TRAFFIC IMPACT STUDY

For

Otay Business Park
(TM 5505R)

Prepared For: The County of San Diego

Submitted To:
Otay Business Park, LLC
4225 Executive Square, Suite 920
La Jolla, CA 92037

Prepared By:
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Signature: Bill E Darnell
Date Signed: 9/30/2014

Revised: September 30, 2014
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D&A Ref. No.: 121102

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

September 30, 2014

Ricardo Jinich
Otay Business Park, LLC
4225 Executive Square, Suite 920
La Jolla, CA 92037

D&A Ref. No: 121102

Subject: Traffic Impact Analysis for the Proposed Otay Business Park (TM 5505R) located at the Southeast Corner of Alta Road and Airway Road in the East Otay Mesa Area of San Diego County.

Dear Mr. Jinich:

In response to the County of San Diego comments dated August 6, 2014, Darnell & Associates, Inc. (D&A) has revised our June 30, 2014 traffic impact study for the Otay Business Park (TM 5505, ER 93-19-006 AA) Major Subdivision. The focused Traffic Impact Study addresses the change in project traffic resulting from the revised project subdivision map needed to accommodate the future SR-11 Freeway alignment. The report also reflects the planned and budgeted extension of SR-905 to Enrico Fermi Drive in 2015.

This report analyzes the traffic impacts associated with the proposed project on local roadway segments and intersections under the following conditions: Opening Day (2015), Opening Day (2015) plus each phase of the proposed project, 2050 conditions with and without Airway Road between Alta Road and Siempre Viva Road.

If you have any questions, please feel free to contact this office.

Sincerely,

Darnell & Associates, Inc.

Bill E Darnell

Bill E Darnell, P.E.
Firm Principal
RCE 22338

Date Signed: 9/30/2014

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Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

MEMORANDUM

DATE: September 30, 2014

TO: Dan Berkus, Paragon Management Company
Jeramey Harding, T&B Planning

FROM: Bill E. Darnell, P.E.

D&A Ref. No: 121102

RE: Otay Business Park (TM 5505R) – Responses to Planning Development (PDS) and Land Development Comments dated 08-06-2014

Darnell & Associates, Inc. (D&A) has reviewed the County of San Diego's comments on our June 30, 2014 Traffic Study for Otay Business Pak (TM 5505R). The attached table summarizes the County's comments and D&A's written responses to each of the comments. These responses have been incorporated into our September 2014 iteration of the traffic study.

Comment 7-5. ***2nd Request:*** *If the TM 5505 project will have the lead in the General Plan and Specific Plan Amendments to delete a segment of Airway Road, then the traffic study should provide a Buildout Plan-to-Plan comparative analysis of "with" Airway Road (Adopted plans) and "without" Airway Road (Proposed plans).*

Response 7-5. The Traffic Study has been revised to provide a focused Build-out Plan to-Plan comparative Analysis of Otay Mesa Circulation Element with and without Airway Road between Alta Road and Siempre Viva Road.

Comment 7-6. *Table 16 appears to be the same as Table 14. Table 16 should have the existing plus phase 3 information.*

Response 7-6. The Report has been revised to provide correct Tables and the 2015 Plus Phases 1, 2 and 3 Analysis and information.

Comment 7-7. *The TIS (pg. 43) describes 'Future Impacts' but should provide a build-out/ plan-to-plan analysis of the deletion of Airway Road.*

Response 7-7. The Traffic Study has been revised to provide a focused Build-out Plan to-Plan comparative Analysis of Otay Mesa Circulation Element with and without Airway Road between Alta Road and Siempre Viva Road.

Comment 7-8. *The TIS (Pg. 43) describes the timing of intersection improvement at Siempre Viva Road/Michael Faraday Drive as with Phase 1, but the section is describing Phase 3 impacts and mitigation.*

Response 7-8. The report has been revised to correctly show the need to signalize Siempre Viva Rad at Michael Faraday with Phase 3 Development.

Comment 7-9. *The TIS should provide revised intersection geometry for internal road intersections as a result of the reduced/revised map.*

Response 7-9. The report has been revised and expanded to identify roadway and intersection geometry and traffic control for Phase 1, Phases 1 and 2 and Phases 1 and 2 and 3.

Comment 7-10. *The TIS should match the TM phasing proposed. Phase 1 appears to be the southernmost area, while Phase 2 is above. The TM/TIS should match so impacts, frontage improvements and mitigation can be tied to the correct unit/phase.*

Response 7-10. The report has been revised to match the proposed TM Phasing.

TRAFFIC IMPACT STUDY

FOR

OTAY BUSINESS PARK
(TM 5505R)

IN THE COUNTY OF SAN DIEGO

Submitted To:

Otay Business Park, LLC
4225 Executive Square, Suite 920
La Jolla, CA 92037

Prepared by:

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September 30, 2014
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TABLE OF CONTENTS

SECTION I – INTRODUCTION 1
PROJECT DESCRIPTION 1
CONGESTION MANAGEMENT PROGRAM 1
EAST OTAY MESA SPECIFIC PLAN 1
SCENARIOS STUDIED 4
LEVEL OF SERVICE 4
ANALYSIS METHODOLOGY 5
REPORT ORGANIZATION 5
REPORT ORGANIZATION 5
SECTION II – PROJECT RELATED CONDITIONS 6
TRIP GENERATION 6
TRIP DISTRIBUTION 7
TRIP ASSIGNMENT 7
STUDY AREA 7
SECTION III – OPENING DAY (2015) CONDITIONS 18
EXISTING ROADWAY CHARACTERISTICS 18
ROADWAY SEGMENT DAILY TRAFFIC 22
INTERSECTION TRAFFIC COUNTS 24
OPENING DAY (2015) LEVEL OF SERVICE CONDITIONS 24
Existing – Roadway Segments 24
Existing – Intersections 24
SECTION IV – OPENING DAY (YEAR 2015) PLUS PROJECT IMPACTS 26
POLICIES AND SIGNIFICANCE STANDARDS 26
LEVELS OF SIGNIFICANCE STANDARDS 26
Roadway Segments 27
Two-Lane Highways 27
Signalized Intersections 28
OPENING DAY (2015) + PHASE 1 PROJECT LOS CONDITIONS 30
Opening Day (2015) + Phase 1 Project – Roadway Segments 30
Opening Day (2015) + Phase 1 – Intersections 30
OPENING DAY (2015) PLUS PHASES 1 - 2 PROJECT LOS CONDITIONS 34
Opening Day (Year 2015) Plus Phases 1-2 – Intersections 34
OPENING DAY (YEAR 2015) Plus PHASES 1 - 3 BUILDOUT PROJECT LOS CONDITIONS 38
Opening Day (Year 2015) + Phases 1 - 3 Project – Roadway Segments 38
Opening Day (Year 2015) + Phases 1-3 – Intersections 41
SECTION V – SUMMARY OF IMPACTS AND MITIGATION 43
TRANSPORTATION IMPACT FEE (TIF) 43
DIRECT IMPACTS 43
Phase 1 Direct Impacts – Roadway Segments 43
Phase 1 Roadway Segments Direct Impacts Recommended Mitigation Measures 43
Phase 1 Direct Impacts – Intersections 44
Phase 1 Intersections Direct Impacts Recommended Mitigation Measures 44
Phases 1-2 Direct Impacts – Roadway Segments 44
Phases 1-2 Roadway Segments Direct Impacts Recommended Mitigation Measures 44
Phases 1-2 Direct Impacts – Intersections 44
Phases 1-3 Direct Impacts – Roadway Segments 46
Phases 1-3 Roadway Segments Direct Impacts Recommended Mitigation Measures 46
Phases 1-3 Direct Impacts – Intersections 46
Phases 1-3 Intersections Direct Impacts Recommended Mitigation Measures 46
PROJECT SITE AND ACCESS IMPROVEMENTS 47
SITE IMPROVEMENTS 47
SECTION VI – FUTURE CONDITIONS 51
SECTION VII – SUMMARY OF FINDINGS 54

LIST OF FIGURES

Figure 1 – Vicinity Map 2
Figure 2 – Site Plan 3
Figure 3 –Trip Distribution for Existing Conditions 8
Figure 4 – 2015 Opening Day Conditions 9
Figure 5 – Phase 1 Trip Distribution for Opening Day (2015) Conditions 11
Figure 6 – Phase 2 Trip Distribution for Opening Day (2015) Conditions 12
Figure 7 – Phase 3 Trip Distribution for Opening Day (2015) Conditions 13
Figure 8 –Project Traffic (Phases 1) 14
Figure 9 –Project Traffic (Phase 2) 15
Figure 10 –Project Traffic (Phase 3) 16
Figure 11 – Existing 2014 Traffic Volumes 19
Figure 12 – Year 2015 Opening Day Conditions 20
Figure 13 – Opening Day (2015) + Phase 1 Project Traffic Volumes 32
Figure 14 – Opening Day (2015) + Phases 1& 2 Project Traffic Volumes with Airway Road Extension 35
Figure 15 – Opening Day (2015) + Phases 1-3 Project Traffic Volumes 40
Figure 16 – Phase 1 Site Improvements 48
Figure 17 – Phases 1 and 2 Site Improvements 49
Figure 18 – Phases 1, 2 and 3 Site Improvements 50
Figure 19 – Future 2050 Traffic Forecast with the Adopted General Plan Land Use & Circulation Element 52
Figure 20 – Future 2050 Traffic Forecast with the Adopted General Plan Land Use and Circulation Element with Deletion of Airway Road between Alta Road and Siempre Viva Road 53

LIST OF TABLES

Table 1 — Level of Service Ranges 4
Table 2 – Trip Generation Rates and Calculations Summary 6
Table 3 – Project Trip Distribution Summary 10
Table 4 – Summary of Roadway and Intersection to be Analyzed. 17
Table 5 – (Opening Day 2015) Roadway Classification and Daily Traffic Volumes 23
Table 6 – Opening Day (2015) Conditions Intersection Daily LOS Summary 25
Table 7 — Measures of Significant Project Impacts 26
Table 8 — Measures of Significance on 2-Ln Hwys 27
Table 9 — Measures of Significance on 2-Ln Hwys w/ Signalized Intersection Spacing < 1 Mile 28
Table 10 – (Opening Day 2015) Roadway Classification and Daily Traffic Volumes 31
Table 11 – (Opening Day 2015) Plus Phase 1 Intersection LOS Summary 33
Table 12 – (Opening Day 2015) Phases 1 and 2 Roadway Classification and Daily Traffic Volumes 36
Table 13 – Opening Day (Year 2015) Plus Phases 1 and 2 Intersection LOS Summary 37
Table 14 – (Opening Day 2015) Phases 1 thru 3 Roadway Classification and Daily Traffic Volumes. 39
Table 15 – Opening Day (Year 2015) Plus Phases 1 thru 3 Intersection LOS Summary 42
Table 16 – Level of Service with Phase 1 Mitigation Improvements 45
Table 17 – Level of Service with Phases 1 thru 3 Mitigation Improvements 45
Table 18 –. Comparison of 2050 Forecasts with and Without Airway Road 51

LIST OF APPENDICES

APPENDIX A

- 24 Hour Machine Counts
- AM/PM Peak Hour Traffic Counts
- City of San Diego Level of Service Thresholds
- Excerpts from County's Guidelines for Determining Significance
- Excerpts from City of San Diego's Significance Determination Thresholds
- Excerpts from Caltrans Guidelines for the Preparation of Traffic Impact Studies

APPENDIX B

- SANDAG Series 12 Model for Otay Mesa 2015
- SANDAG Series 12 Model for Otay Mesa 2050
-

APPENDIX C

- Existing - Synchro Analysis
- Existing - ILV Analysis

APPENDIX D

- Existing + Project Phase 1 - Synchro Analysis
- Existing + Project Phase 1 - ILV Analysis

APPENDIX E

- Existing + Project Phases 1-2 - Synchro Analysis
- Existing + Project Phases 1-2 - ILV Analysis

APPENDIX F

- Existing + Project Phases 1-3 - Synchro Analysis
- Existing + Project Phases 1-3 - ILV Analysis

SECTION I – INTRODUCTION

PROJECT DESCRIPTION

The applicant proposes to develop the Otay Business Park on a 161.6 gross acre site into 33 Commercial/Industrial lots, 2 detention basin lots and 1 lot for future right of way for State Route 11 (Caltrans) located on the southeast corner of Alta Road and Airway Road in the East Otay Mesa Area of San Diego County. The proposed project consists of approximately 1,575.130 square feet of Business Park use with a mix of warehousing, manufacturing, assembly, storage, science research and development and commercial facilities. Figure 1 shows the regional location of the project and Figure 2 shows the proposed site plan. It is anticipated that the project will be developed in three (3) phases.

As discussed in Section II, Phase 1 of the proposed project is estimated to generate 8,913 average daily trips (ADT), 1,070 morning peak hour trips, and 1,070 afternoon peak hour trips. The combination of Phases 1-2 of the project is estimated to generate 18,885 ADT, 2,257 AM peak hour trips, and 2,257 PM peak hour trips. Phases 1-3 of the proposed project will generate 25,202 ADT, 3,015 AM peak hour trips, and 3,015 PM peak hour trips.

CONGESTION MANAGEMENT PROGRAM

Based on the approval of Proposition 111 in 1990, regulations require the preparation, implementation, and annual updating of a Congestion Management Program (CMP) in each of California's urbanized counties. The original CMP for the San Diego region was adopted in 1991 and has been updated periodically as an element of the Regional Transportation Plan (RTP). One required element of the CMP is a process to evaluate the transportation and traffic impacts of large projects on the regional transportation system. That process is undertaken by local agencies, project applicants, and traffic consultants through a transportation impact report usually conducted as part of the CEQA project review process. Authority for local land use decisions including project approvals and any required mitigation remains the responsibility of local jurisdictions.

Prior to the fall of 2009, the criteria for which a project is subject to the regulations as set forth in the CMP are determined by the trip generation potential for the project. Currently, the average daily traffic (ADT) threshold is 2,400 vehicles or 200 peak hour trips. In the fall of 2009, SANDAG decided to opt out of the CMP. Therefore the project is not subject to the CMP regulations. However this report follows the previous CMP guidelines.

EAST OTAY MESA SPECIFIC PLAN

Since the time the Specific Plan Amendment was adopted in the year 2002 significant changes have occurred in the East Otay Mesa area such as increase in traffic volumes on Otay Mesa Road within the City of San Diego, revised project and construction schedules for SR-125, SR-905 and SR-11 and the future Otay Mesa East Port of Entry, along with the revised pace of development within East Otay Mesa. The County has adopted an amendment to the East Otay Mesa Specific Plan, the General Plan Circulation Element, and the County Bicycle Transportation Plan to update the circulation system and bicycle network to reflect revised project plans and construction schedules for State Route 905, State Route 11 and the future Otay Mesa East Port of Entry. There were three types of amendments for the East Otay Mesa Specific Plan Subareas 1 and 2. Those amendments were to the circulation plan, bicycle network, and regulatory standards relating to site plan requirements, fencing detail, driveway location criteria, and sidewalk design.

The proposed project is consistent with the Otay Mesa Specific Plan and the proposed project has been redesigned to accommodate the latest right-of-way and design requirements to accommodate the proposed SR-11 Tollway and New East Otay Mesa Port of Entry.

