIDGEVIEW ST
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

Revisions

No.							

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

Drawing Number: 13 OF 19

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PLOT DATE: 04-25-16 PLOTTED BY: halj

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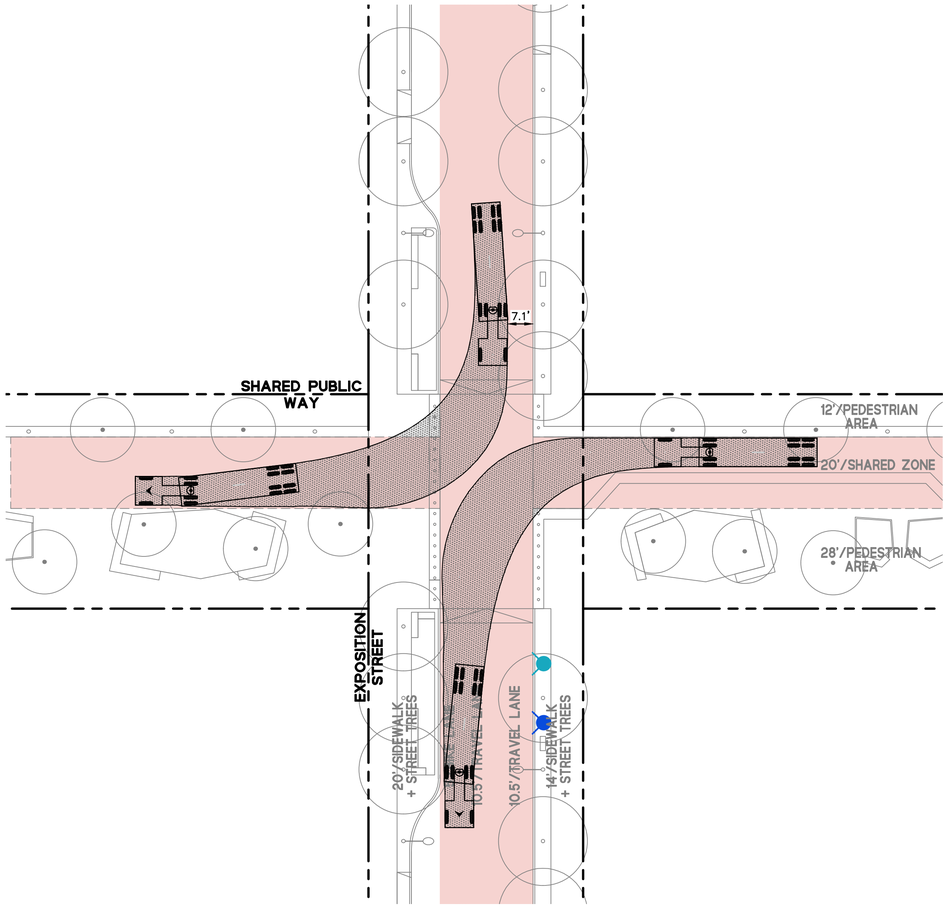