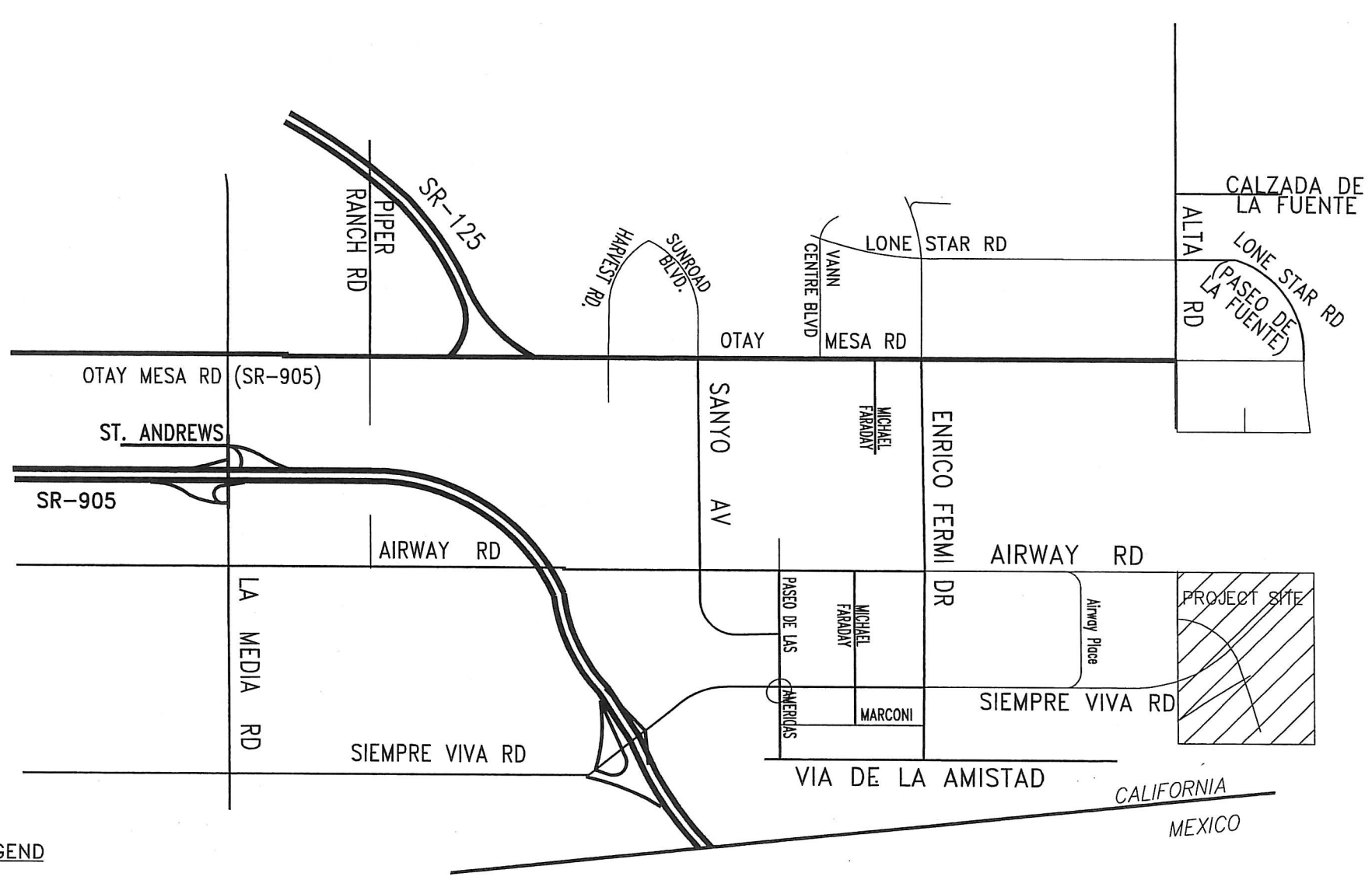

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FIGURE 1
VICINITY MAP

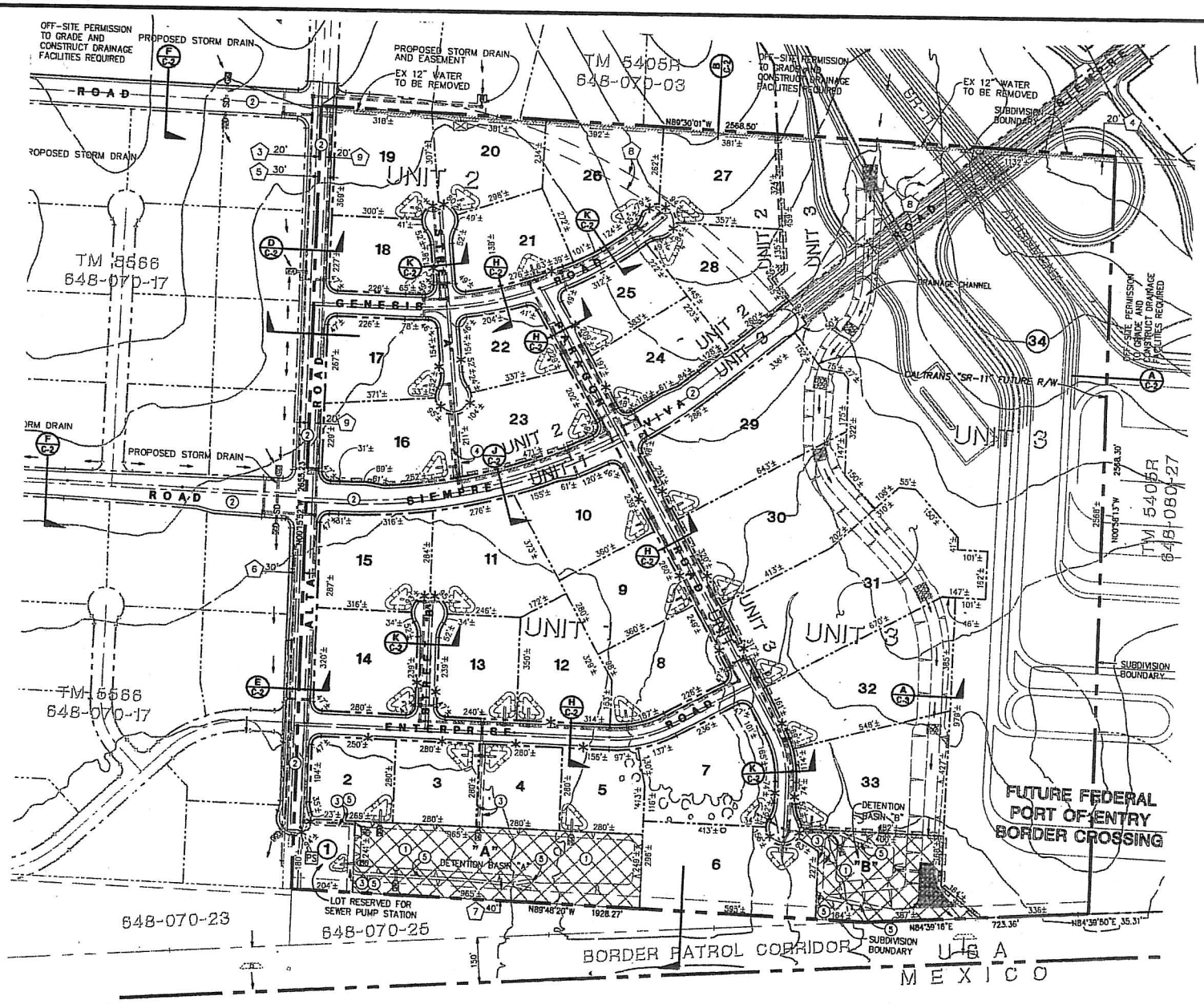

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FIGURE 2
SITE PLAN

SCENARIOS STUDIED

The following traffic scenarios were analyzed in this report:

Opening Day (Year 2015) Conditions refers to that condition which exists on the ground today, including Opening Day (2015) traffic counts and existing lane configurations at intersections and on roadway segments. The Opening Day 2015 condition includes Caltrans extension of SR-905 to Enrico Fermi Drive in 2015.

Opening Day (Year 2015) Plus Phase 1 Project Conditions refers to those conditions which include the Opening Day (2015) traffic volumes and lane configurations plus the traffic generated by Phase 1 of the proposed project.

Opening Day (Year 2015) Plus Phases 1-2 Project Conditions refers to those conditions which includes the Opening Day (2015) traffic volumes and lane configurations plus the traffic generated by Phases 1-2 of the proposed project.

Opening Day (Year 2015) Plus Phases 1-3 Project Conditions refers to those conditions which includes the Opening Day (2015) traffic volumes and lane configurations plus the traffic generated by Phases 1-3 of the proposed project.

Year 2050 Conditions refers to the conditions and traffic volumes that will exist under 2050 conditions with the proposed project with and without Airway Road between Alta Road and Siempre Viva Road .All roadway segments were assumed to be built out to their classifications as identified in the *East Otay Mesa Specific Plan (EOMSP).*The traffic forecast for 2050 conditions was prepared from a SANDAG Series 10 model based on the 2050 Mobility Emphasis Network assuming build-out of land uses within the County and City of San Diego. Since the proposed project is consistent with the EOMSP, the 2050 condition includes the traffic generated by the proposed project. Therefore, traffic on Airway Road was assigned to get the 2050 conditions analysis with the Airway Road link. Adjustments were then prepared to show the 2050 traffic volumes without Airway Road between Alta Road and Siempre Viva Road.

LEVEL OF SERVICE

Level of Service (LOS) is a professional industry standard by which the operating conditions of a given roadway segment or intersection is measured. Level of Service is defined on a scale of A to F; where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating speeds. Table 1 shows the delay, miles per hour (mph), and ADT ranges that are equivalent to each Level of Service. In general, the region-wide goal for an acceptable Level of Service on all roadway segments and intersections is "D."

Table 1 — Level of Service Ranges

Level of Service	Roadway Segments - Average Daily Traffic (ADT) Volume [1]	Signalized Intersections - Delay (Seconds/Vehicle)[2]	Unsignalized Intersections - Delay (Seconds/Vehicle)[2]
A	Less Than 1,900	Less Than or Equal to 10.0	Less Than or Equal to 10.0
B	1,901 to 4,100	10.1 to 20.0	10.1 to 15.0
C	4,101 to 7,100	20.1 to 35.0	15.1 to 25.0
D	7,101 to 10,900	35.1 to 55.0	25.1 to 35.0
E	10,901 to 16,200	55.1 to 80.0	35.1 to 50.0
F	Greater Than 16,200	Greater than 80.0	Greater than 50.0

[1] The volume ranges are based on the County of San Diego Circulation Element of a Light Collector, the average daily volume ranges for the other roadway classifications has been provided in Appendix A.
[2] The delay ranges shown are based on the 2000 Highway Capacity Manual (HCM).

ANALYSIS METHODOLOGY

The roadway segment daily LOS was determined by comparing the average daily traffic (ADT) volumes under all traffic conditions to the capacity of the roadway according to its roadway cross-section and classification. For the purpose of this report, the daily traffic volumes of the roadway segments in the vicinity of the project were compared to the County of San Diego Level of Service classification thresholds. The daily (24 hour) traffic count sheets, a copy of the "Summary of County of San Diego Public Road Standards" are included in Appendix A.

Synchro, Version 8, was utilized to analyze the morning and afternoon peak hour conditions of the intersections in the project vicinity. The signalized intersection methodology defines LOS based on delay using variables such as lane configuration, traffic volumes, and signal timings. The unsignalized intersection methodology defines LOS based on the longest delay experienced by any single movement. Since the Synchro program calculates the average delay per vehicle, there may be instances where the Synchro analysis will show a reduction in delay with the addition of more traffic. This phenomenon occurs when the additional traffic is added to a movement that experiences a shorter amount of delay, thereby decreasing the intersection's average delay per vehicle (i.e. a larger amount of vehicles will have to wait a shorter time while only a few vehicles have to wait an extended period of time). It should be noted that the Synchro program is based on the 2000 Highway Capacity Manual (HCM).

The extension of SR-905 to Enrico Fermi Drive is scheduled for completion in late 2015. To account for its extension SANDAG Traffic Modeling for 2015 was ordered with the proposed extension. The modeling was utilized to adjust the April 2014 traffic counts to reflect a 2015 Opening Day condition.

REPORT ORGANIZATION

Following this section, Section II examines the potential trips generated by the proposed project and it defines the trip distribution assumptions. Section III evaluates the existing roadway characteristics and traffic conditions without the project. Section IV provides analysis of project's traffic impacts under Opening Day (2015) with project conditions and internal circulation, Section V summarizes the direct impacts of the project and provides mitigation measures, and Section VI summarizes the 2050 Conditions with and without Airway Road between Alta Road and Siempre Viva Road and discusses the projects access and intersection conditions. VII summarizes the report findings and conclusions.

REPORT ORGANIZATION

Following this section, Section II examines the potential trips generated by the proposed project and it defines the trip distribution assumptions. Section III evaluates the existing roadway characteristics and traffic conditions without the project. Section IV provides analysis of project's traffic impacts under Opening Day (2015) with project conditions. Section V describes the 2050 conditions, Section VI summarizes the direct and cumulative impacts of the project and provides mitigation measures, and Section VII summarizes the report findings and conclusions.

SECTION II – PROJECT RELATED CONDITIONS

TRIP GENERATION

The trip generation potential for the project was based on daily and peak hour trip generation rates obtained from the *(Not So) Brief Guide of Traffic Generators for the San Diego Region* published by the San Diego Association of Governments (SANDAG) in April 2002.

As mentioned in Section I, if the western alignment of the proposed SR-11 facility is selected from the three proposed alignments (western, central, and eastern), the applicant would utilize the Phase 4 site area as a truck parking facility under interim conditions until the construction of the SR-11 facility begins. Under interim conditions, the build out trip generation of the proposed project will be reduced if Phase 4 is utilized as a truck parking facility and later acquired for construction of the SR-11 facility. (i.e. Per the *City of San Diego's Trip Generation Manual*, the generation rate for truck parking in the Otay Mesa Area is 30 Trips per Acre, while the SANDAG trip rate for Business Park use is 200 Trips per Acre.). However, to assess the worst case scenario, the traffic study analyzes the impact of the proposed project assuming that the western alignment of the SR-11 will not be selected and all the three (3) phases of the Otay Business Park project will be constructed with business park uses.

Table 2 summarizes the trip generation for the proposed project that has been estimated assuming full build out with business park use. As shown in Table 2, Phase 1 of the proposed project is estimated to generate 8,913 average daily trips (ADT), 1,070 morning peak hour trips, and 1,070 afternoon peak hour trips. The combination of Phases 1-2 of the project is estimated to generate 18,885 ADT, 2,257 AM peak hour trips, and 2,257 PM peak hour trips. Phases 1-3 of the proposed project will generate 25,202 ADT, 3,015 AM peak hour trips, and 3,015 PM peak hour trips. Full build out the project (Phases 1-3) is estimated to generate 25,202 ADT, 3,015 AM peak hour trips, and 3,015 PM peak hour trips.

Table 2 – Trip Generation Rates and Calculations Summary

Trip Generation Rates

Land Use	Daily	AM Peak Hour			PM Peak Hour		
		Total- % of Daily	%In	%Out	Total – % of Daily	%In	%Out
Business Park	16 Trips /KSF	12%	80%	20%	12%	20%	80%

Trip Generation Calculations

Land Use	Total No Of Units (KSF)	Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Phase 1	557.045	8,913	1,070	856	214	1,070	214	856
Phase 2	623.257	9,972	1,197	957	240	1,197	240	957
Sub-Total Phases 1-2:	***1,180.302***	***18,885***	***2,257***	***1,813***	***454***	***2,257***	***454***	***1,813***
Phase 3	394.828	6,317	758	606	152	758	152	818
Grand Total Phases 1-3:	***1,575.130***	***25,202***	***3,015***	***2,419***	***606***	***3,015***	***606***	***2,419***

KSF= 1,000 square feet
Source: SANDAG's *(Not So) Brief Guide of Traffic Generators for the San Diego Region,* April 2002

TRIP DISTRIBUTION

The project trip distribution was estimated for the Year 2015 with SR-905 Extended to Enrico Fermi Drive conditions. Figure 3 presents the existing roadway conditions and Figure 4 presents the Opening Day Conditions. The trip distribution percentages for each scenario were estimated based on SANDAG Select Zone forecasts.

Table 3 presents the projects daily trip distribution and resulting daily traffic volumes for each phase of development.

TRIP ASSIGNMENT

The trips generated by the proposed project were distributed according to the trip distribution percentages illustrated on Table 3 and Figures 5, 6 and 7 show the AM/PM peak hour traffic volumes respectively. The projects daily traffic for Phase 1, Phases 1-2, and Buildout of Phases 1-3, under Year 2015 conditions are illustrated in Table 3. Figures 8, 9, and 10 present the projects AM/PM peak hour traffic respectively for each intersection. The project traffic distribution is based on the expected 2015 roadway geometrics presented on Figure 4.

STUDY AREA

To determine the study area for the project D&A utilized the County of San Diego's criteria which recommends the inclusion of all transportation facilities that receive 25 or more peak hour trips from the proposed project, and the City of San Diego's criteria which requires the analysis of all regionally significant arterial system segments and intersections where the proposed project will add 50 or more peak hour trips in either direction and all mainline freeway locations where the project will add 150 or more peak hour trips in either direction. The County or City criteria was utilized dependent on the jurisdiction which the roadway segment or intersection or intersection was located in.

Based on the County and City's criteria and a review of Table 3 and Figures 8, 9, and 10, the study area for each scenario was determined. Table 4 provides a summary of the roadway segments and intersections that need to be included in the analysis for each study scenario.

Table 3 – Project Trip Distribution Summary

Roadway Segment	Phase		Phase 1 w/Airway Extension		Phase 2 w/Airway Extension		Phase 3 w/Airway Extension	
	% Dist	ADT	% Dist	ADT	% Dist	ADT	% Dist	ADT
Otay Mesa Rd								
Between La Media Rd and Piper Ranch Rd	1%	100	1%	100	1%	89	1%	63
Between Harvest Rd and Sanyo Ave	3%	267	3%	267	3%	299	3%	190
Between Sanyo Ave and Enrico Fermi Dr	3%	299	3%	299	3%	267	3%	190
Between Enrico Fermi Dr and Alta Rd	1%	100	1%	100	1%	89	1%	63
Airway Rd								
West of Sanyo Ave	1%	100	1%	100	1%	89	1%	63
Between Sanyo Ave and Paseo De Las Americas	2%	199	2%	199	2%	178	2%	126
Between Michael Faraday and Enrico Fermi Dr	1%	100	1%	100	1%	89	1%	63
Enrico Fermi Dr to Alta Rd	0%	0	0%	0	19%	1,693	19%	1,200
Siempre Viva Rd								
West of SR-125 SB Ramps	4%	399	4%	399	4%	357	4%	253
Between SR-125 NB Ramps and Paseo De Las Americas	50%	4,986	50%	4,986	50%	4,457	50%	3,159
Between Paseo De Las Americas and Michael Faraday	55%	5,485	55%	5,485	55%	4,902	55%	3,474
Between Michael Faraday and Enrico Fermi	56%	5,584	56%	5,584	56%	4,991	56%	3,538
Between Enrico Fermi and Alta Rd	100%	9,972	81%	8,077	81%	7,220	81%	5,117
Between Alta Rd and Paragon Rd	50%	4,986	50%	4,986	50%	4,457	75%	4,738
East of Paragon Rd	10%	997	10%	997	0%	0	10%	632
Enrico Fermi								
Between Otay Mesa Rd and SR-905 Ramps	3%	299	3%	299	3%	267	3%	190
Between SR-905 Ramps and Airway Rd	37%	3,298	37%	3,298	37%	3,690	37%	2,337
Between Airway Rd and Siempre Viva Rd	37%	3,690	18%	1,795	18%	1,604	18%	1,137
Alta Rd								
North of Genesis Rd	0%	0	0%	0	19%	1,693	19%	1,200
Between Genesis Rd and Siempre Viva Rd	50%	4,986	49%	4,886	19%	1,693	19%	1,200
Between Siempre Viva Rd and Enterprise Rd	0%	0	0%	0	50%	4,457	25%	1,579
South of Enterprise Rd	0%	0	0%	0	5%	446	0%	0
Paragon Rd								
North of Siempre Viva Rd	20%	1,994	20%	1,994	0%	0	0%	0
Between Siempre Viva Rd and Enterprise Rd	0%	0	0%	0	30%	2,674	65%	4,106
South of Enterprise Rd	0%	0	0%	0	5%	446	10%	632
Genesis Rd								
Between Alta Rd and Paragon Rd	25%	2,493	25%	2,493	0%	0	0%	0
Enterprise Rd								
Between Alta Rd and Paragon Rd	0%	0	0%	0	35%	3,120	25%	1,579

% Dist = Percentage of Distribution

Table 4 – Summary of Roadway and Intersection to be Analyzed.	
Roadway	**Intersections**
Otay Mesa Rd	Enrico Fermi Dr & Siempre Viva Rd
Between La Media Rd and Piper Ranch Rd	Michael Faraday Dr & Siempre Viva Rd
Between Harvest Rd and Sanyo Ave	Paseo De Las Americas & Siempre Viva Rd
Between Sanyo Ave and Enrico Fermi Dr	Siempre Viva Rd & SR-905 NB Ramp
Between Enrico Fermi Dr and Alta Rd	Siempre Viva Rd & SR-905 SB Ramp
Airway Rd	Enrico Fermi Dr & Airway Rd
West of Sanyo Ave	Paseo De Las Americas & Airway Rd
Between Sanyo Ave and Paseo De Las Americas	Sanyo Ave & Airway Rd
Between Michael Faraday and Enrico Fermi Dr	Enrico Fermi Dr & Otay Mesa Rd
Enrico Fermi Dr to Alta Rd	Sanyo Ave & Otay Mesa Rd
Siempre Viva Rd	Otay Mesa Rd & SR-125 NB Ramp
West of SR-125 SB Ramps	Otay Mesa Rd & SR-125 SB Ramp
Between SR-125 NB Ramps and Paseo De Las Americas	Enrico Fermi Dr & SR-905 WB Ramp
Between Paseo De Las Americas and Michael Faraday	Enrico Fermi Dr & SR-905 EB Ramp
Between Michael Faraday and Enrico Fermi	Siempre Viva Rd & Alta Rd – Project Access
Between Enrico Fermi and Alta Rd	Alta Rd & Genesis Rd – Project Access
Between Alta Rd and Paragon Rd	Alta Rd & Enterprise Rd – Project Access
East of Paragon Rd	Siempre Viva Rd & Paragon Rd – Project Access
Enrico Fermi	
Between Otay Mesa Rd and SR-905 Ramps	
Between SR-905 Ramps and Airway Rd	
Between Airway Rd and Siempre Viva Rd	
Alta Rd – Project Access	
North of Genesis Rd	
Between Genesis Rd and Siempre Viva Rd	
Between Siempre Viva Rd and Enterprise Rd	
South of Enterprise Rd	

SECTION III – OPENING DAY (2015) CONDITIONS

This section of the traffic study is intended to assess the Opening Day (2015) conditions of the roadways within the vicinity of the project to determine travel flow constraints, if any, that exist prior to adding the traffic generated by the proposed project. The Opening Day (2015) conditions analysis establishes a base condition that is used to assess the other scenarios discussed in this report. Darnell & Associates, Inc (D&A) conducted a field review of the area surrounding the project in January 2014. Figure 3 illustrates the existing roadway conditions in the project vicinity and Figure 11 presents the 2014 AM/PM Traffic volumes. Utilizing SANDAG Modeling for 2015 and the Figure 4 Year 2015 Baseline Conditions we estimated Year 2015 Baseline Opening Day traffic volumes. The Opening Day Year 2015 Baseline traffic volumes are presented on Figure 12.

EXISTING ROADWAY CHARACTERISTICS

The key segments analyzed in the study area are identified below:

State Route 905 (SR-905) is an east-west six-lane expressway which extends from Interstate 5 to the City of San Diego Otay Mesa Community. Approximately one mile east of Interstate 805, the freeway has been recently extended to provide six (6) lanes to the Otay Mesa Port of Entry with interchange at Caliente, Britannia, La Media and Siempre Viva.

Otay Mesa Road (Otay Mesa Roads) is improved to six lane Prime Arterial standards from west of Caliente Avenue to west of Piper Ranch Road. Immediately west of Piper Ranch Road, Otay Mesa Road provides five (5) travel lanes (2 eastbound lanes and 3 westbound lanes), however as it traverses easterly towards the SR-125; Otay Mesa Road widens to provide a total of seven (7) travel lanes (4 eastbound lanes and 3 westbound lanes). In the City of San Diego Circulation Element, a six-lane Prime Arterial has a capacity of 60,000 Average Daily Trips (ADT) at Level of Service (LOS) E with a cross section of 102 feet (102') curb to curb and a right-of-way of 122 feet (122'). A four-lane Major Arterial has a capacity of 40,000 ADT at LOS E with a cross section of 78 feet (78') curb to curb and a right-of-way of 98 feet (98'). In the County of San Diego Circulation Element a six-lane Prime Arterial has a capacity of 57,000 ADT at LOS E. For analysis purposes, this segment of Otay Mesa Road was assumed to have the capacity equivalent to that of a six-lane Prime Arterial.

Otay Mesa Road (Old Otay Mesa Road) (SC-1120) is basically an east-west roadway located within the jurisdictions of the County and City of San Diego. The segment from SR-125 to approximately 1,200 feet east of Sanyo Avenue is located within both jurisdictions, with the centerline of the existing road as the boundary. The posted speed limit on this section of Otay Mesa Road is 55 mph.

The segment of Otay Mesa Road (Old Otay Mesa Road) between the SR-125 Southbound ramp and the Interim SR-905 connection is currently constructed to provide six (6) travel lanes (2 eastbound lanes and 4 westbound lanes). The segment of Otay Mesa Road (Old Otay Mesa Road) between the SR-125 Northbound Ramp and Harvest Road is currently constructed to provide five (5) travel lanes (2 eastbound lanes and 3 westbound lanes). For the purpose of analysis, these segments of Otay Mesa Road (Old Otay Mesa Road) were assumed to have the capacity equivalent to that of a modified 4-lane Major Arterial, approximately 47,000 ADT at LOS E (the half-way point between a 4-lane Major Road and a 6-lane Prime Arterial).

The segment of Otay Mesa Road (Old Otay Mesa Road) between Harvest Road and Sanyo Avenue is currently constructed to provide four (4) travel lanes (2 eastbound lanes and 2 westbound lanes) and a center painted median. For analysis purposes, this segment of Otay Mesa Road (Old Otay Mesa Road) was assumed to have the capacity equivalent to that of a 4-lane Major Road with a capacity of 37,000 ADT at LOS E.

The segment of Otay Mesa Road between Sanyo Avenue and Alta Road is basically a two-lane undivided roadway. This section of Otay Mesa Road has a varying pavement width of 29 to 58 feet.

The current capacity on the County two-lane segments of (Otay Mesa Road) is estimated to be equivalent to that of a Light Collector, capacity of 16,200 ADT at LOS E. A Light Collector for the County has a cross section of 40 feet (40') curb to curb, and 60 feet (60') of right-of-way.

Based on the East Otay Mesa Specific Plan, the ultimate classification of the segment of Otay Mesa Road between Harvest Road and Enrico Fermi Drive is classified as a Prime Arterial. In the East Otay Mesa Specific Plan, this segment is a Prime Arterial with a capacity of 57,000 ADT at LOS E, with a modified cross section of 90 feet (90') curb to curb and 110 feet (110') of right-of-way. Between Enrico Fermi Drive and Alta Road, Otay Mesa Road is classified as a four-lane Major Road. A Major Road has a capacity of 37,000 ADT at LOS E, with a cross section of 78 feet (78') curb to curb and 98 feet (98') of right-of-way.

Airway Road (SC-2300) is an east-west roadway that is located within the jurisdiction of both the City of San Diego (west of Paseo de Las Americas) and the County of San Diego (between Paseo de Las Americas to Enrico Fermi Drive). Airway Road, between La Media Road and Avenida Costa Azul, is a two-lane undivided roadway. Between State Route 905 and Sanyo Avenue, Airway Road is striped to provide two travel lanes, however, the westbound lane is approximately 29 feet wide, and the eastbound lane is approximately 25 feet wide. Airway Road between Sanyo Avenue and Michael Faraday Drive has been improved to provide two travel lanes in each direction with a raised median. Between Michael Faraday Drive and Enrico Fermi Drive, Airway Road is widened to provide two (2) lanes in each direction with left turn lanes at intersections to a two-lane roadway. Just east of Enrico Fermi Drive to its current terminus, Airway Road is currently constructed as a four-lane roadway with a raised median.

For the purpose of analysis, the segment of Airway Road between La Media and Sanyo Avenue was assumed to have the capacity equivalent to that of a two lane Collector Road with a capacity of 15,000 ADT at LOS E. The segment between Sanyo Avenue and Michael Faraday Drive was assumed to have the capacity equivalent to the City's classification of a Major Arterial with a capacity of 40,000 ADT at LOS E. The segment between Michael Faraday Drive and Enrico Fermi Drive was assumed to have the capacity equivalent to that of the County of San Diego's Light Collector with a capacity of 16,200 ADT at LOS E with a cross section of 40 feet (40') curb to curb, with 60 feet (60') right-of-way. From Enrico Fermi Drive to its current terminus, Airway Road was assumed to have a capacity of a 4-lane Collector, 34,200 ADT at LOS E.

In the East Otay Mesa Specific Plan Amendment, Airway Road has the ultimate classification as a four-lane Major facility with a capacity of 40,000 ADT at LOS E for the segment located within the City and a capacity of 37,000 ADT at LOS E for the segment located within the County. The cross section for a four-lane Major facility is 78 feet (78') curb to curb, with 98 feet (98') right-of-way.

Siempre Viva Road is an east-west roadway that is located under the jurisdiction of the City of San Diego. From west of SR-905 to Paseo De Las Americas, Siempre Viva Road is a six-lane facility with a cross-section equivalent to that of a Prime Arterial, capacity of 60,000 ADT at LOS E. Currently, east of Paseo De Las Americas to Enrico Fermi Drive, Siempre Viva Road is a four-lane road with a cross-section equivalent to that of a Collector Road, capacity of 30,000 ADT at LOS E. This segment of Siempre Viva Road is planned as a six-lane facility with a cross-section equivalent to that of a Prime Arterial, capacity of 60,000 ADT at LOS E. Just east of Enrico Fermi Drive to the CHP facility located, Siempre Viva Road is currently constructed to provide one (1) eastbound lane and two (2) westbound travel lanes. From the CHP facility to Airway Place, Siempre Viva Road is constructed to provide two (2) westbound travel lanes. For purposes of analysis, the segment of Siempre Viva Road between Enrico Fermi Drive and Airway Place was assumed to have the capacity equivalent to that of a Major Road with a capacity of 37,000 and narrows to two (2) lanes with a capacity of 16,700 ADT at LOS E.

Sanyo Avenue is a north-south facility that is currently constructed as a four-lane undivided roadway between Otay Mesa Road (Old Otay Mesa Road) and Airway Road. The roadway segment of Sanyo Avenue between Otay Mesa Road (Old Otay Mesa Road) and Airway Road is under the City's jurisdiction and has the classification of a 4 lane Collector, with a capacity of 30,000 ADT at LOS E.

Enrico Fermi Drive (SA-1105) is constructed as a north-south facility. This roadway segment is split between County and City of San Diego jurisdictions. The segment north of Airway Road is under the County's jurisdiction and exists as a three lane roadway just south of Otay Mesa Road and north of Airway Road. The Center portion of this roadway segment currently exists as a two lane roadway. For the purpose of analysis, the roadway segment under County's jurisdiction was analyzed as a Town Collector (capacity of 19,000 ADT at LOS E). The segment of Enrico Fermi Drive, south of Airway Road is under the City's jurisdiction and exists as a 4 lane Major Arterial with a capacity of 40,000 ADT at LOS E.

Enrico Fermi Drive has the ultimate classification in the East Otay Mesa Specific Plan Amendment as a four-lane Major facility with a capacity of 40,000 ADT at LOS E for the segment located within the City and a capacity of 37,000 ADT at LOS E for the segment located within the County. The cross section for a four-lane Major facility is 78 feet (78') curb to curb, with 98 feet (98') right-of-way. Per the East Otay Mesa Specific Plan, the segment of Enrico Fermi Drive between Otay Mesa Road and SR-11 is proposed as an Enhanced Major Road Facility that would have an additional southbound right turn lanes to facilitate SR-11 freeway access.

Alta Road (SC 1112) is constructed as a north-south facility North of Otay Mesa Road south of Otay Mesa Road to Siempre Viva Road the roadway does not exist. The majority of the roadway is generally constructed as a two (2)-lane (one lane each direction) undivided roadway with a capacity of a Light Collector, 16,200 ADT at LOS E.

Based on the County Circulation Element, the ultimate classification of Alta Road between Otay Mesa Road to Siempre Viva Road is a four-lane Major Road with bike lanes, capacity of 37,000 ADT at LOS E.

ROADWAY SEGMENT DAILY TRAFFIC

Twenty-four (24) hour count data for the key roadway segments were collected on typical weekdays during the month of March, 2014. Count summary sheets can be found in Appendix A. To establish the Opening Day (2015) daily traffic volumes with SR-905 extended to Enrico Fermi Drive, SANDAG 2015 Model runs were prepared with select links that were used to estimate the changes in Opening Day 2015 Traffic Volumes. Table 5 presents the resulting daily traffic volumes, classification and Level of Service.

Table 5 – (Opening Day 2015) Roadway Classification and Daily Traffic Volumes					
Roadway Segment	Classification Capacity	Capacity (LOS E)	ADT		2015 LOS
			Existing	Year 2015	
Otay Mesa Rd					
Between La Media Rd and Piper Ranch Rd	4M (M)	37,000	15,107	15,107	A
Between Harvest Rd and Sanyo Ave	4M	37,000	11,769	11,769	A
Between Sanyo Ave and Enrico Fermi Dr	LC	16,200	5,696	5,696	C
Between Enrico Fermi Dr and Alta Rd	LC	16,200	5,193	5,193	C
Airway Rd					
West of Sanyo Ave	LC	16,200	3,292	3,292	B
Between Sanyo Ave and Paseo De Las Americas	4M	40,000	2,889	2,889	A
Between Michael Faraday and Enrico Fermi Dr	4C	37,000	1,249	1,249	A
Enrico Fermi Dr to Alta Rd	4C	34,200	520	520	A
Siempre Viva Rd					
West of SR-125 SB Ramps	6P	60,000	17,522	17,522	A
Between SR-125 NB Ramps and Paseo De Las Americas	4C	60,000	14,303	14,303	A
Between Paseo De Las Americas and Michael Faraday	4C	37,000	5,311	5,311	A
Between Michael Faraday and Enrico Fermi	4C	37,000	3,751	3,751	A
Between Enrico Fermi and Alta Rd	LC	16,200	810	810	A
Between Alta Rd and Paragon Rd	-	16,200	(a)		A
Enrico Fermi					
Between Otay Mesa Rd and SR-905 Ramps	TC	16,200	2,014	3,021	B
Between SR-905 Ramps and Airway Rd	TC	16,200	2,014	3,021	A
Between Airway Rd and Siempre Viva Rd	-	40,000	2,172	3,258	A
Alta Rd					
North of Genesis Rd	-	8,000	**(a)**	-	-
Between Genesis Rd and Siempre Viva Rd	-	8,000	**(a)**	-	-
Between Siempre Viva Rd and Enterprise Rd	-	8,000	**(a)**	-	-
South of Enterprise Rd	-	8,000	**(a)**	-	-
Paragon Rd					
North of Siempre Viva Rd	-	8,000	**(a)**	-	-
Between Siempre Viva Rd and Enterprise Rd	-	8,000	**(a)**	-	-
South of Enterprise Rd	-	8,000	**(a)**	-	-
Genesis Rd					
Between Alta Rd and Paragon Rd	-	8,000	**(a)**	-	-
Enterprise Rd					
Between Alta Rd and Paragon Rd	-	8,000	**(a)**	-	-

(a) Does not exist for 2015 Opening Day conditions, City = Capacity of City segments is based on the upper limits of LOS E per the City of San Diego; DNE = Dose Not Exist, County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego;
Bold = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service;
V/C = Volume-to LOS E Capacity Ratio; 4-Fwy = 4-Lane Freeway; 6P = 6-Lane Prime Arterial; 4M(m) = Modified 4-Lane Major Road;
4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 4C(m) = Modified 4-Lane Collector; TC = Town Collector; 2C= 2-Lane Collector;
LC = Light Collector.
Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity 45,000 for City Or 47,000 for County at LOS E (half-way between a 4-lane Major & 6-Lane Prime Arterial).
This segment of Heritage Road provides 2 Northbound through lanes, 1 Southbound left turn lane, 1 Southbound through lane, 2 Southbound right turn lanes, and a painted median; hence the roadway capacity was assumed to be 35,000 ADT at LOS E (half-way between a 4-lane Collector & 4-Lane Major Arterial), see page 29 for more details.
Capacity based on Caltrans District 11 & HCM procedures, See Appendix K for LOS calculations
The Arterial Roadway Segment analysis found that these segments operate acceptably during the AM/PM peak hours

KEY INTERSECTIONS

Figure 4 provides intersection configurations and traffic control for the key intersections. The key intersections to be analyzed include:

- Otay Mesa Road/SR-125 SB Ramp (signalized)
- Otay Mesa Road/SR-125 NB Ramp (signalized)
- Otay Mesa Road(Old Otay Mesa Road)/Sanyo Avenue (signalized);
- Otay Mesa Road(Old Otay Mesa Road)/Enrico Fermi Drive (signalized);
- Otay Mesa Road(Old Otay Mesa Road)/Alta Road (all-way stop-controlled);
- Airway Road/Sanyo Avenue (all-way stop-controlled);
- Airway Road/Paseo De Las Americas (one-way stop-controlled);
- Airway Road/Michael Faraday (one-way stop-controlled);
- Airway Road/Alta Road (signalized);
- Airway Road/Enrico Fermi Drive (signalized);
- SR-905 Southbound Ramp/Eastbound Siempre Viva Road (signalized);
- SR-905 Southbound Ramp/Westbound Siempre Viva Road (one-way stop-controlled);
- SR-905 Northbound Ramp/Siempre Viva Road (signalized);
- Siempre Viva Road/Paseo De Las Americas (signalized);
- Siempre Viva Road/Michael Faraday (two-way stop-controlled);
- Siempre Viva Road/Enrico Fermi Drive (signalized);
- Siempre Viva Road/Alta Road (signalized);
- Siempre Viva Road at Paragon Road (one-way stop-controlled);
- Alta Road/Genesis Road (Phases 2 and 3) (one-way stop-controlled);
- Alta Road/Airway Road (Phases 2 and 3) (one-way stop-controlled); and
- Alta Road/Enterprise Road (Phases 2 and 3) (one-way stop-controlled).

INTERSECTION TRAFFIC COUNTS

Morning and afternoon peak hour turn counts for each of the key intersections were collected on typical weekdays during the month of March, 2014. Figure 11 presents the existing 2014 AM/PM traffic volumes. Count summary sheets can be found in Appendix A. The March 2014 Traffic Volumes were then adjusted to reflect the 2015 extension of SR-905 to Enrico Fermi Drive. Table 6 presents the Opening Day 2015 daily traffic volumes. Figure 12 presents 2015 Opening Day conditions traffic volumes used in this analysis.

OPENING DAY (2015) LEVEL OF SERVICE CONDITIONS

Existing – Roadway Segments

Table 5 also summarizes the daily segment analysis for the Opening Day (2015) conditions. As shown in Table 5, based on average daily conditions each of the roadway segments currently operate at an acceptable LOS C or better.

Existing – Intersections

Existing Intersection - Synchro Analysis

Table 6 illustrates the existing intersection levels of service summary under Opening Day (2015) conditions. As can be seen from Table 7, all intersections currently operate at LOS D or better during both peak hours under Opening Day (2015) conditions. A copy of the Synchro worksheets for the Opening Day (2015) conditions can be found in Appendix C.

Table 6 – Opening Day (2015) Conditions Intersection Daily LOS Summary

Intersection	Traffic Control	Peak Hour	Year 2015 Conditions	
			Delay (a)	LOS (b)
Enrico Fermi Dr & Siempre Viva Rd	Signal	AM	25.4	C
		PM	22.3	C
Michael Faraday Dr & Siempre Viva Rd	TWSC	AM	10.4	B
		PM	11.1	B
Paseo De Las Americas & Siempre Viva Rd	Signal	AM	33.8	C
		PM	40.2	D
Siempre Viva Rd & SR-905 NB Ramp	Signal	AM	15.6	B
		PM	16.5	B
Siempre Viva Rd & SR-905 SB Ramp	Signal	AM	12.4	B
		PM	7.8	A
Enrico Fermi Dr & Airway Rd	Signal	AM	10.8	B
		PM	12.4	B
Paseo De Las Americas & Airway Rd	TWSC	AM	10.3	B
		PM	10.8	B
Heinrich Hertz Dr/Sanyo Ave & Airway Rd	AWSC	AM	10.1	B
		PM	9.9	A
Enrico Fermi Dr & Otay Mesa Rd	Signal	AM	12.9	B
		PM	10.3	B
Sanyo Ave & Otay Mesa Rd	Signal	AM	8.2	A
		PM	9.9	A
Otay Mesa Rd & SR-125 NB Ramp	Signal	AM	4.2	A
		PM	8.2	A
Otay Mesa Rd & SR-125 SB Ramp	Signal	AM	14.0	B
		PM	10.4	B
Enrico Fermi Dr & SR-905 WB Ramp	-	AM	4.3	A
		PM	7.2	A
Enrico Fermi Dr & SR-905 EB Ramp	OWSC	AM	15.5	C
		PM	10.0	A
Siempre Viva Rd & Alta Rd	AWSC	AM	DNE	
		PM		
Alta Rd & Genesis Rd	OWSC	AM	DNE	
		PM		
Siempre Viva Rd & Paragon Rd	OWSC	AM	DNE	
		PM		

DNE = Does Not Exist, (a) Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections, (b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM) and performed using Synchro 8.