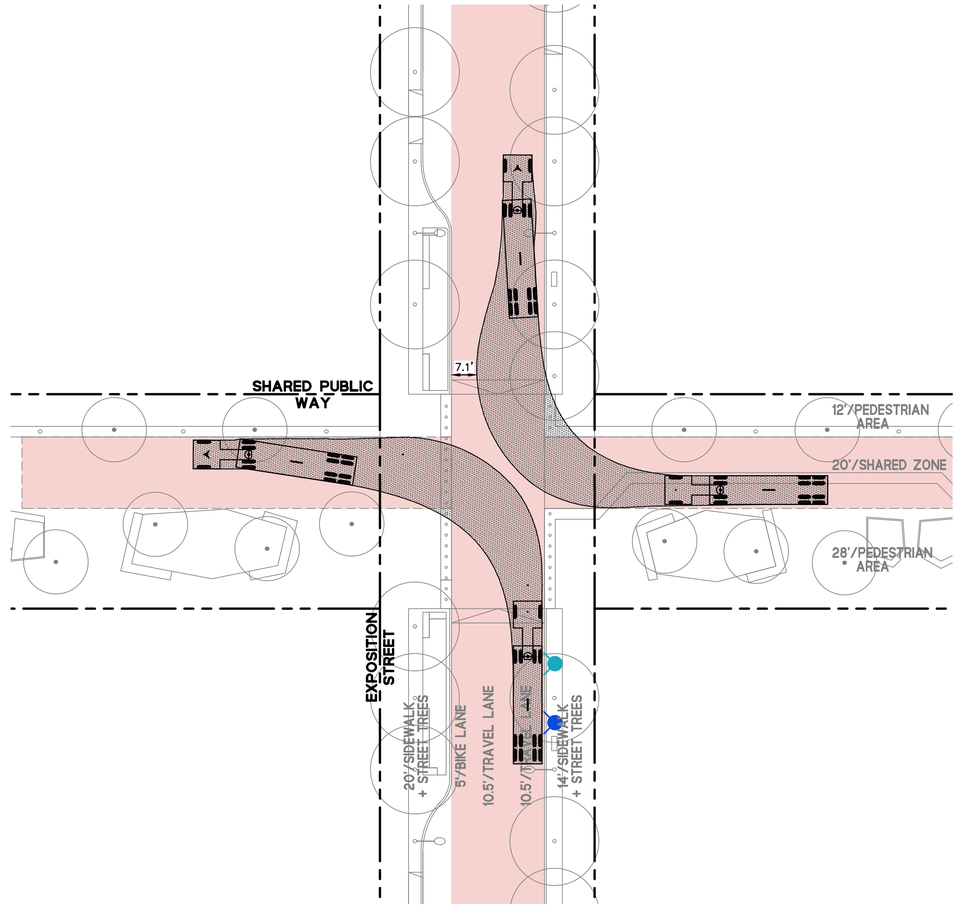

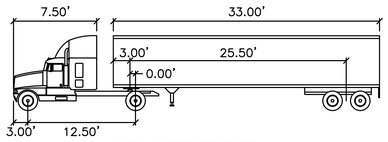

WB-40 SEMITRAILER
feet

TRACTOR WIDTH	: 8.00	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.00	STEERING ANGLE	: 20.3
TRACTOR TRACK	: 8.00	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.00		

LEGEND

2/5'	LOT DIMENSIONS
	PROPOSED LPW FIRE HYDRANT
	PROPOSED AWSS FIRE HYDRANT
	2015 SUBDIVISION REGULATION COMPLIANT FIRE ACCESS ROUTE
	VEHICLE TURNING PATH

NOTE:
1. SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.
2. FIRE ACCESSIBLE BOLLARD TYPE AND LOCATIONS TO BE COORDINATED AND APPROVED BY THE SFFD AND DPW.

GRAPHIC SCALE
20' 0 20' 40'

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
150 CALIFORNIA ST., SUITE 650
SAN FRANCISCO, CA 94111
(415) 930-7900

MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERSECTION OF EXPOSITION ST & SHARED PUBLIC WAY
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

Revisions

No.	

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

Drawing Number:
14 OF 19

NOT FOR CONSTRUCTION

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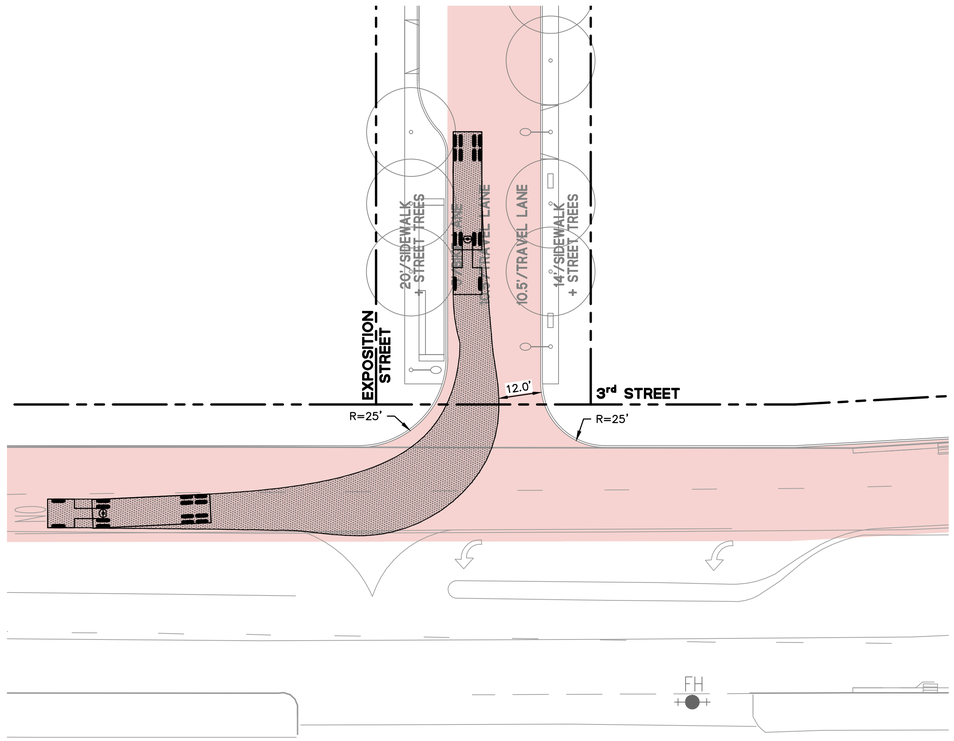