SECTION IV – OPENING DAY (YEAR 2015) PLUS PROJECT IMPACTS

POLICIES AND SIGNIFICANCE STANDARDS

The County of San Diego General Plan Mobility Element Policy M-2.1 requires development projects to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria specifically identified in the accompany text box (Criteria for Accepting a Road Classification with Level of Service "E"/"F"). When development is proposed on roads where a failing level of service has been accepted the policy requires feasible mitigation in the form of road improvements or a fair share contribution to a road improvement program, consistent with the Mobility Element road network.

To address project impacts the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic dated August 24, 2011 identifies criteria, guidelines and standards to determine if, a discretionary project which has a significant impact on roadways will be required, as a condition of approval, to make "improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below 'D' on off-site and on-site abutting County of San Diego's Circulation Element roads. New development that would significantly impact congestion on roads at LOS 'E' or 'F', either currently or as a result of the project, will be denied unless improvements are scheduled to increase the LOS to 'D' or better or appropriate mitigation is provided. Appropriate mitigation would include a fair share contribution in the form of road improvements or a fair share contribution to an established program or project. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Section 15091(b) and 15093 of the State CEQA Guidelines."

LEVELS OF SIGNIFICANCE STANDARDS

The *County of San Diego Guidelines for Determining Significance, Second Modification August 24, 2011* was developed to evaluate the significance of traffic impacts on roadways and intersections which are currently operating at LOS E or F. A summary of the County's Guidelines is provided in Table 7.

Table 7 — Measures of Significant Project Impacts

LOS	Allowable Increase on Congested Roads and Intersections				
	Intersections		Road Segments		
	Signalized	Unsignalized	2-Lane Road	4-Lane Road	6-Lane Road
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement	200 ADT	400 ADT	600 ADT
LOS F	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement	100 ADT	200 ADT	300 ADT

County Notes:
- A critical movement is an intersection movement (right turn, left turn, and through-movement) that experiences excessive queues, which typically operate at LOS F. Also if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway.
- By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.
- The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.
- For determining significance at signalized intersection with LOS F conditions, the analysis must evaluate both the delay and the number of trips on a critical movement, exceedance of either criteria result in a significant impact.

ADT = Average Daily Traffic; LOS = Level of Service, sec = Seconds of Delay per Vehicle

Roadway Segments

As shown in Table 7, per the County's Guidelines, "traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified in Table 7, or

- The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity."

As discussed on pages 13 and 14 of the *County of San Diego Guidelines for Determining Significance, Second Modification August 24, 2011*, an increase of the daily thresholds established for roadway segments operating at LOS E would result in only one additional car every 2.4 minutes per lane while the thresholds established for roadway segments operating at LOS F would result in only one additional car every 4.8 minutes. Therefore, the thresholds identified in Table 7, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact on the roadway.

The County guidelines also states that "For large projects, controversial projects and/or projects which are preparing Environmental Impact Reports, more detailed evaluations to verify the applicability of the significance thresholds for the individual project conditions may be necessary. Additional evaluations may include analysis of vehicle headways, speeds, average gaps, queues, delay, and/or other factors."

Two-Lane Highways

Intersection Spacing Over One (1) Mile

In the *County of San Diego Guidelines for Determining Significance, Second Modification August 24, 2011* the County of San Diego established a higher capacity and a higher impact significance level for two-lane highways (such as State Route 76) with signalized intersection spacing over one mile. Table 8 provides a summary of the level of service criteria and guidelines for significance for two-lane highways with intersection spacing over one-mile.

Table 8 — Measures of Significance on 2-Ln Hwys

Level of Service	LOS Criteria	Impact Significance Level
E	> 16,200 ADT	>325 ADT
F	> 22,900 ADT	>225 ADT

Note: Where detailed data is available, the Director of Public Works may also accept a detailed level of service analysis based upon the two-lane highway analysis procedures provided in the Chapter 20 Highway Capacity Manual

Intersection Spacing Less Than One (1) Mile

"Similar to the experience of drivers in urban areas with closely space intersections, the functionality of two-lane highway conditions with signalized intersection spacing under one-mile becomes constrained not due to the segment capacity but the intersection operations. Therefore the assessment of operates of intersection on two-lane highways shall be guided by a Level of Service standard. Level of Service for purposes of this significance guideline is based upon the overall intersection operations similar - to Urban Street analysis in Chapter 15 Highway Capacity Manual." Impacts for the two-lane highways with signalized intersection under one mile spacing will be determined by evaluating the intersection impact criteria identified in Table 9.

Table 9 — Measures of Significance on 2-Ln Hwys w/ Signalized Intersection Spacing < 1 Mile	
Level of Service	Adjacent Signalized Intersection
E	Delay of 2 seconds
F	Delay of 1 second, or 5 peak hour trips on a critical movement
Notes: – A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues which typically operate at LOS F. – By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact. – The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.	

It should be noted that per the *County of San Diego Guidelines for Determining Significance, Second Modification August 24, 2011,* "impacts related to operational features on two-lane highways will be evaluated on a case-by-case basis based upon traffic flow patterns, geometrics, available sight distance, accident histories, and other factors."

Signalized Intersections

"Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a signalized intersection":

- "The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in Table 8."

- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection."

As discussed on page 16 of the *County of San Diego Guidelines for Determining Significance, Second Modification August 24, 2011*, an increase in delay of two seconds or less, the threshold established for signalized intersections operating at LOS E, "...is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased queues forming due to the additional two seconds of delay is low." Thus, the increase in delay of two (2) seconds or less, on average, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact. Since small changes and disruptions to the traffic flow at a signalized intersection can have a greater effect on the overall intersection operation when the intersection is operating at LOS F, versus LOS E, a more stringent guideline of one (1) second of delay was established for intersections operating at LOS F.

The five (5)-peak hour trip threshold, established for the critical movement of a signalized intersection operating at LOS F, when spread out over the peak hour, results in an increase of one (1) vehicle every 12 minutes or 720 seconds. This increase would not be noticeable to the average driver because one additional vehicle during a 12-minute interval on average would clear the traffic signal cycles well within the 12-minute period. Further, even if all five (5) additional peak hour vehicles arrived at the same time, these trips would also, on average, clear the traffic cycle and the existing queue lengths would be re-established. Thus, the increase of five (5) peak hour trips to a critical movement at a signalized intersection, on average, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact.

Unsignalized Intersections

"Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant impact at an unsignalized intersection as listed in Table [9] and described as text below:"

- "The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or

- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or

- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or

- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or

- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection."

As discussed on page 18 of the *County of San Diego Guidelines for Determining Significance, Second Modification August 24, 2011,* the addition of 20 peak hour trips to a critical movement, would result in an increase of one (1) vehicle every 3.0 minutes or 180 seconds. "Assuming the average wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E conditions; this would not be noticeable to the average driver and would not be considered a significant impact." Five (5) – trips spread out over an hour would result in an increase of one (1) vehicle every 12.0 minutes or 720 seconds. "This typically exceeds the average wait time in the queue and would not be noticeable to the average driver." (See page 18 of the County's *Guidelines for Determining Significance* provided in Appendix A.)

Caltrans

Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002 requires that State highway facilities (i.e., freeway segments, signalized intersections, on-or off-ramps, etc.) maintain a target LOS at the transition between LOS C and LOS D. See Appendix A for excerpts from Caltrans traffic impact guidelines.

Definition of Direct and Cumulative Impact in the City of San Diego and the County of San Diego

The County's *Guidelines for Determining Significance adopted on August 24, 2011* was developed to evaluate the significance of traffic impacts on roadways and intersections which are currently operating at LOS E or F. It should be noted that the significance guidelines summarized in Table 8 are currently only utilized by the County of San Diego to determine if a project has a significant direct and/or future impact. A project is considered to have a significant cumulative impact if it adds any traffic to a roadway segment and/or intersection that operates at LOS E or F under cumulative conditions and the total cumulative traffic added to the roadway segment and/or intersection exceeds the value identified in Table 8. The City of San Diego defines cumulative traffic impacts as those projected to occur at some point after a proposed development becomes operational, such as when the affected community plan area reaches full planned build out.

Since the project is located in the County of San Diego, the traffic study is prepared in accordance with the guidelines provided by the County of San Diego. However, the City's significance thresholds are utilized in analyzing the roadway segments and intersections located in the City of San Diego. The traffic study classifies direct and cumulative impacts based on CEQA and the Traffic Impact Fee (TIF) Study adopted by the County to address cumulative impacts. The Applicant agrees to pay the County TIF to mitigate cumulative impacts.

OPENING DAY (2015) + PHASE 1 PROJECT LEVEL OF SERVICE CONDITIONS

This scenario analyzes the traffic impact of adding Phase 1 of the proposed project to Opening Day (2015) conditions. Table 10 presents the Opening Day (2015) daily project traffic volumes and Figure 12 presents Opening Day 2015 intersection volumes.

As illustrated in Figure 3 (previously provided in Section II), in order to provide access to the project site, the project applicant will be required to construct Siempre Viva Road between Airway Place and Alta Road. Initially, the roadway segments will be constructed to provide one (1) travel lane in each direction with the capacity equivalent to that of a Light Collector Road, 16,200 ADT at LOS E. In addition, the project applicant will be required to widen the south side of the segment of Siempre Viva Road between the CHP facility access east of Enrico Fermi Drive to Airway Place to provides one (1) eastbound travel lane with the appropriate transitions such that the improved facility can accommodate one (1) travel lane in each direction.

Opening Day (2015) + Phase 1 Project – Roadway Segments

Table 10 summarizes the daily roadway segment level of service analysis under the Opening Day (2015) without and with Phase 1 project conditions. As shown in Table 10, based on average daily conditions for all of the roadway segments analyzed will operate at LOS C or better. This conclusion is based on the applicants extending Siempre Viva Road from Enrico Fermi Drive to Alta Road.

Opening Day (2015) + Phase 1 – Intersections

Opening Day (2015) + Phase 1 Intersections - Synchro Analysis

Figure 13 presents the Opening Day 2015 Plus Phase 1 Project AM/PM Traffic Volumes. The volumes presented on Figure 13 were analyzed with Synchro 8 capacity software. Table 11 summarizes the resulting Year 2015 Opening Day plus Phase 1 project conditions intersection level of service summary during the AM and PM peak hours. (A copy of the Synchro worksheets can be found in Appendix D.) As shown in Table 11, all intersections with the exception of the Siempre Viva Road/Enrico Fermi Drive intersection operate at an acceptable LOS D or better under Opening Day (2015) plus Phase 1 project conditions.

The Siempre Viva Road/Enrico Fermi Drive intersection operates at LOS E during the AM peak hour and LOS E during the PM peak hour under Opening Day (2015) conditions. The increase in delay exceeds the one (1) second allowed per the City of San Diego' thresholds for significance for an intersection operating at LOS E, thus, Phase 1 of the project has a significant direct impact on the Siempre Viva Road/Enrico Fermi Drive intersection. See Section VII for a discussion on how the developer will mitigate its significant direct impacts.

Table 10 – (Opening Day 2015) Roadway Classification and Daily Traffic Volumes

Roadway Segment	LOS E Capacity	ADT					
		Existing		Year 2015		Year 2015 Plus Phase 1	
		ADT	LOS	ADT	LOS	ADT	LOS
Otay Mesa Rd							
Between Harvest Rd and Sanyo Ave	37,000	11,769	A	11,769	A	12,215	A
Between Sanyo Ave and Enrico Fermi Dr	16,200	5,696	C	5,696	C	5,963	C
Between Enrico Fermi Dr and Alta Rd	16,200	5,193	C	5,193	C	5,282	C
Airway Rd							
West of Sanyo Ave	16,200	3,292	B	3,292	B	3,381	B
Between Sanyo Ave and Paseo De Las Americas	40,000	2,889	A	2,889	A	3,067	A
Between Michael Faraday and Enrico Fermi Dr	37,000	1,249	A	1,249	A	1,427	A
Enrico Fermi Dr to Alta Rd	34,200	520	A	520	A	520	A
Siempre Viva Rd							
West of SR-905 SB Ramps	60,000	17,522	A	17,522		17,879	A
Between SR-905 NB Ramps and Paseo De Las Americas	60,000	14,303	A	14,303		18,760	A
Between Paseo De Las Americas and Michael Faraday	37,000	5,311	A	5,311		10,769	A
Between Michael Faraday and Enrico Fermi	37,000	3,751	A	3,751		9,723	A
Between Enrico Fermi and Airway Place	16,200	810	A	810		9,723	A
Between Airway Place and Alta Rd	16,200	(a)	-	-	-	8,913	D
Between Alta Rd and Paragon Rd	DNE	(a)	-	-	-	4,457	C
Enrico Fermi							
Between Otay Mesa Rd and SR-905 Ramps	16,200	2,014	B	3,021	A	2,281	A
Between SR-905 Ramps and Airway Rd	16,200	2,014	B	3,021	A	6,319	C
Between Airway Rd and Siempre Viva Rd	16,200	2,172	A	3,258	A	6,556	C
Alta Rd							
North of Genesis Rd	8,000	**(a)**	-	-	-	-	-
Between Genesis Rd and Siempre Viva Rd	8,000	**(a)**	-	-		0	C
Between Siempre Viva Rd and Enterprise Rd	8,000	**(a)**	-	-		4,457	B
South of Enterprise Rd	8,000	**(a)**	-	-		0	-
Paragon Rd							
North of Siempre Viva Rd	8,000	**(a)**		-	-	-	-
Between Siempre Viva Rd and Enterprise Rd	8,000	**(a)**		-	-	4,457	B
South of Enterprise Rd	8,000	**(a)**		-	-	446	A
Genesis Rd							
Between Alta Rd and Paragon Rd	8,000	**(a)**		-	-	-	-
Enterprise Rd							
Between Alta Rd and Paragon Rd	8,000	**(a)**		-	-	4,457	B

Phases 1 plus 2 and Phases 1 thru 3 assume that Airway Road is extended between Enrico Fermi Rd and Alta Rd, **(a)** = Project Roadways
(a)Applicant will extend Siempre Viva Road from Airway Place to Alta Road to provide project access.

Table 11 – (Opening Day 2015) Plus Phase 1 Intersection LOS Summary

#	Intersection	Traffic Control	Peak Hour	Year 2015 Conditions		Year 2015 Conditions Plus Phase 1		Δ in Delay	Sig? (c)
				Delay (a)	LOS (b)	Delay (a)	LOS (b)		
1	Enrico Fermi Dr & Siempre Viva Rd	Signal	AM	25.4	C	**61.2**	**E**	35.8	**Yes**
			PM	22.3	C	**60.5**	**E**	38.2	**Yes**
2	Michael Faraday Dr & Siempre Viva Rd	TWSC	AM	10.4	B	15.6	C	5.2	No
			PM	11.1	B	17.1	C	6.0	No
3	Paseo De Las Americas & Siempre Viva Rd	Signal	AM	37.2	D	27.9	C	-9.3	No
			PM	39.1	D	34.8	C	-4.3	No
4	Siempre Viva Rd & SR-905 NB Ramp	Signal	AM	15.6	B	14.8	B	-0.8	No
			PM	16.5	B	15.9	B	-0.6	No
5	Siempre Viva Rd & SR-905 SB Ramp	Signal	AM	12.4	B	13.7	B	1.3	No
			PM	7.8	A	8.8	A	1.0	No
6	Enrico Fermi Dr & Airway Rd	Signal	AM	11.6	B	10.4	B	-1.2	No
			PM	12.4	B	12.1	B	-0.3	No
7	Paseo De Las Americas & Airway Rd	TWSC	AM	10.3	B	10.4	B	0.1	No
			PM	10.8	B	10.9	B	0.1	No
8	Heinrich Hertz Dr/Sanyo Ave & Airway Rd	AWSC	AM	10.1	B	10.8	B	0.7	No
			PM	9.9	A	10.3	B	0.4	No
9	Enrico Fermi Dr & Otay Mesa Rd	Signal	AM	12.9	B	13.7	B	0.8	No
			PM	10.3	B	11.2	B	0.9	No
10	Sanyo Ave & Otay Mesa Rd	Signal	AM	8.2	A	8.2	A	0.0	No
			PM	9.9	A	10.1	B	0.2	No
11	Otay Mesa Rd & SR-125 NB Ramp	Signal	AM	4.2	A	4.1	A	-0.1	No
			PM	8.2	A	8.1	A	-0.1	No
12	Otay Mesa Rd & SR-125 SB Ramp	Signal	AM	14.0	B	14.0	B	0.0	No
			PM	10.4	B	10.4	B	0.0	No
13	Enrico Fermi Dr & SR-905 WB Ramp	-	AM	4.3	A	5.2	A	0.9	No
			PM	7.2	A	9.1	A	1.9	No
14	Enrico Fermi Dr & SR-905 EB Ramp	OWSC	AM	15.5	C	15.4	C	-0.1	No
			PM	10.0	A	10.4	B	0.4	No
15	Siempre Viva Rd & Alta Rd	AWSC	AM	DNE		12.8	B	12.8	No
			PM			24.5	C	24.5	No
17	Siempre Viva Rd & Paragon Rd	OWSC	AM	DNE		10.6	B	10.6	No
			PM			12.4	B	12.4	No
18	Enterprise Rd & Alta Rd	OWSC	AM	DNE		8.7	A	8.7	No
			PM			10.9	B	10.9	No

DNE = Does not exist

(a) Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* (HCM) and performed using Synchro 8.

(c) Project impact is considered to be significant if the increase in delay is greater than 2.0 seconds at intersections operating at LOS E or greater than 1.0 seconds at intersections operating at LOS F.

OPENING DAY (2015) PLUS PHASES 1 - 2 PROJECT LEVEL OF SERVICE CONDITIONS

This scenario analyzes the traffic impact of Phases 1-2 of the proposed project under Opening Day (2015) conditions. Figure 14 presents the Opening Day (2015) plus Phases 1-2 project AM/PM traffic volumes.

Opening Day (2015) + Phases 1 - 2 Project – Roadway Segments

Table 12 summarizes the daily roadway segment level of service analysis under the Opening Day (2015) without and with Phases 1-2 project conditions. As shown in Table 12, based on average daily conditions the following roadway segments operate at an unacceptable LOS E or F under Opening Day (2015) plus Phases 1-2 project conditions:

- Siempre Viva Road between Enrico Fermi Drive and Alta Road will operate at LOS E with the addition of Phase 2 traffic volumes and will create a significant impact.

Further review of Table 12 shows that with Airway extended to Alta Road each of the other roadway segments continue to operate at LOS D or better under Opening Day (Year 2015) plus Phases 1-2 of the proposed project. Based on this analysis it was concluded that additional access was needed to mitigate the impacts on Siempre Viva Road and Siempre Viva Road between Enrico Fermi Drive and Alta Road requires widening to the equivalent of a 4.2B Boulevard to provide two (2) lanes in each direction plus turn lanes. Also presented on Table 12 is the daily 2015 analysis with Airway Road extended to Alta Road. The analysis shows that the impacts to Siempre Viva Road are mitigated to a LOS B. Therefore the extension of Airway Road to Alta Road was assumed for Phase 1 and 2 Conditions. Figure 14 presents the Opening Day 2015 Plus Phases 1 and 2 AM/Pm Traffic Volumes.

Opening Day (Year 2015) Plus Phases 1-2 – Intersections

Opening Day (Year 2015) Plus Phases 1-2 Intersections - Synchro Analysis

Table 13 summarizes the Opening Day (Year 2015) plus Phases 1-2 project conditions intersection level of service summary during the AM and PM peak hours. (A copy of the Synchro worksheets can be found in Appendix E.) As shown in Table 13, each intersection operates at LOS D or better. It should be noted that the Siempre Viva Road/Enrico Fermi Drive operates at LOS D or better with the Phase 1 mitigation.

Table 12 – (Opening Day 2015) Phases 1 and 2 Roadway Classification and Daily Traffic Volumes									
		ADT							
Roadway Segment	LOS E Capacity	Existing	LOS	Year 2015	LOS	Year 2015 Plus Phase 1	LOS	Year 2015 Plus Phases 1 & 2 with Airway Road Extended to Alta Road	LOS
Otay Mesa Rd									
Between Harvest Rd and Sanyo Ave	37,000	11,769	A	11,769	A	12,268	A	12,714	A
Between Sanyo Ave and Enrico Fermi Dr	16,200	5,696	C	5,696	C	5,995	C	6,262	C
Between Enrico Fermi Dr and Alta Rd	16,200	5,193	C	5,193	C	5,293	C	5,382	C
Airway Rd									
West of Sanyo Ave	16,200	3,292	B	3,292	B	3,392	B	3,481	B
Between Sanyo Ave and Paseo De Las Americas	40,000	2,889	A	2,889	A	3,088	A	3,266	A
Between Michael Faraday and Enrico Fermi Dr	37,000	1,249	A	1,249	A	1,349	A	1,438	A
Enrico Fermi Dr to Alta Rd	34,200	520	A	520	A	520	A	2,213	A
Siempre Viva Rd									
West of SR-905 SB Ramps	60,000	17,522	A	17,522		17,921	A	18,278	A
Between SR-905 NB Ramps and Paseo De Las Americas	60,000	14,303	A	14,303		19,289	A	23,746	A
Between Paseo De Las Americas and Michael Faraday	37,000	5,311	A	5,311		10,796	A	15,698	A
Between Michael Faraday and Enrico Fermi	37,000	3,751	A	3,751		9,335	A	14,326	A
Between Enrico Fermi and Airway Place	16,200	810	A	810		10,782	D	**16,107**	**E**
Between Airway Place and Alta Rd	16,200	(b)	-	-	-	-	-	**15,297**	**E**
Between Alta Rd and Paragon Rd	DNE/ 16,200	-	-	-	-	4,986	C	9,443	D
East of Paragon Rd	DNE/ 16,200		-	-	-	997	A	997	A
Enrico Fermi									
Between Otay Mesa Rd and SR-905 Ramps	16,200	2,014	B	3,021	B	3,320	B	3,587	B
Between SR-905 Ramps and Airway Rd	19,000	2,014	B	3,021	B	6,611	C	9,820	D
Between Airway Rd and Siempre Viva Rd	28,000	2,172	A	3,258	A	6,948	C	6,657	A
Alta Rd									
North of Genesis Rd	8,000	**(a)**	-	-	-	-	-	3,588	B
Between Genesis Rd and Siempre Viva Rd	8,000	**(a)**	-	-		-	-	3,588	B
Between Siempre Viva Rd and Enterprise Rd	8,000	**(a)**	-	-		4,986	C	4,986	C
South of Enterprise Rd	8,000	**(a)**	-	-		0	-	446	A
Paragon Rd									
North of Siempre Viva Rd	8,000	**(a)**		-	-	1,994	A	6,183	C
Between Siempre Viva Rd and Enterprise Rd	8,000	**(a)**		-	-	4,986	C	4,986	C
South of Enterprise Rd	8,000	**(a)**		-	-	-	-	446	A
Genesis Rd									
Between Alta Rd and Paragon Rd	8,000	**(a)**		-	-	-	-	2,493	A
Enterprise Rd									
Between Alta Rd and Paragon Rd	8,000	**(a)**		-	-	4,986	C	4,986	C
Phases 1 & 2 assume that Airway Road is extended between Enrico Fermi Rd and Alta Rd, **(a)** = Project Roadways, (b) = Applicant will extend Enrico Fermi Drive to Project Site.									

Table 13 – Opening Day (Year 2015) Plus Phases 1 and 2 Intersection LOS Summary								
			Year 2015 Conditions		Year 2015 Conditions Plus Phases 1 & 2		D	
Intersection	Traffic Control	Peak Hour	Delay (a)	LOS (b)	Delay (a)	LOS (b)	in Delay	Sig? (c)
Enrico Fermi Dr & Siempre Viva Rd(a)	Signal	AM	25.4	C	50.9	D	25.5	No
		PM	22.3	C	40.5	D	18.2	No
Michael Faraday Dr & Siempre Viva Rd	TWSC	AM	10.4	B	30.0	D	19.6	No
		PM	11.1	B	19.8	C	8.7	No
Paseo De Las Americas & Siempre Viva Rd	Signal	AM	33.8	C	32.7	C	-1.1	No
		PM	40.2	D	52.2	D	12.0	No
Siempre Viva Rd & SR-905 NB Ramp	Signal	AM	15.6	B	14.9	B	-0.7	No
		PM	16.5	B	15.6	B	-0.9	No
Siempre Viva Rd & SR-905 SB Ramp	Signal	AM	12.4	B	14.2	B	1.8	No
		PM	7.8	A	9.6	A	1.8	No
Enrico Fermi Dr & Airway Rd	Signal	AM	10.8	B	16.7	B	5.9	No
		PM	12.4	B	22.9	C	10.5	No
Paseo De Las Americas & Airway Rd	TWSC	AM	10.3	B	10.6	B	0.3	No
		PM	10.8	B	11.1	B	0.3	No
Heinrich Hertz Dr/Sanyo Ave & Airway Rd	AWSC	AM	10.1	B	11.8	B	1.7	No
		PM	9.9	A	10.8	B	0.9	No
Enrico Fermi Dr & Otay Mesa Rd	Signal	AM	12.9	B	14.1	B	1.2	No
		PM	10.3	B	11.4	B	1.1	No
Sanyo Ave & Otay Mesa Rd	Signal	AM	8.2	A	8.9	A	0.7	No
		PM	9.9	A	10.4	B	0.5	No
Otay Mesa Rd & SR-125 NB Ramp	Signal	AM	4.2	A	4.0	A	-0.2	No
		PM	8.2	A	8.0	A	-0.2	No
Otay Mesa Rd & SR-125 SB Ramp	Signal	AM	14.0	B	14.1	B	0.1	No
		PM	10.4	B	10.5	B	0.1	No
Enrico Fermi Dr & SR-905 WB Ramp	-	AM	4.3	A	5.6	A	1.3	No
		PM	7.2	A	10.2	B	3.0	No
Enrico Fermi Dr & SR-905 EB Ramp	OWSC	AM	15.5	C	17.0	C	1.5	No
		PM	10.0	A	11.0	B	1.0	No
Siempre Viva Rd & Alta Rd	Signal	AM	DNE		15.4	B	15.4	No
		PM			39.5	D	39.5	No
Alta Rd & Genesis Rd	OWSC	AM	DNE		18.0	C	18.0	No
		PM			22.5	C	22.5	No
Siempre Viva Rd & Paragon Rd	AWSC	AM	DNE		9.9	A	9.9	No
		PM			10.7	B	10.7	No
Alta Rd & Enterprise Rd	AWSC	AM	DNE		10.4	B	10.4	No
		PM			8.6	A	8.6	No

DNE = Does not exist (a), Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections. (b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* (HCM) and performed using Synchro 8. (c) Project impact is considered to be significant if the increase in delay is greater than 2.0 seconds at intersections operating at LOS E or greater than 1.0 seconds at intersections operating at LOS F. (a) Assumes Phase 1 Mitigation.

OPENING DAY (YEAR 2015) Plus PHASES 1 - 3 BUILDOUT PROJECT LEVEL OF SERVICE CONDITIONS

This scenario analyzes the traffic impact of Phases 1-3 of the proposed project under Opening Day (Year 2015) conditions. Table 14 illustrates the Opening Day (Year 2015) plus Phases 1-3 project traffic volumes. Figure 15 presents the Opening Day Plus Phases 1-3 AM/PM peak hour traffic volumes.

Opening Day (Year 2015) + Phases 1 - 3 Project – Roadway Segments

Table 14 summarizes the daily roadway segment level of service analysis under the Opening Day (Year 2015) without and with Phases 1-3 project conditions. As shown in Table 14, based on average daily conditions the following roadway segments operate at an unacceptable LOS E or F under Opening Day (Year 2015) plus Phases 1-3 project conditions:

- Siempre Viva Road between Enrico Fermi Drive and Airway Place (LOS E with the project); and
- Siempre Viva Road between Airway Place and Alta Road (LOS E with the project).

The segment of Siempre Viva Road between Enrico Fermi Drive and Airway Place operates at LOS A under Opening Day (Year 2015) conditions. With the addition of 21,224 ADT from Phases 1-3 of the proposed project the level of service on this segment of Siempre Viva Road will degrade to LOS F. Per the County's criteria a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to and unacceptable level (LOS E or F). Since Phases 1-3 of the project lowers the existing level of service from LOS A to LOS F, based on average daily conditions, Phases 1-3 of the project is considered to have a significant direct impact on the segment of Siempre Viva Road between Enrico Fermi Drive and Airway Place and will require the eastbound travel lanes to be widened to provide two (2) travel lanes.

The segment of Siempre Viva Road between Airway Place and Alta Road does not currently exist, however, this roadway segment is needed to provide access to the project and will be constructed to provide four (4) lanes equivalent to a 4-lane road by the project applicant (Otay Business Park). Table 14 illustrates that with Phases 1-3 of the proposed project the roadway exceeds the standards of a Light Collector; and would thus need to be constructed to the minimum standards of at least four (4) lanes to operate at acceptable levels of service based on average daily conditions. Thus, prior to the recordation of the final maps for Phase 3, the applicant will construct/improve the segment of Siempre Viva Road between Airway Place and Alta Road to provide four (4) lanes in order to provide access to the project site. See Section V for a more detailed discussion of the project access requirements.

All other roadway segments continue to operate at LOS D or better under Opening Day (Year 2015) Plus Phases 1-3 of the proposed project conditions.

Table 14 – (Opening Day 2015) Phases 1 thru 3 Roadway Classification and Daily Traffic Volumes.

Roadway Segment	*LOS E Capacity*	*ADT* Existing	LOS	Year 2015	LOS	Year 2015 Plus Phase 1	LOS	Year 2015 Plus Phases 1 & 2	LOS	Year 2015 Plus Phases 1 thru 3	LOS
Otay Mesa Rd											
Between Harvest Rd and Sanyo Ave	37,000	11,769	A	11,769	A	12,268	A	12,714	A	13,030	A
Between Sanyo Ave and Enrico Fermi Dr	16,200	5,696	C	5,696	C	5,995	C	6,262	C	6,452	C
Between Enrico Fermi Dr and Alta Rd	16,200	5,193	C	5,193	C	5,293	C	5,382	C	5,445	C
Airway Rd											
West of Sanyo Ave	16,200	3,292	B	3,292	B	3,392	B	3,481	B	3,544	B
Between Sanyo Ave and Paseo De Las Americas	40,000	2,889	A	2,889	A	3,088	A	3,266	A	3,392	A
Between Michael Faraday and Enrico Fermi Dr	37,000	1,249	A	1,249	A	1,349	A	1,438	A	1,501	A
Enrico Fermi Dr to Alta Rd	34,200	520	A	520	A	520	A	2,213	A	5308	A
Siempre Viva Rd											
West of SR-905 SB Ramps	60,000	17,522	A	17,522		17,921	A	18,278	A	18,531	A
Between SR-905 NB Ramps and Paseo De Las Americas	60,000	14,303	A	14,303		19,289	A	23,746	A	26,905	B
Between Paseo De Las Americas and Michael Faraday	37,000	5,311	A	5,311		10,796	A	15,698	A	19,172	A
Between Michael Faraday and Enrico Fermi	37,000	3,751	A	3,751		9,335	A	14,326	A	17,864	A
Between Enrico Fermi and Airway Place	19,000	810	A	810		10,782	D	**16,107**	**E**	**21,224**	**F**
Between Airway Place and Alta Rd	DNE/16,200	**(b)**	-	-	-	-	-	**15,297**	**E**		
Between Alta Rd and Paragon Rd	DNE/16,200	34,200**(b)**	-	-	-	4,986	A	9,443	A	14,181	B
Enrico Fermi											
Between Otay Mesa Rd and SR-905 Ramps	16,200	2,014	B	3,021	B	3,320	B	3,587	B	3,777	B
Between SR-905 Ramps and Airway Rd	19,000	2,014	B	3,021	B	6,611	C	9,820	D	12,094	D
Between Airway Rd and Siempre Viva Rd	28,000	2,172	A	3,258	A	6,948	A	6,657	A	7,794	A
Alta Rd											
North of Genesis Rd	8,000	**(a)**	-	-	-	-	-	3,588	C	3,588	C
Between Genesis Rd and Siempre Viva Rd	8,000	**(a)**	-	-		-	-	6,579	D	3,588	D
Between Siempre Viva Rd and Enterprise Rd	8,000	**(a)**	-	-		4,986	C	4,457	C	4,986	C
South of Enterprise Rd	8,000	**(a)**	-	-		0	-	446	A	446	A
Paragon Rd											
North of Siempre Viva Rd	8,000	**(a)**		-	-	1,994	A	1,994	A	6,183	A
Between Siempre Viva Rd and Enterprise Rd	8,000	**(a)**		-	-	4,986	C	4,986	C	4,986	C
South of Enterprise Rd	8,000	**(a)**		-	-	-	-	446	A	1,078	A
Genesis Rd											
Between Alta Rd and Paragon Rd	8,000	**(a)**		-	-	-	-	2,493	A	2,493	A
Enterprise Rd											
Between Alta Rd and Paragon Rd	8,000	**(a)**		-	-	-	-	4,986	B	4,986	C

Phases 1 & 2 and Phases 1 to 3 assume that Airway Road is extended between Enrico Fermi Rd and Alta Rd, **(a)** = Project Roadways, **(b)**= Assumes Major 4.2A Construction by Applicant.

Opening Day (Year 2015) + Phases 1-3 – Intersections

Opening Day (Year 2015) + Phases 1-3 Intersections - Synchro Analysis

With the addition of Phases 1 thru 3 to the surrounding roadways the key intersections were analyzed Table 15 summarizes the Opening Day (Year 2015) plus Phases 1-3 project conditions intersection level of service summary. (A copy of the Synchro worksheets can be found in Appendix E.) As shown in Table 15, the following intersections operate at LOS E or F during at least one of the peak hours under Opening Day (Year 2015) plus Phases 1-3 project conditions:

- Siempre Viva Road at Enrico Fermi Drive;
- Siempre Viva Road at Michael Faraday Drive; and
- Enrico Fermi Drive at SR-905 eastbound off ramp.

All critical movements at the Siempre Viva Road/Michael Faraday intersection operate at LOS B or better during both peak hours under existing conditions. With the addition of Phases 1-3 of the project, the northbound and shared southbound left-through movements will operate at LOS F during the AM and PM peak hours. The proposed project accounts for increases in delay between 29.4 and 43.4 seconds on the critical movements. The increase in delay exceeds the one (1) second allowed per the City of San Diego' thresholds for significance for an intersection operating at LOS F, thus, Phases 1-3 of the project has a significant direct impact on the Siempre Viva Road/Michael Faraday intersection. See Section V for a discussion on how the developer will mitigate its significant direct impacts.

The Siempre Viva Road/Enrico Fermi Drive intersection operates at LOS C during both peak hours under existing conditions. With the addition of peak hour trips from Phases 1-3 of the project, the AM peak hour delay will be increased by 43.4 seconds and the PM peak hour delay will be increased by 7.1 seconds degrading the existing AM LOS C to LOS E. A significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to and unacceptable level (LOS E or F). Since the proposed project lowers the existing level of service from an acceptable LOS B to an unacceptable LOS E, in the AM peak hour Phases 1-3 of the proposed project is considered to have a significant direct impact at the Siempre Viva Road/Enrico Fermi Drive intersection. See Section V for a discussion on how the developer will mitigate its significant direct impacts.

Each of the other intersections continues to operate at LOS D or better under Opening Day (Year 2015) plus Phases 1-3 project conditions.

Table 15 – Opening Day (Year 2015) Plus Phases 1 thru 3 Intersection LOS Summary

#	Intersection	Traffic Control	Peak Hour	Year 2015 Conditions		Year 2015 Conditions Plus Phases 1-3		Δ in Delay	Sig? (c)
				Delay (a)	LOS (b)	Delay (a)	LOS (b)		
1	Enrico Fermi Dr & Siempre Viva Rd(d)	Signal	AM	25.4	C	**68.8**	**E**	43.4	**Yes (d)**
			PM	22.3	C	29.4	C	7.1	No
2	Michael Faraday Dr & Siempre Viva Rd (e)	TWSC Signal	AM	10.4	B	**61.3**	**F**	50.9	**Yes(e)**
			PM	11.1	B	**59.5**	**F**	48.4	**Yes (e)**
3	Paseo De Las Americas & Siempre Viva Rd	Signal	AM	37.2	D	24.6	C	-12.6	No
			PM	39.1	D	39.2	D	0.1	No
4	Siempre Viva Rd & SR-905 NB Ramp	Signal	AM	15.6	B	15.2	B	-0.4	No
			PM	16.5	B	15.4	B	-1.1	No
5	Siempre Viva Rd & SR-905 SB Ramp	Signal	AM	12.4	B	16.1	B	3.7	No
			PM	7.8	A	9.9	A	2.1	No
6	Enrico Fermi Dr & Airway Rd	Signal	AM	11.6	B	31.2	C	19.6	No
			PM	12.4	B	26.6	C	14.2	No
7	Paseo De Las Americas & Airway Rd	TWSC	AM	10.3	B	10.7	B	0.4	No
			PM	10.8	B	11.1	B	0.3	No
8	Heinrich Hertz Dr/Sanyo Ave & Airway Rd	AWSC	AM	10.1	B	12.5	B	2.4	No
			PM	9.9	A	11.1	B	1.2	No
9	Enrico Fermi Dr & Otay Mesa Rd	Signal	AM	12.9	B	14.4	B	1.5	No
			PM	10.3	B	11.5	B	1.2	No
10	Sanyo Ave & Otay Mesa Rd	Signal	AM	8.2	A	9.0	A	0.8	No
			PM	9.9	A	10.6	B	0.7	No
11	Otay Mesa Rd & SR-125 NB Ramp	Signal	AM	4.2	A	3.9	A	-0.3	No
			PM	8.2	A	8.0	A	-0.2	No
12	Otay Mesa Rd & SR-125 SB Ramp	Signal	AM	14.0	B	14.1	B	0.1	No
			PM	10.4	B	10.5	B	0.1	No
13	Enrico Fermi Dr & SR-905 WB Ramp	-	AM	4.3	A	6.8	A	2.5	No
			PM	7.2	A	22.6	C	15.4	No
14	Enrico Fermi Dr & SR-905 EB Ramp	OWSC	AM	15.5	C	**43.4**	**E**	27.9	**Yes (d)**
			PM	10.0	A	12.1	B	2.1	No
15	Siempre Viva Rd & Alta Rd	Signal	AM	DNE		23.9	C	23.9	No
			PM			53.2	D	53.2	No
16	Alta Rd & Genesis Rd	OWSC	AM	DNE		21.4	C	21.4	No
			PM			33.5	D	33.5	No
17	Siempre Viva Rd & Paragon Rd	Signal	AM	DNE		7.4	A	7.4	No
			PM			13.6	B	13.6	No
18	Alta Rd & Enterprise Rd	AWSC	AM	DNE		17.3	C	17.3	No
			PM			11.7	B	11.7	No

DNE = Does not exist

(a) Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections.