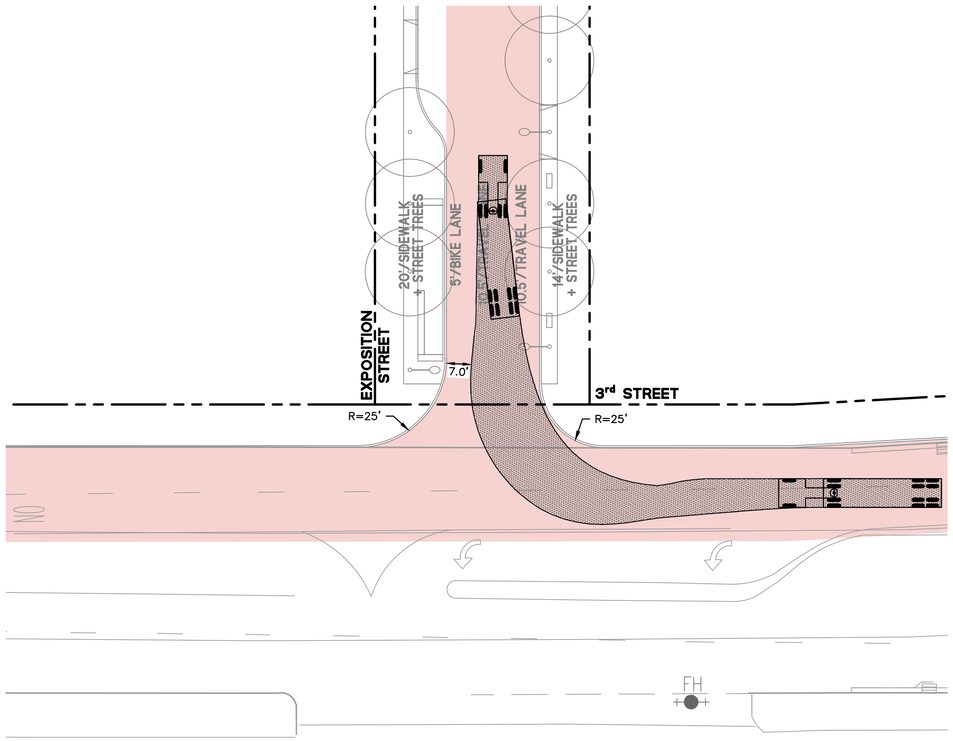

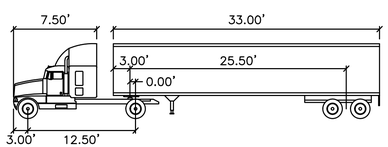

WB-40 SEMITRAILER
feet

TRACTOR WIDTH	: 8.00	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.00	STEERING ANGLE	: 20.3
TRACTOR TRACK	: 8.00	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.00		

LEGEND

2/5'	LOT DIMENSIONS
	PROPOSED LPW FIRE HYDRANT
	PROPOSED AWSS FIRE HYDRANT
	2015 SUBDIVISION REGULATION COMPLIANT FIRE ACCESS ROUTE
	VEHICLE TURNING PATH

NOTE:
1. SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.
2. FIRE ACCESSIBLE BOLLARD TYPE AND LOCATIONS TO BE COORDINATED AND APPROVED BY THE SFFD AND DPW.

GRAPHIC SCALE
20' 0 20' 40'

BKF 100+ YEARS
150 CALIFORNIA ST., SUITE 650
SAN FRANCISCO, CA 94111
(415) 930-7900
ENGINEERS . SURVEYORS . PLANNERS

MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERSECTION OF EXPOSITION ST & 3RD ST
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

No.	Revisions

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

Drawing Number:
15 OF 19

NOT FOR CONSTRUCTION

DRAWING NAME: K:\2008\080006_Mission Rock\ENG\Exhibits\Fire Access\Current\FIRE ACCESS EXHIBITS.dwg
PLOT DATE: 04-25-16
PLOTTED BY: halj