(b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM) and performed using Synchro 8.

(c) Project impact is considered to be significant if the increase in delay is greater than 2.0 seconds at intersections operating at LOS E or greater than 1.0 seconds at intersections operating at LOS F.

(d) Mitigated with Improvements.

(e) Mitigated

SECTION V – SUMMARY OF IMPACTS AND MITIGATION

TRANSPORTATION IMPACT FEE (TIF)

The County of San Diego has developed an overall programmatic solution that addresses existing and projected future road deficiencies in the unincorporated portions of San Diego County. This program includes the adoption of a Transportation Impact Fee (TIF) program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. Based on SANDAG regional growth and land use forecasts, the SANDAG Regional Transportation Model was utilized to analyze projected build-out (year 2030) development conditions on the existing circulation element roadway throughout the unincorporated area of the County. Based on the results of the traffic modeling, funding necessary to construct transportation facilities that will mitigate cumulative impacts from new development was identified. Existing roadway deficiencies will be corrected through improvement projects funded by other public funding sources, such as TransNet, gas tax and grants. Potential cumulative impacts to the region's freeways have been addressed in SANDAG's Regional Transportation Plan (RTP). This plan, which considers freeway build out over the next 30 years, will use funds from TransNet, state and federal funding to improve freeways to projected level of service objectives in the RTP.

Full build out the project (Phases 1-3) is estimated to generate 25,202 average daily trips. These trips will be distributed on circulation element roadways in the County that were analyzed by the TIF program, some of which currently or are projected to operate at inadequate levels of service. The potential growth represented by the proposed project was included in the growth projections upon which the TIF program is based. Therefore, compliance with the County TIF ordinance, which will be required at issuance of building permits, in combination with other components of the program described above, will mitigate potential cumulative traffic impacts to County Circulation Element Roadways to less than significant. The TIF program provides a mechanism for developers to mitigate their cumulative impacts by paying a specified fee for the use that is being proposed.

The County Board of Supervisors adopted the County of San Diego Traffic Impact Fee (TIF) program in April 2005. The TIF Ordinance Update was updated by the Board of Supervisors. It should be noted that the actual traffic impact fees are subject to change as the TIF ordinance is updated annually as the fees are adjusted to reflect the engineering cost index. Compliance with the County TIF ordinance will mitigate any cumulative impact that the project has on the County roadway facilities located within the Otay Sub region and the South TIF region. The project proposes to comply with the County's TIF to mitigate the project's local and regional cumulative impacts within the unincorporated area.

DIRECT IMPACTS

Phase 1 Direct Impacts – Roadway Segments

As shown in Section IV, Phase 1 of the proposed project does not exceed the significance guidelines on any of the surrounding roadway segments under existing conditions plus Phase 1 of the proposed project:

- Siempre Viva Road between Enrico Fermi Drive

Phase 1 Roadway Segments Direct Impacts Recommended Mitigation Measures

Siempre Viva Road between Enrico Fermi Drive and Alta Road: The analysis and conclusion is based on the project extending Siempre Viva Road from Airway Road to Alta Road to provide the equivalent of a two (2) lane collector road to provide one (1) lane in each direction with a LOS E capacity of 16,200. With this improvement the Siempre Viva Road between Enrico Fermi Drive and Alta Road will operate at LOS D with the addition of Phase 1 project traffic.

Phase 1 Direct Impacts – Intersections

As shown in Section IV, Phase 1 of the proposed project is part of a significant direct impact at the Siempre Viva Road/Enrico Fermi Drive intersection under existing conditions plus Phase 1 of the proposed project.

Phase 1 Intersections Direct Impacts Recommended Mitigation Measures

Siempre Viva Road/ Enrico Fermi Drive: Prior to recordation of final maps for Phase 1, the Project applicant or Master Developer shall to the satisfaction of the Director of Public Works and the City of San Diego improve or agree to improve and provide security for the Siempre Viva Road/ Enrico Fermi Drive intersection. The required improvements to the intersection include roadway widening and signal modifications, to remove the split phase signal operations along Siempre Viva Road and convert the intersection to 8 phase operations. The improvements include restriping Enrico Fermi Drive to provide the following lanes to achieve an acceptable LOS at this intersection:

- One (1) eastbound left turn lane;
- One (1) eastbound through lane;
- One (1) eastbound through and right turn lane;
- One (1) westbound left turn lane;
- One (1) westbound through lanes;
- One (1) westbound shared through-right lane;
- One (1) northbound left turn lane;
- One (1) northbound through lane;
- One (1) northbound through and right turn lane;
- One (1) southbound left turn lane;
- One (1) southbound through lane; and
- One (1) southbound shared through-right lanes.

With these improvements the intersection will operate at LOS C. Table 16 summarizes the intersection Level of Service (LOS).

Phases 1-2 Direct Impacts – Roadway Segments

As shown in Section IV, Phases 1-2 of the proposed project exceeds the significance guidelines on the following roadway segments under existing conditions plus Phases 1-2 of the proposed project:

- Siempre Viva Road between Enrico Fermi Drive and Alta Road; and
- Airway Road from Airway Place to Alta Road.

Phases 1-2 Roadway Segments Direct Impacts Recommended Mitigation Measures

Siempre Viva Road between Enrico Fermi Drive and Airway Place: The proposed project's mitigation for the direct impacts under existing plus Phase 1 and 2 conditions requires the widening of eastbound Siempre Viva Road to provide two (2) lanes eastbound and restriping of westbound to provide the equivalent of a four (4) lane collector road.

Airway Road from Airway Place to Alta Road: The proposed projects mitigation for its direct impacts under Opening Day 2015 Plus Phases 1 and 2 require Airway Road to be constructed to provide two (2) travel lanes equivalent to a 2-lane collector road.

Phases 1-2 Direct Impacts – Intersections

As shown in Section IV, Phases 1-2 of the proposed project does not create any significant direct intersection impacts under existing conditions plus Phases 1 and 2 of the proposed project provided the Phase 1 mitigation measures at Siempre Viva Road/Enrico Fermi Drive are constructed.

Table 16 – Level of Service with Phase 1 Mitigation Improvements

Intersection	Traffic Control	Peak Hour	Year 2015 Conditions		Year 2015 Conditions Plus Phases 1		Year 2015 Conditions Plus Phases 1& Mitigation		Δ in Delay	Proposed Mitigation
			Delay (a)	LOS (b)	Delay (a)	LOS (b)	Delay (a)	LOS (b)		
Enrico Fermi Dr & Siempre Viva Rd	Signal	AM	25.4	C	**61.2**	**E**	33.0	C	-28.2	Remove split phase operations along Siempre Viva Rd and convert intersection to standard 8-phase operation. Restripe EB movement to provide a single left-turn lane and two through lanes.
		PM	22.3	C	**60.5**	**E**	25.6	C	-34.9	

(a) = Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections, (b) = LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM) and performed using Synchro 8.

Table 17 – Level of Service with Phases 1 thru 3 Mitigation Improvements

Intersection	Traffic Control	Peak Hour	Year 2015 Conditions		Year 2015 Conditions Plus Phases 1 thru 3		Year 2015 Conditions Plus Phases 1 thru 3 & Mitigation			Δ in Delay	Proposed Mitigation
			Delay (a)	LOS (b)	Delay (a)	LOS (b)	Traffic Control	Delay (a)	LOS (b)		
Enrico Fermi Dr & Siempre Viva Rd	Signal	AM	25.4	C	**68.8**	**E**	Signal	41.1	D	-27.7	Add a 2nd dual southbound left-turn lane along Enrico Fermi Rd.
		PM	22.3	C	29.4	C		26.4	C	-3.0	
Michael Faraday Dr & Siempre Viva Rd	TWSC	AM	10.4	B	**61.3**	**F**	Signal	10.0	A	-51.3	Signalize intersection.
		PM	11.1	B	**59.5**	**F**		13.8	B	-45.7	
Enrico Fermi Dr & SR-905 EB Ramp	OWSC	AM	10.4	B	**43.4**	**E**	OWSC	29.5	D	-13.9	Widen the south leg along Enrico Fermi Rd to allow for a free right-turn from the SR-905 EB Off-Ramp.
		PM	11.1	B	12.1	B		25.7	B	13.6	

(a) = Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections, (b) = LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (HCM) and performed using Synchro 8.

Phases 1-3 Direct Impacts – Roadway Segments

As shown in Section IV, Phases 1-3 of the proposed project exceeds the significance guidelines on the following roadway segments under existing conditions plus Phases 1-3 of the proposed project:

- Siempre Viva Road between Enrico Fermi Drive and Airway Place; and
- Siempre Viva Road between Airway Place and Alta Road.

Phases 1-3 Roadway Segments Direct Impacts Recommended Mitigation Measures

Siempre Viva Road between Enrico Fermi Drive and Airway Place: The proposed project's mitigation for the direct impacts under existing plus Phase 1 and 2 conditions requires the widening of eastbound Siempre Viva Road to provide two (2) lanes eastbound and restriping of westbound to provide the equivalent of a four (4) Lane Collector Road.

Airway Road from Airway Place to Alta Road: The proposed projects mitigation for its direct impacts under Opening Day 2015 Plus Phases 1 and 2 require Airway Road to be constructed to provide two (2) lanes in each direction plus turn lanes at intersections.

Phases 1-3 Direct Impacts – Intersections

As shown in Section IV, Phases 1-3 of the proposed project is part of a significant direct impact at the following intersections under existing conditions plus Phases 1-3 of the proposed project:

- Siempre Viva Road/Michael Faraday Drive;
- Siempre Viva Road/Enrico Fermi Drive; and
- Enrico Fermi Drive at SR-905 eastbound off ramp.

Table 17 summarizes the intersection analysis and the mitigated LOS.

Phases 1-3 Intersections Direct Impacts Recommended Mitigation Measures

Siempre Viva Road/Michael Faraday Drive: Prior issuance of building permits for Phase 1 of the project, the Project applicant or Master Developer shall to the satisfaction of the Director of Public Works and the City of San Diego improve or agree to improve and provide security for the Siempre Viva Road/Michael Faraday Drive intersection. The required improvement is to signalize the intersection to accommodate the following existing lane configurations:

- One (1) eastbound left turn lane;
- One (1) eastbound through lane;
- One (1) eastbound through and right turn lane;
- One (1) westbound left turn lane;
- One (1) westbound through lanes;
- One (1) westbound shared through-right lane;
- One (1) northbound left turn lane;
- One (1) northbound through lane;
- One (1) northbound through and right turn lane;
- One (1) southbound left turn lane;
- One (1) southbound through lane; and
- One (1) southbound shared through-right lane.

Siempre Viva Road/Enrico Fermi Drive: The proposed project's mitigation for the direct impacts under existing plus Phases 1-3 of the proposed project will require the Phase 1 mitigation plus the addition of a second southbound left turn lane on Enrico Fermi Drive. Prior to recordation of final maps for Phase 3, the Project applicant or Master Developer shall widen the Siempre Viva Road/Enrico Fermi Drive

intersection and modify the existing traffic signal to provide the following lane configurations, or shall implement other improvements that are acceptable to both the City and County of San Diego and that achieve an acceptable LOS at this intersection:

- One (1) eastbound left turn lane;
- One (1) eastbound through lane;
- One (1) eastbound shared through-right lane;
- One (1) westbound left turn lane;
- One (1) westbound through lane;
- One (1) westbound shared through-right lane;
- One (1) northbound left turn lane;
- One (1) northbound through lane;
- One (1) northbound shared through-right lane;
- Two (2) southbound left turn lanes;
- One (1) southbound through lane; and
- One (1) southbound shared through-right lane.

Enrico Fermi Drive at SR-905 Eastbound off ramp: Prior to recordation of Final Maps for Phase 3, projects Applicant or Master Developer will widen Enrico Fermi Drive south from the off ramp to add a second southbound thru lane to accommodate the eastbound SR-905 right turning vehicles.

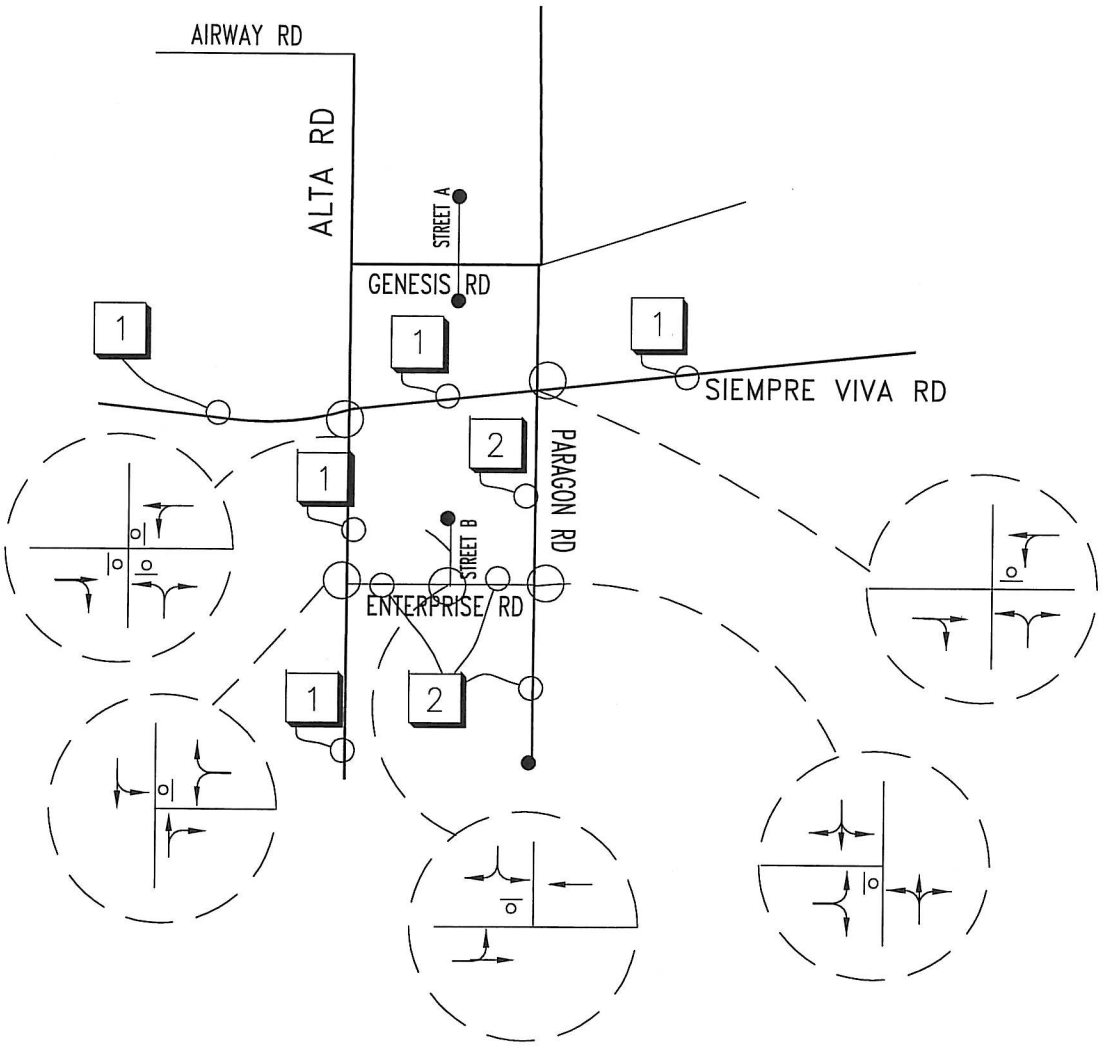
PROJECT SITE AND ACCESS IMPROVEMENTS

The project applicant for Otay Business Park Development (TM 5505) will be responsible for extending Siempre Viva Road from Airway Place to Alta Road with Phase 1 and constructing the off-site segment of Airway Road between Airway Place and Alta Road with Phases 2 and 3 to provide access to the project site. The segment of Airway Road between Airway Place and Alta Road and will need to be improved to the standards of a 2-Lane Collector prior to the recordation of the final maps for Phase 2, while the segment of Siempre Viva Road between Airway Place and Alta Road will need to be improved to the standards of a 4-Lane Collector prior to recordation of the final maps for Phase 3. In addition, the project applicant will be responsible for constructing the on-site circulation element roads of Siempre Viva Road, and Alta Road along the project's frontage and the non-circulation element roads within the project site in order to facilitate access within the project site.

SITE IMPROVEMENTS

Roadway, traffic lanes and traffic control at intersections have been identified for each phase of development. Figure 16 presents the Phase 1 Site improvements. Figure 17 presents the recommended improvements for Phases 1 and 2. Figure 18 presents the site improvements for Phases 1, 2 and 3.

Traffic signal control is identified in Phase 2 and 3 for the Siempre Viva Road and Alta Road intersection. Right-of-Way controls at each of the remaining intersections are identified for stop sign control. The intersection of Siempre Viva Road at Paragon Road has been identified with stop sign controls. In the future when SR-11 is extended to the Siempre Viva Road/Paragon Road intersection may warrant traffic signal control.