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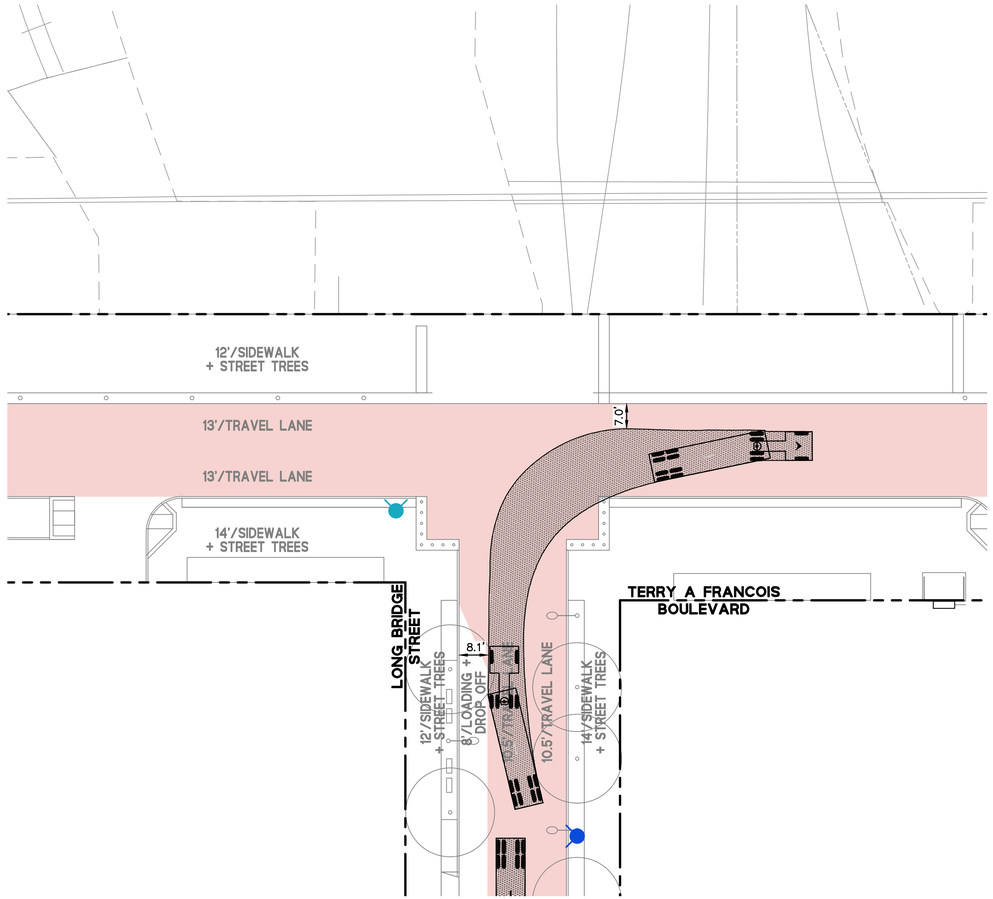

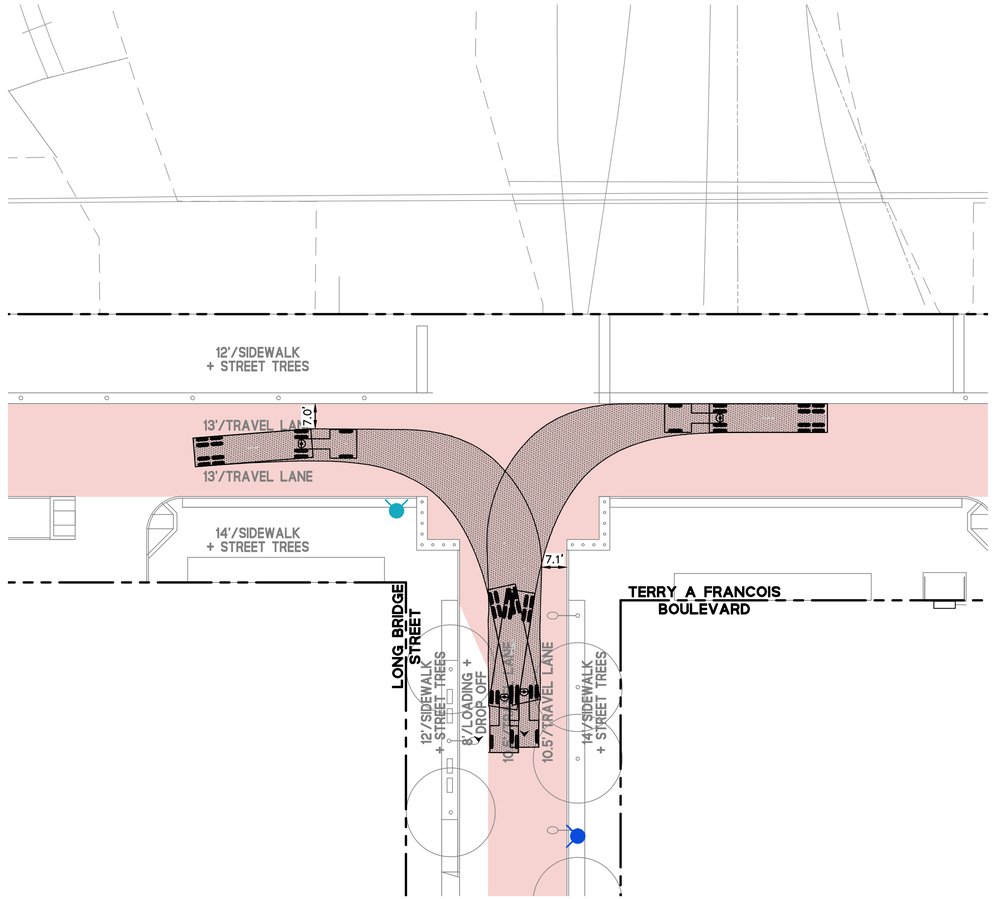

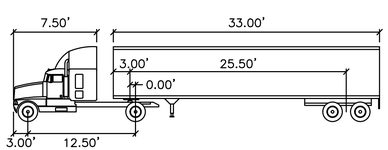

WB-40 SEMITRAILER
feet

TRACTOR WIDTH	: 8.00	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.00	STEERING ANGLE	: 20.3
TRACTOR TRACK	: 8.00	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.00		

LEGEND

- 2/5' — LOT DIMENSIONS
- PROPOSED LPW FIRE HYDRANT
- PROPOSED AWSS FIRE HYDRANT
- 2015 SUBDIVISION REGULATION COMPLIANT FIRE ACCESS ROUTE
- VEHICLE TURNING PATH

NOTE:
1. SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.
2. FIRE ACCESSIBLE BOLLARD TYPE AND LOCATIONS TO BE COORDINATED AND APPROVED BY THE SFFD AND DPW.

GRAPHIC SCALE
20' 0 20' 40'

BKF 100+ YEARS
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SAN FRANCISCO, CA 94111
(415) 930-7900

MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERSECTION OF LONG BRIDGE ST & TERRY A FRANCOIS BLVD
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

No.	Revisions

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

Drawing Number:
16 OF 19

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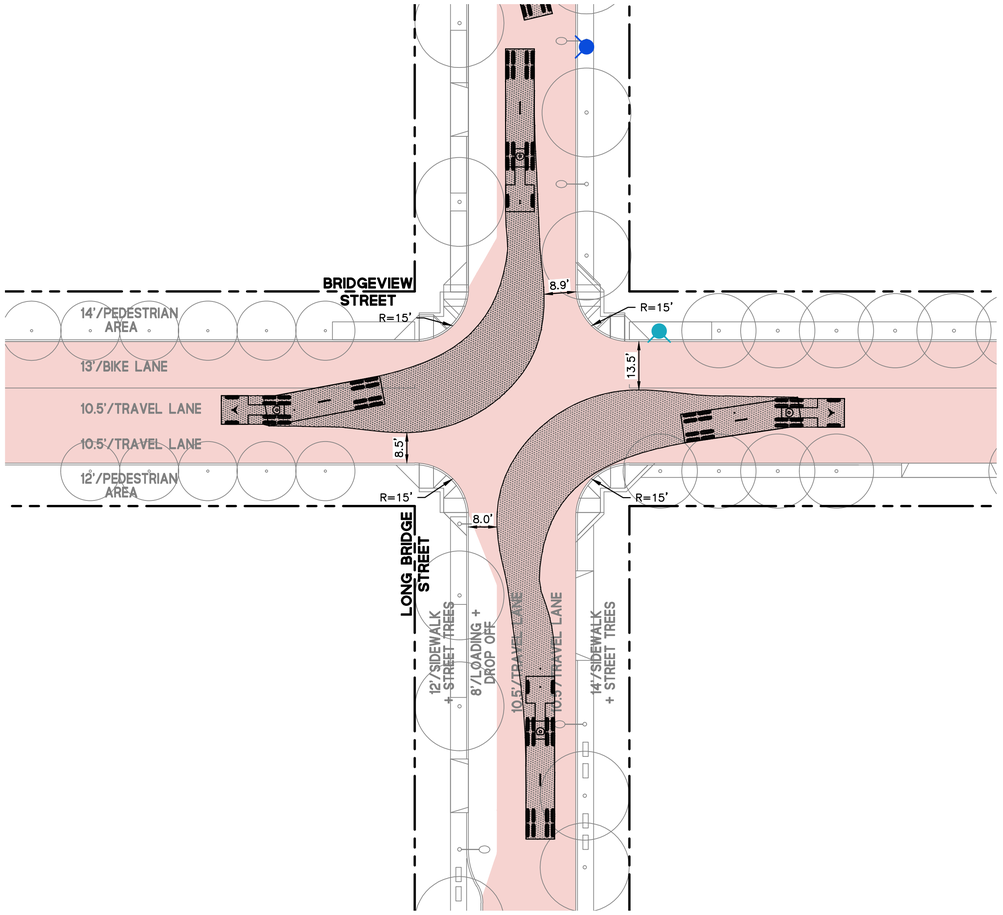