LEGEND

- → – TRAVEL LANE
- ▣ – TRAFFIC SIGNAL
- o| – STOP SIGN
- ● – CUL–DE–SAK
- [1] – CONSTRUCT HALF OF 4.1B MAJOR ROAD TO PROVIDE ONE LANE IN EACH DIRECTION PLUS TURN LANE AT INTERSECTION
- [2] – CONSTRUCT PLANNED ROADWAY PER PROPOSED TTM
- [5] – INSTALL STOP SIGNS AND TRAFFIC SIGNALS AS SHOWN

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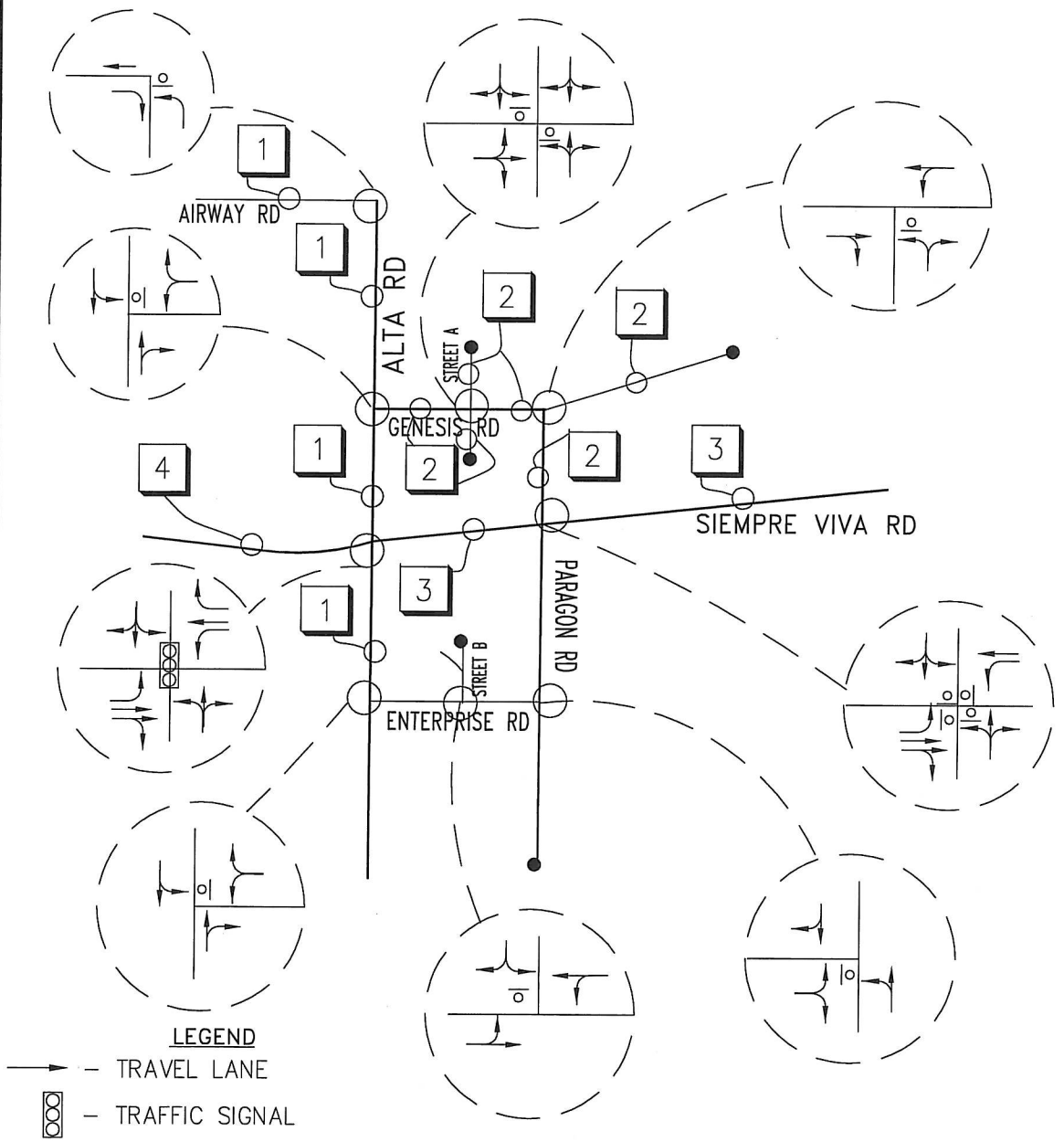
121102 – FIGURE DD 09/30/14 jam

FIGURE 16
PHASE 1
SITE IMPROVEMENTS



LEGEND

- TRAVEL LANE
- TRAFFIC SIGNAL
- STOP SIGN
- CUL-DE-SAC
- [1] – CONSTRUCT HALF OF 4.1B MAJOR ROAD TO PROVIDE ONE LANE IN EACH DIRECTION PLUS TURN LANE AT INTERSECTION
- [2] – CONSTRUCT PLANNED ROADWAY PER PROPOSED TTM
- [3] – WIDEN PHASE 1 IMPROVEMENTS SHOWN ON FIGURE 16 TO PROVIDE 4.1B MAJOR ROAD IMPROVEMENTS
- [4] – WIDEN PHASE 1 IMPROVEMENTS IDENTIFIED ON FIGURE 16 TO PROVIDE TWO LANES IN EACH DIRECTION PLUS TURN LANE AT INTERSECTIONS
- [5] – INSTALL STOP SIGNS AND TRAFFIC SIGNALS AS SHOWN

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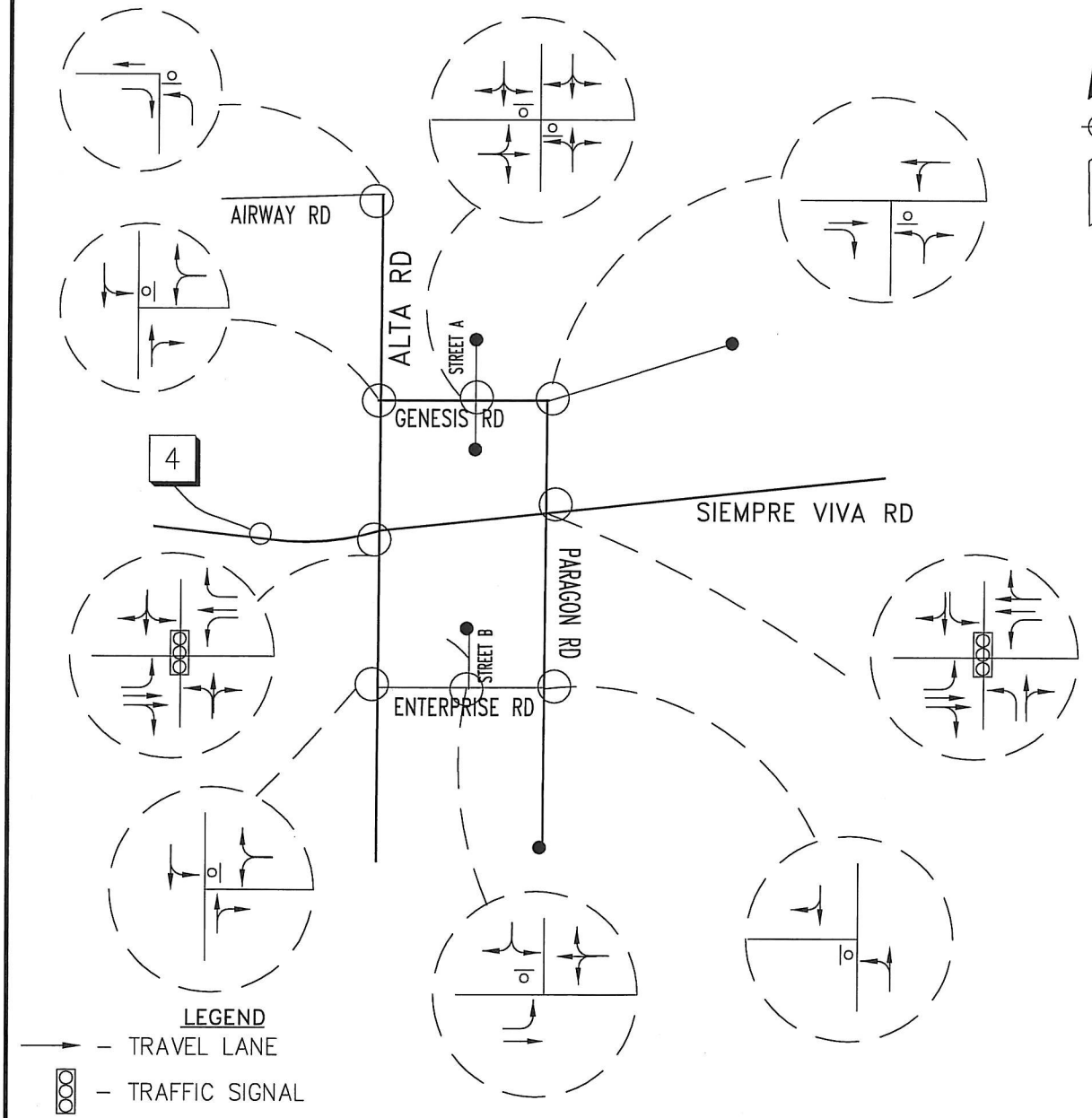
121102 – FIGURE DD 09/30/14 jam

FIGURE 17
PHASES 1 AND 2
SITE IMPROVEMENTS



LEGEND

- TRAVEL LANE
- TRAFFIC SIGNAL
- STOP SIGN
- CUL-DE-SAC
- [1] – CONSTRUCT HALF OF 4.1B MAJOR ROAD TO PROVIDE ONE LANE IN EACH DIRECTION PLUS TURN LANE AT INTERSECTION
- [2] – CONSTRUCT PLANNED ROADWAY PER PROPOSED TTM
- [3] – WIDEN PHASE 1 IMPROVEMENTS SHOWN ON FIGURE 16 TO PROVIDE 4.1B MAJOR ROAD IMPROVEMENTS
- [4] – WIDEN PHASE 1 IMPROVEMENTS IDENTIFIED ON FIGURE 16 TO PROVIDE TWO LANES IN EACH DIRECTION PLUS TURN LANE AT INTERSECTIONS
- [5] – INSTALL STOP SIGNS AND TRAFFIC SIGNALS AS SHOWN

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121102 – FIGURE DD 09/30/14 jam

FIGURE 18
PHASES 1, 2 AND 3 SITE IMPROVEMENTS

Year 2050 Traffic Forecasts for the Otay Mesa Specific Plan and General Plan Land Uses include the construction of Airway Road as a 4.1A Major Road (4-lanes with a raised median) from Alta Road to Siempre Viva Road. The previously approved tentative map for the project provided for this segment of Airway Road. However the realignment of SR-11 by Caltrans has required the project to be redesigned.

The redesign for Airway Road between Alta Road was prepared and it was concluded that it was not feasible to construct the road to meet the County's Public Road Standards. Further the analysis concluded that the realignment of SR-11 would result in the roadway to be constructed such that it would not provide any access to the project.

To determine the need for the roadway segment, SANDAG 2050 Traffic Forecasts for the Otay Mesa area were assembled. Figure 19 presents the forecasted traffic volumes with Airway Road. Review of Figure 16 shows 3,800 daily vehicles are forecasted for the Year 2050 to utilize this roadway link. The 3,800 daily vehicle forecast was examined to determine the impact of removing the segment from the Mobility Element for Otay Mesa.

To test the need for Airway Road between Alta Road and Siempre Viva Road, Year 2050 Traffic Forecasts were prepared by SANDAG without the subject Airway Road link. Figure 20 presents the 2050 Traffic Forecasts for this condition.

To determine the impact of deleting the subject Airway Road Link we analyzed the impacts of deleting the roadway link by comparing the traffic volumes with and without Airway Road. Table 18 provides the comparative analysis.

Table 18 –. Comparison of 2050 Forecasts with and Without Airway Road

Roadway	Classification	Capacity LOS E	2050 Daily Forecasts				2050 ADT Increase or Decrease
			With Airway Road		Without Airway Road		
			ADT	LOS	ADT	LOS	
Airway Rd.							
W/O Enrico Fermi Dr.	4.1A Major Road	37,000	11,900	A	12,500	A	+600
Enrico Fermi Dr to Alta Rd	4.1A Major Road	37,000	15,100	B	16,200	B	+1,100
Alta Road to Siempre Viva Rd.	4.1A Major Road	37,000	3,800	A	0	N/A	-3,800
Alta Rd.							
Siempre Viva Rd. to Airway Rd.	4.1A Major Road	37,000	10,700	A	11,700	A	+1,000
Airway Rd. to Otay Mesa Rd.	4.1A Major Road	37,000	19,900	B	19,600	B	-300
Siempre Viva Rd.							
W/O Enrico Fermi Dr	4.1A Major Road	37,000	30,900	D	32,400	D	+1,500
Enrico Fermi Dr to Alta Rd	4.1A Major Road	37,000	26,700	C	27,900	C	+1,200
E/O Alta Rd to Paragon Rd	4.1A Major Road	37,000	12,500	B	16,200	B	+3,700
Paragon Rd. to Airway Rd.	4.1A Major Road	37,000	12,100	A	16,100	B	+4,000
Enrico Fermi Dr.							
Siempre Viva Rd. to Airway Rd.	4.1A Major Road	37,000	6,600	A	7,300	A	+700
Airway Rd. to SR-905/SR-11	4.1A Major Road	37,000	16,100	B	16,700	B	+600

Note: Source is from SANDAG Modeling Forecasts Plots.

Review of Table 18 and Figures 19 and 20 allows the conclusion that the deletion of Airway Road from Alta Road to Siempre Viva Road can be accommodated on the surrounding roadways without creating an impact or changing the 2050 Level of Service. The only impact that is created in an increase in the daily 2050 Forecasts from a minus 300 to a plus 4,000 daily vehicles, each of the increase do not result in a change of Level of Service. Therefore it can be concluded that the deletion of Airway Road between Alta Road and Siempre Viva Road can be approved.

SECTION VII - SUMMARY OF FINDINGS AND CONCLUSIONS

- The applicant proposes to develop the Otay Business Park on a 161.6 gross acre site (120.11 net acres) located on the southeast corner of Alta Road and Airway Road in the East Otay Mesa Area of San Diego County.

- The proposed project consists of approximately 1,575,130 square feet of business park use with a mix of warehousing, manufacturing, assembly, storage, science research and development and commercial facilities.

- It is anticipated that the project will be developed in three phases.

- Phase 1 of the proposed project is estimated to generate 8,913 average daily trips (ADT), 1,070 morning peak hour trips, and 1,070 afternoon peak hour trips. The combination of Phases 1-2 of the project is estimated to generate 18,885 ADT, 2,257 AM peak hour trips, and 2,257 PM peak hour trips. Phases 1-3 of the proposed project will generate 25,202 ADT, 3,015 AM peak hour trips, and 3,015 PM peak hour trips.

- The project is part of significant direct and cumulative impacts in the City and County of San Diego. See Section V for a summary of the recommended measures to mitigate the project's direct and cumulative impacts.

- The Mobility Element for Otay Mesa will need to be amended to delete Airway Road from Alta Road to Siempre Viva Road. Section IV of the report provides a focused comparative analysis of 2050 Traffic Conditions analysis with and without Airway Road from Alta Road to Siempre Viva Road.

- The project applicant will be responsible for constructing the off-site segments of Airway Road and Siempre Viva Road between Airway Place and Alta Road in order to provide access to the project site. In addition, the project applicant will be responsible for constructing the on-site circulation element roads of Siempre Viva Road, and Alta Road along their project's frontage and the non-circulation element roads within the project site in order to facilitate access within the project site.

- Figure 16, 17 and 18 identifies the projects on-site roadway, intersection and traffic controls for project Phases 1, 1 and 2 and 1, 2 and 3 respectively.

APPENDIX A

- 24 Hour Machine Counts
- AM/PM Peak Hour Traffic Counts

Env. Log No. PDS2014-ER-9319006WW
Proj. No. PDS2014-GPA-14-004; PDS2014-SPA14-002; PDS2014-TM5505R

24 Hour Machine Counts

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

SIEMPRE VIVA E-O ENRICO FERMI

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		1			12:00			3		12		
00:15			0		0			12:15			5		12		
00:30			0		0			12:30			2		12		
00:45			0	0	0	1	1	12:45			4	14	12	48	62
01:00			1		2			13:00			4		8		
01:15			0		0			13:15			4		11		
01:30			0		0			13:30			5		16		
01:45			0	1	0	2	3	13:45			4	17	7	42	59
02:00			0		0			14:00			3		8		
02:15			0		0			14:15			5		7		
02:30			0		0			14:30			4		15		
02:45			0	0	0	0		14:45			4	16	9	39	55
03:00			0		0			15:00			2		15		
03:15			0		0			15:15			2		11		
03:30			0		0			15:30			1		11		
03:45			0	0	0	0		15:45			2	7	14	51	58
04:00			0		0			16:00			1		9		
04:15			0		0			16:15			2		11		
04:30			0		0			16:30			1		9		
04:45			1	1	1	1	2	16:45			3	7	11	40	47
05:00			1		0			17:00			0		7		
05:15			1		0			17:15			5		9		
05:30			1		0			17:30			1		13		
05:45			1	4	0	0	4	17:45			4	10	10	39	49
06:00			0		1			18:00			0		9		
06:15			1		12			18:15			1		9		
06:30			1		10			18:30			2		9		
06:45			2	4	9	32	36	18:45			0	3	5	32	35
07:00			5		11			19:00			1		19		
07:15			1		9			19:15			0		10		
07:30			5		12			19:30			0		23		
07:45			3	14	15	47	61	19:45			1	2	12	64	66
08:00			2		11			20:00			1		3		
08:15			4		8			20:15			0		5		
08:30			1		10			20:30			0		4		
08:45			7	14	13	42	56	20:45			1	2	3	15	17
09:00			3		12			21:00			0		1		
09:15			4		5			21:15			0		1		
09:30			4		7			21:30			0		0		
09:45			4	15	15	39	54	21:45			1	1	1	3	4
10:00			4		13			22:00			0		1		
10:15			5		13			22:15			1		1		
10:30			4		19			22:30			0		1		
10:45			3	16	11	56	72	22:45			0	1	0	3	4
11:00			3		12			23:00			0		0		
11:15			4		10			23:15			0		0		
11:30			5		12			23:30			0		1		
11:45			6	18	12	46	64	23:45			0	0	0	1	1
Total Vol.				87		266	**353**					80		377	**457**

Daily Totals

NB	SB	EB	WB	Combined
		167	643	**810**

	AM			PM		
Split %	24.6%	75.4%	**43.6%**	17.5%	82.5%	**56.4%**
Peak Hour	11:30	09:45	**09:45**	12:45	19:00	**19:00**
Volume	19	60	**77**	17	64	**66**
P.H.F.	0.79	0.79	**0.84**	0.85	0.70	**0.72**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