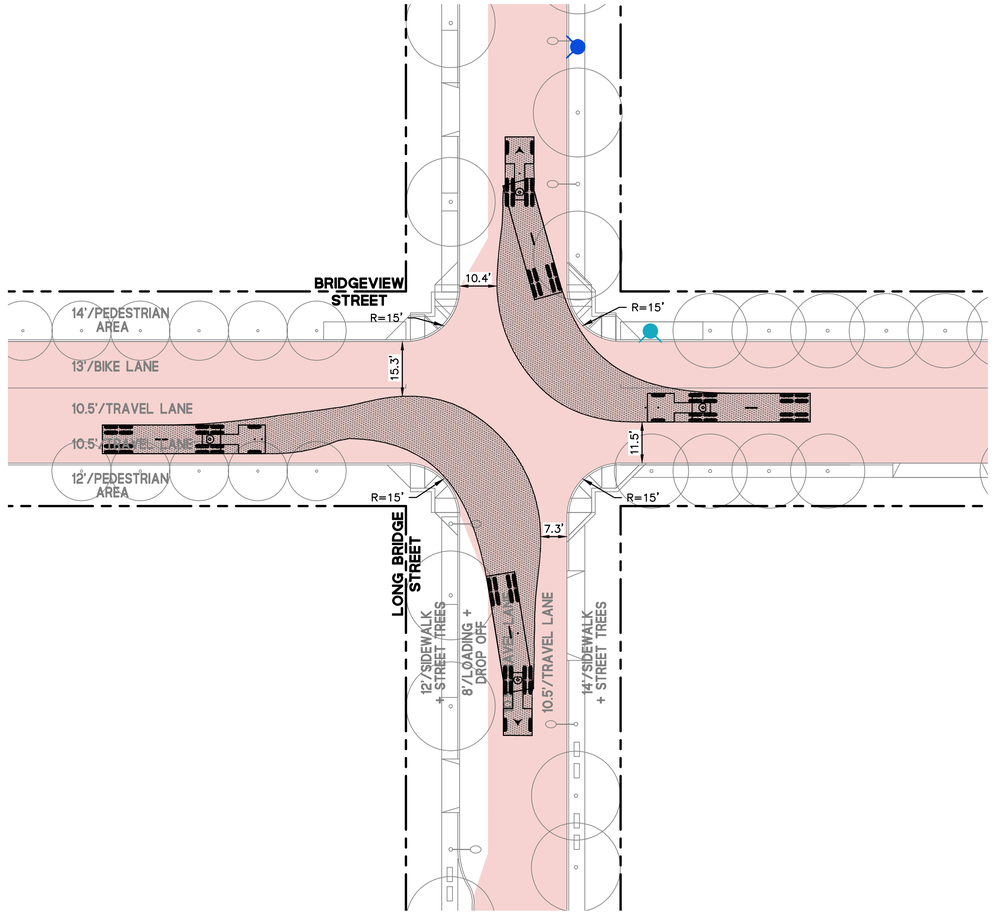

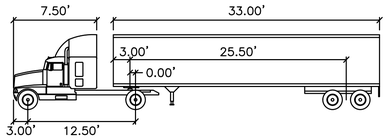

WB-40 SEMITRAILER
feet

TRACTOR WIDTH	: 8.00	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.00	STEERING ANGLE	: 20.3
TRACTOR TRACK	: 8.00	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.00		

LEGEND

- 2/5' — LOT DIMENSIONS
- PROPOSED LPW FIRE HYDRANT
- PROPOSED AWSS FIRE HYDRANT
- 2015 SUBDIVISION REGULATION COMPLIANT FIRE ACCESS ROUTE
- VEHICLE TURNING PATH

NOTE:
1. SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.
2. FIRE ACCESSIBLE BOLLARD TYPE AND LOCATIONS TO BE COORDINATED AND APPROVED BY THE SFFD AND DPW.

GRAPHIC SCALE
20' 0 20' 40'

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MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERSECTION OF LONG BRIDGE ST & BRIDGEVIEW ST
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

Revisions

No.						

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

Drawing Number:
17 OF 19

NOT FOR CONSTRUCTION

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PLOT DATE: 04-25-16 PLOTTED BY: halj

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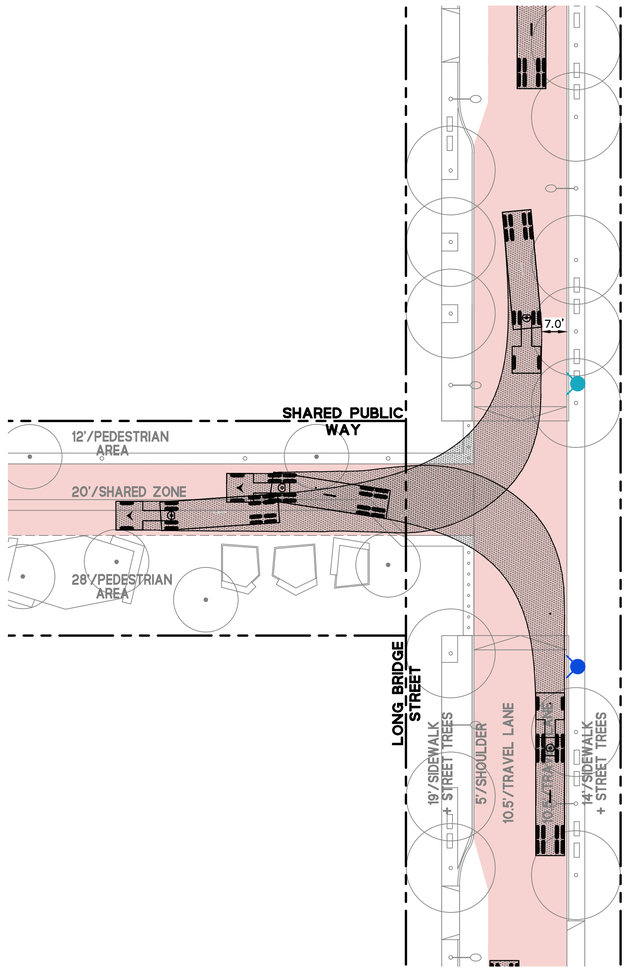

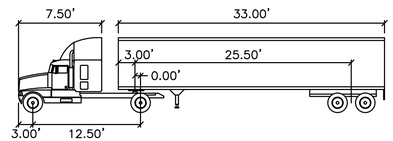

WB-40 SEMITRAILER
feet

TRACTOR WIDTH	: 8.00	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.00	STEERING ANGLE	: 20.3
TRACTOR TRACK	: 8.00	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.00		

LEGEND

- 215' LOT DIMENSIONS
- PROPOSED LPW FIRE HYDRANT
- PROPOSED AWSS FIRE HYDRANT
- 2015 SUBDIVISION REGULATION COMPLIANT FIRE ACCESS ROUTE
- VEHICLE TURNING PATH

NOTE:
1. SEE SHEET 6 FOR VEHICLE TEMPLATE DETAILS.
2. FIRE ACCESSIBLE BOLLARD TYPE AND LOCATIONS TO BE COORDINATED AND APPROVED BY THE SFFD AND DPW.

GRAPHIC SCALE
20' 0 20' 40'

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(415) 930-7900

MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERSECTION OF LONG BRIDGE ST & SHARED PUBLIC WAY
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

No.	Revisions

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

Drawing Number:
18 OF 19

NOT FOR CONSTRUCTION

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PLOT DATE: 04-25-16 PLOTTED BY: hlj

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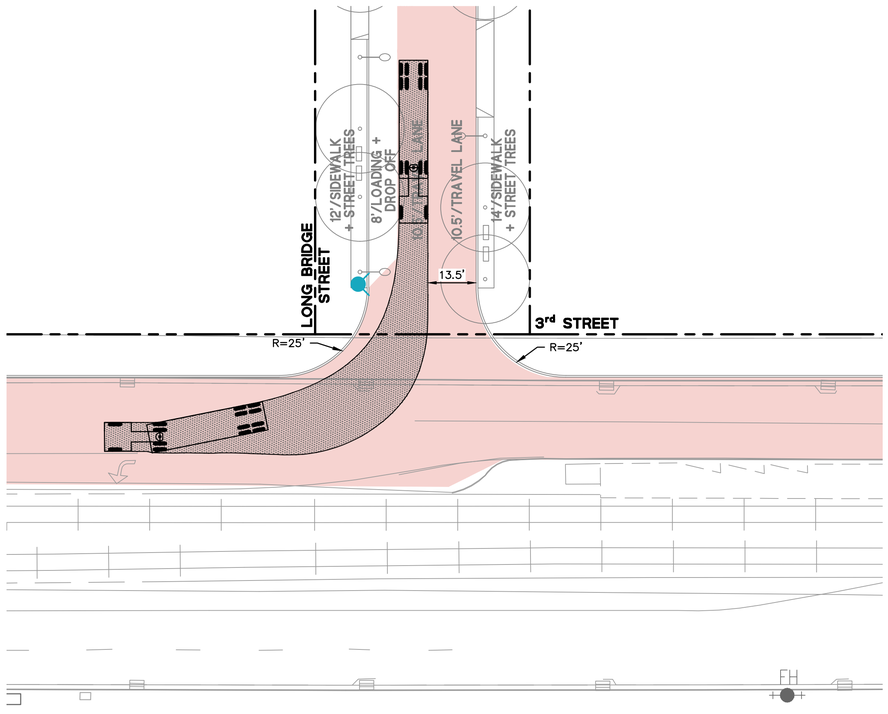

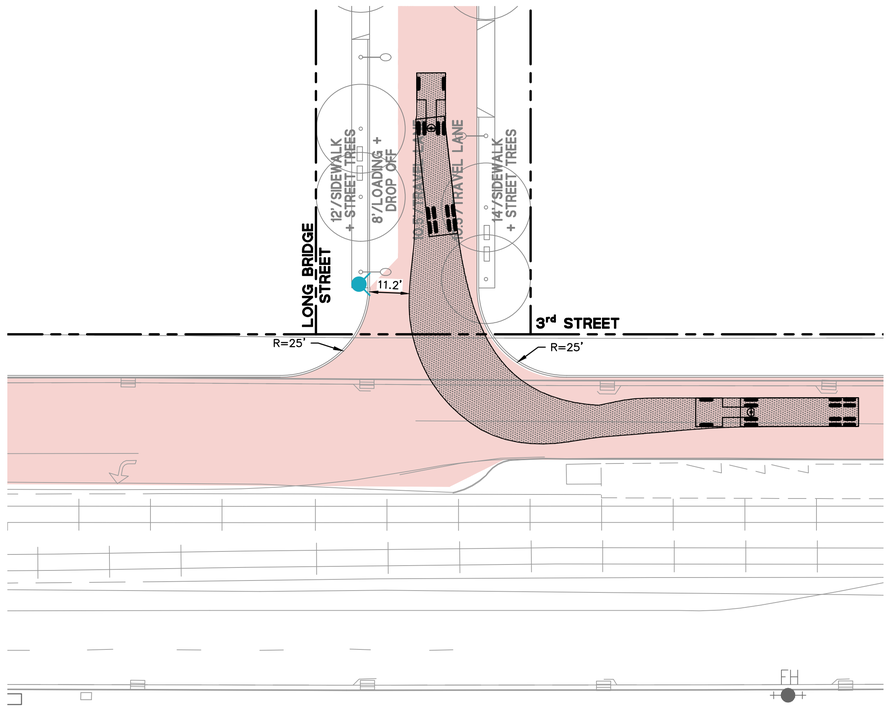

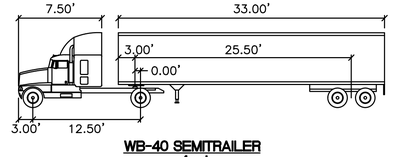

WB-40 SEMITRAILER
feet

TRACTOR WIDTH	: 8.00	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 8.00	STEERING ANGLE	: 20.3
TRACTOR TRACK	: 8.00	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 8.00		

LEGEND

2/5'	LOT DIMENSIONS
	PROPOSED LPW FIRE HYDRANT
	PROPOSED AWSS FIRE HYDRANT
	2015 SUBDIVISION REGULATION COMPLIANT FIRE ACCESS ROUTE
	VEHICLE TURNING PATH

NOTE:
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20' 0 20' 40'

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MISSION ROCK
FIRE DEPARTMENT EXHIBITS
INTERSECTOIN OF LONG BRIDGE ST & 3RD ST
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

Revisions

No.						

Date 4/25/16
Scale AS SHOWN
Design AMJ, JVH
Drawn JVH
Approved MAO
Job No 20080006

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19 OF 19

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