SIEMPRE VIVA BTN MICHAEL FARADAY & ENRICO FERMI

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			3		4			12:00			25		26		
00:15			2		2			12:15			21		45		
00:30			4		0			12:30			20		41		
00:45			2	11	1	7	18	12:45			22	88	45	157	245
01:00			3		2			13:00			22		50		
01:15			1		2			13:15			17		40		
01:30			0		1			13:30			26		56		
01:45			2	6	1	6	12	13:45			13	78	52	198	276
02:00			1		1			14:00			17		41		
02:15			1		3			14:15			18		51		
02:30			3		1			14:30			19		46		
02:45			2	7	2	7	14	14:45			14	68	47	185	253
03:00			5		0			15:00			9		64		
03:15			5		2			15:15			15		50		
03:30			1		0			15:30			12		50		
03:45			5	16	4	6	22	15:45			11	47	61	225	272
04:00			6		2			16:00			15		45		
04:15			13		1			16:15			15		77		
04:30			18		2			16:30			12		51		
04:45			35	72	8	13	85	16:45			10	52	66	239	291
05:00			3		3			17:00			15		58		
05:15			6		4			17:15			18		44		
05:30			6		2			17:30			10		48		
05:45			9	24	9	18	42	17:45			13	56	40	190	246
06:00			6		2			18:00			9		41		
06:15			10		42			18:15			6		40		
06:30			12		47			18:30			6		30		
06:45			14	42	35	126	168	18:45			8	29	38	149	178
07:00			22		48			19:00			4		58		
07:15			15		33			19:15			3		42		
07:30			21		45			19:30			1		40		
07:45			28	86	51	177	263	19:45			1	9	39	179	188
08:00			25		33			20:00			4		25		
08:15			22		28			20:15			2		23		
08:30			25		41			20:30			2		8		
08:45			26	98	50	152	250	20:45			2	10	10	66	76
09:00			24		52			21:00			3		5		
09:15			10		37			21:15			3		3		
09:30			9		38			21:30			5		3		
09:45			19	62	55	182	244	21:45			4	15	4	15	30
10:00			21		46			22:00			1		6		
10:15			17		48			22:15			4		2		
10:30			22		41			22:30			0		2		
10:45			17	77	59	194	271	22:45			3	8	1	11	19
11:00			13		61			23:00			4		1		
11:15			18		42			23:15			2		1		
11:30			25		54			23:30			3		3		
11:45			19	75	39	196	271	23:45			3	12	0	5	17
Total Vol.				576		1084	**1660**					472		1619	**2091**

Daily Totals

NB	SB	EB	WB	Combined
		1048	2703	**3751**

	AM			PM		
Split %	34.7%	65.3%	**44.3%**	22.6%	77.4%	**55.7%**
Peak Hour	07:45	10:45	**10:45**	12:00	16:15	**16:15**
Volume	100	216	**289**	88	252	**304**
P.H.F.	0.89	0.89	**0.91**	0.88	0.82	**0.83**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

SIEMPRE VIVA BTN PASEO DE LAS AMERICAS & MICHAEL FARADAY

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		2			12:00			37		59		
00:15			6		3			12:15			46		55		
00:30			3		0			12:30			38		55		
00:45			3	12	4	9	21	12:45			43	164	50	219	383
01:00			2		3			13:00			43		70		
01:15			6		0			13:15			61		63		
01:30			3		1			13:30			49		54		
01:45			3	14	3	7	21	13:45			39	192	58	245	437
02:00			1		2			14:00			40		53		
02:15			1		1			14:15			49		94		
02:30			2		1			14:30			38		43		
02:45			2	6	1	5	11	14:45			39	166	60	250	416
03:00			3		2			15:00			39		55		
03:15			3		1			15:15			35		57		
03:30			3		2			15:30			35		73		
03:45			5	14	1	6	20	15:45			32	141	55	240	381
04:00			7		1			16:00			38		88		
04:15			3		0			16:15			40		91		
04:30			6		2			16:30			28		80		
04:45			9	25	5	8	33	16:45			20	126	77	336	462
05:00			20		3			17:00			41		71		
05:15			25		0			17:15			22		84		
05:30			60		7			17:30			15		68		
05:45			9	114	6	16	130	17:45			11	89	66	289	378
06:00			11		4			18:00			22		56		
06:15			13		2			18:15			16		58		
06:30			22		8			18:30			15		44		
06:45			14	60	4	18	78	18:45			19	72	29	187	259
07:00			33		38			19:00			13		45		
07:15			28		44			19:15			14		44		
07:30			41		45			19:30			12		41		
07:45			44	146	51	178	324	19:45			15	54	49	179	233
08:00			51		29			20:00			9		37		
08:15			35		31			20:15			6		29		
08:30			44		56			20:30			5		16		
08:45			41	171	61	177	348	20:45			8	28	13	95	123
09:00			33		44			21:00			7		20		
09:15			37		48			21:15			4		30		
09:30			43		39			21:30			3		10		
09:45			47	160	31	162	322	21:45			4	18	11	71	89
10:00			31		43			22:00			5		10		
10:15			27		41			22:15			12		3		
10:30			45		48			22:30			5		2		
10:45			63	166	42	174	340	22:45			2	24	26	41	65
11:00			39		59			23:00			5		0		
11:15			61		51			23:15			2		6		
11:30			46		54			23:30			4		2		
11:45			37	183	61	225	408	23:45			5	16	5	13	29
Total Vol.				1071		985	**2056**					1090		2165	**3255**

Daily Totals

NB	SB	EB	WB	Combined
		2161	3150	**5311**

	AM			PM		
Split %	52.1%	47.9%	**38.7%**	33.5%	66.5%	**61.3%**
Peak Hour	10:45	11:45	**10:45**	12:45	16:00	**16:00**
Volume	209	230	**415**	196	336	**462**
P.H.F.	0.83	0.94	**0.93**	0.80	0.92	**0.88**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

SIEMPRE VIVA BTN SR-905 NB RAMPS & PASEO DE LAS AMERICAS

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			14		15			12:00			116		134		
00:15			8		18			12:15			126		134		
00:30			4		13			12:30			117		130		
00:45			12	38	10	56	94	12:45			122	481	135	533	1014
01:00			2		5			13:00			126		145		
01:15			11		7			13:15			111		156		
01:30			3		7			13:30			115		132		
01:45			5	21	8	27	48	13:45			106	458	166	599	1057
02:00			4		3			14:00			101		175		
02:15			6		2			14:15			91		134		
02:30			5		5			14:30			106		146		
02:45			3	18	4	14	32	14:45			94	392	152	607	999
03:00			5		2			15:00			115		144		
03:15			12		8			15:15			102		159		
03:30			17		9			15:30			95		153		
03:45			15	49	5	24	73	15:45			100	412	144	600	1012
04:00			19		5			16:00			89		186		
04:15			23		17			16:15			91		169		
04:30			41		20			16:30			84		195		
04:45			58	141	19	61	202	16:45			60	324	152	702	1026
05:00			65		27			17:00			115		184		
05:15			35		34			17:15			68		175		
05:30			41		43			17:30			61		156		
05:45			48	189	35	139	328	17:45			51	295	123	638	933
06:00			59		40			18:00			83		120		
06:15			52		40			18:15			66		137		
06:30			62		72			18:30			75		113		
06:45			70	243	97	249	492	18:45			68	292	118	488	780
07:00			93		66			19:00			83		114		
07:15			97		70			19:15			62		142		
07:30			121		91			19:30			43		101		
07:45			152	463	98	325	788	19:45			39	227	89	446	673
08:00			126		77			20:00			41		78		
08:15			105		75			20:15			57		67		
08:30			115		115			20:30			40		67		
08:45			108	454	121	388	842	20:45			34	172	55	267	439
09:00			98		142			21:00			36		58		
09:15			120		125			21:15			31		33		
09:30			102		135			21:30			38		34		
09:45			102	422	123	525	947	21:45			29	134	31	156	290
10:00			113		132			22:00			24		39		
10:15			122		129			22:15			19		51		
10:30			109		123			22:30			17		17		
10:45			101	445	114	498	943	22:45			17	77	14	121	198
11:00			95		123			23:00			14		20		
11:15			110		135			23:15			21		16		
11:30			105		134			23:30			11		9		
11:45			114	424	156	548	972	23:45			16	62	14	59	121
Total Vol.				2907		2854	**5761**					3326		5216	**8542**

Daily Totals

NB	SB	EB	WB	Combined
		6233	8070	**14303**

	AM			PM		
Split %	50.5%	49.5%	**40.3%**	38.9%	61.1%	**59.7%**
Peak Hour	07:30	11:15	**11:45**	12:15	16:30	**13:15**
Volume	504	559	**1027**	491	706	**1062**
P.H.F.	0.83	0.90	**0.95**	0.97	0.91	**0.96**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

ENRICO FERMI BTN SIEMPRE VIVA & AIRWAY

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	3		4					12:00	17		12				
00:15	2		1					12:15	15		9				
00:30	1		3					12:30	11		13				
00:45	1	7	2	10			17	12:45	21	64	14	48			112
01:00	3		2					13:00	23		11				
01:15	1		1					13:15	18		11				
01:30	1		0					13:30	30		15				
01:45	1	6	1	4			10	13:45	22	93	14	51			144
02:00	1		0					14:00	19		10				
02:15	1		1					14:15	15		18				
02:30	1		2					14:30	20		15				
02:45	1	4	3	6			10	14:45	18	72	11	54			126
03:00	1		4					15:00	16		19				
03:15	2		4					15:15	20		16				
03:30	0		1					15:30	21		20				
03:45	5	8	4	13			21	15:45	28	85	18	73			158
04:00	3		4					16:00	28		21				
04:15	2		5					16:15	44		20				
04:30	3		9					16:30	31		15				
04:45	19	27	11	29			56	16:45	35	138	18	74			212
05:00	5		1					17:00	31		21				
05:15	4		5					17:15	36		14				
05:30	0		4					17:30	32		10				
05:45	8	17	6	16			33	17:45	28	127	9	54			181
06:00	2		3					18:00	22		7				
06:15	7		7					18:15	26		9				
06:30	15		9					18:30	20		10				
06:45	22	46	11	30			76	18:45	19	87	5	31			118
07:00	24		12					19:00	20		4				
07:15	26		9					19:15	15		6				
07:30	33		18					19:30	18		4				
07:45	31	114	15	54			168	19:45	22	75	3	17			92
08:00	30		10					20:00	15		2				
08:15	25		19					20:15	11		4				
08:30	26		16					20:30	9		1				
08:45	33	114	11	56			170	20:45	10	45	2	9			54
09:00	28		10					21:00	5		1				
09:15	20		9					21:15	4		0				
09:30	19		12					21:30	9		1				
09:45	20	87	11	42			129	21:45	4	22	2	4			26
10:00	15		9					22:00	3		0				
10:15	22		10					22:15	1		1				
10:30	26		10					22:30	4		1				
10:45	21	84	5	34			118	22:45	1	9	2	4			13
11:00	18		4					23:00	0		1				
11:15	26		9					23:15	1		1				
11:30	24		10					23:30	2		2				
11:45	21	89	8	31			120	23:45	0	3	1	5			8
Total Vol.		603		325			**928**			820		424			**1244**

Daily Totals

NB	SB	EB	WB	Combined
1423	749			**2172**

	AM			PM		
Split %	65.0%	35.0%	**42.7%**	65.9%	34.1%	**57.3%**
Peak Hour	07:15	07:30	**07:30**	16:15	15:30	**16:15**
Volume	120	62	**181**	141	79	**215**
P.H.F.	0.91	0.82	**0.89**	0.82	0.94	**0.84**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

AIRWAY BTN MICHAEL FARADAY & ENRICO FERMI

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		0			12:00			9		16		
00:15			0		0			12:15			6		12		
00:30			3		0			12:30			4		17		
00:45			4	7	0	0	7	12:45			10	29	14	59	88
01:00			2		0			13:00			9		9		
01:15			0		0			13:15			8		10		
01:30			0		4			13:30			11		16		
01:45			0	2	0	4	6	13:45			10	38	11	46	84
02:00			0		0			14:00			9		15		
02:15			0		0			14:15			6		19		
02:30			0		0			14:30			4		14		
02:45			0	0	0	0		14:45			10	29	11	59	88
03:00			3		0			15:00			9		18		
03:15			0		1			15:15			4		15		
03:30			0		0			15:30			5		19		
03:45			0	3	5	6	9	15:45			6	24	18	70	94
04:00			3		0			16:00			6		18		
04:15			0		0			16:15			9		20		
04:30			4		1			16:30			1		15		
04:45			1	8	3	4	12	16:45			8	24	22	75	99
05:00			3		0			17:00			8		29		
05:15			2		1			17:15			10		21		
05:30			3		0			17:30			7		21		
05:45			0	8	2	3	11	17:45			5	30	20	91	121
06:00			1		1			18:00			5		15		
06:15			4		13			18:15			4		9		
06:30			6		17			18:30			7		12		
06:45			3	14	26	57	71	18:45			5	21	11	47	68
07:00			1		8			19:00			5		15		
07:15			4		9			19:15			9		9		
07:30			7		10			19:30			5		14		
07:45			8	20	12	39	59	19:45			6	25	7	45	70
08:00			4		15			20:00			3		9		
08:15			10		14			20:15			0		5		
08:30			5		20			20:30			5		4		
08:45			4	23	11	60	83	20:45			1	9	6	24	33
09:00			12		9			21:00			4		2		
09:15			9		10			21:15			3		1		
09:30			5		4			21:30			1		1		
09:45			4	30	9	32	62	21:45			2	10	0	4	14
10:00			3		11			22:00			7		2		
10:15			6		15			22:15			0		1		
10:30			4		10			22:30			3		1		
10:45			5	18	14	50	68	22:45			2	12	0	4	16
11:00			9		15			23:00			3		0		
11:15			10		18			23:15			0		0		
11:30			5		11			23:30			0		1		
11:45			4	28	9	53	81	23:45			1	4	0	1	5
Total Vol.				161		308	**469**					255		525	**780**

Daily Totals

NB	SB	EB	WB	Combined
		416	833	**1249**

	AM			PM		
Split %	34.3%	65.7%	**37.6%**	32.7%	67.3%	**62.4%**
Peak Hour	08:15	06:15	**07:45**	12:45	16:45	**16:45**
Volume	31	64	**88**	38	93	**126**
P.H.F.	0.65	0.62	**0.88**	0.86	0.80	**0.85**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

AIRWAY BTN SANYO & PASEO DE LAS AMERICAS

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			0		1			12:00			22		21		
00:15			2		2			12:15			20		35		
00:30			4		1			12:30			19		26		
00:45			2	8	1	5	13	12:45			19	80	31	113	193
01:00			0		0			13:00			11		25		
01:15			0		3			13:15			16		44		
01:30			0		1			13:30			20		32		
01:45			0	0	0	4	4	13:45			18	65	42	143	208
02:00			1		2			14:00			15		35		
02:15			1		1			14:15			18		33		
02:30			0		1			14:30			15		31		
02:45			1	3	2	6	9	14:45			10	58	44	143	201
03:00			0		0			15:00			11		28		
03:15			0		2			15:15			12		35		
03:30			1		1			15:30			15		40		
03:45			3	4	0	3	7	15:45			18	56	40	143	199
04:00			2		2			16:00			24		41		
04:15			3		1			16:15			26		55		
04:30			5		2			16:30			11		55		
04:45			2	12	1	6	18	16:45			19	80	31	182	262
05:00			1		1			17:00			25		56		
05:15			2		2			17:15			20		41		
05:30			4		3			17:30			24		40		
05:45			6	13	4	10	23	17:45			21	90	35	172	262
06:00			5		7			18:00			15		31		
06:15			6		11			18:15			15		38		
06:30			9		21			18:30			11		29		
06:45			11	31	18	57	88	18:45			9	50	22	120	170
07:00			15		21			19:00			12		20		
07:15			20		28			19:15			6		26		
07:30			22		33			19:30			4		18		
07:45			31	88	26	108	196	19:45			4	26	21	85	111
08:00			20		31			20:00			2		15		
08:15			31		25			20:15			5		8		
08:30			28		31			20:30			3		9		
08:45			21	100	40	127	227	20:45			3	13	6	38	51
09:00			20		44			21:00			1		6		
09:15			25		32			21:15			0		5		
09:30			15		32			21:30			1		4		
09:45			15	75	31	139	214	21:45			2	4	1	16	20
10:00			19		33			22:00			1		3		
10:15			19		35			22:15			0		2		
10:30			22		31			22:30			0		2		
10:45			23	83	33	132	215	22:45			3	4	2	9	13
11:00			20		38			23:00			0		3		
11:15			18		25			23:15			0		2		
11:30			15		21			23:30			1		1		
11:45			19	72	20	104	176	23:45			1	2	1	7	9
Total Vol.				489		701	**1190**					528		1171	**1699**

	AM			PM		
Split %	41.1%	58.9%	**41.2%**	31.1%	68.9%	**58.8%**
Peak Hour	07:45	08:45	**08:30**	17:00	16:15	**16:15**
Volume	110	148	**241**	90	197	**278**
P.H.F.	0.89	0.84	**0.94**	0.90	0.88	**0.86**

Daily Totals

NB	SB	EB	WB	Combined
		1017	1872	**2889**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

AIRWAY W-O SANYO

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			3		2			12:00			28		31		
00:15			1		1			12:15			30		25		
00:30			0		2			12:30			28		29		
00:45			0	4	1	6	10	12:45			22	108	25	110	218
01:00			1		2			13:00			25		22		
01:15			2		0			13:15			31		30		
01:30			0		1			13:30			32		26		
01:45			1	4	0	3	7	13:45			21	109	22	100	209
02:00			0		0			14:00			18		25		
02:15			2		0			14:15			20		31		
02:30			1		1			14:30			22		26		
02:45			0	3	0	1	4	14:45			26	86	25	107	193
03:00			0		0			15:00			18		30		
03:15			0		1			15:15			19		33		
03:30			1		2			15:30			20		31		
03:45			2	3	0	3	6	15:45			25	82	38	132	214
04:00			1		0			16:00			28		44		
04:15			0		1			16:15			33		50		
04:30			1		2			16:30			31		41		
04:45			2	4	3	6	10	16:45			34	126	42	177	303
05:00			3		4			17:00			38		44		
05:15			9		5			17:15			31		45		
05:30			7		7			17:30			26		50		
05:45			11	30	6	22	52	17:45			25	120	33	172	292
06:00			16		11			18:00			18		31		
06:15			20		16			18:15			22		28		
06:30			19		20			18:30			26		21		
06:45			15	70	18	65	135	18:45			21	87	26	106	193
07:00			22		25			19:00			15		33		
07:15			21		30			19:15			11		25		
07:30			25		31			19:30			19		21		
07:45			41	109	44	130	239	19:45			12	57	19	98	155
08:00			33		55			20:00			11		20		
08:15			55		32			20:15			9		9		
08:30			26		41			20:30			5		8		
08:45			25	139	36	164	303	20:45			4	29	9	46	75
09:00			20		30			21:00			6		2		
09:15			19		28			21:15			2		1		
09:30			26		26			21:30			1		3		
09:45			22	87	22	106	193	21:45			0	9	5	11	20
10:00			32		32			22:00			1		4		
10:15			25		30			22:15			1		2		
10:30			24		25			22:30			0		0		
10:45			24	105	26	113	218	22:45			1	3	3	9	12
11:00			28		22			23:00			2		2		
11:15			32		24			23:15			1		0		
11:30			33		26			23:30			2		0		
11:45			25	118	33	105	223	23:45			0	5	1	3	8
Total Vol.				676		724	**1400**					821		1071	**1892**

Daily Totals

NB	SB	EB	WB	Combined
		1497	1795	**3292**

	AM			PM		
Split %	48.3%	51.7%	**42.5%**	43.4%	56.6%	**57.5%**
Peak Hour	07:45	07:45	**07:45**	16:15	16:45	**16:15**
Volume	155	172	**327**	136	181	**313**
P.H.F.	0.70	0.78	**0.93**	0.89	0.91	**0.94**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

ENRICO FERMI N-O AIRWAY

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	4		4					12:00	18		14				
00:15	3		6					12:15	15		15				
00:30	1		1					12:30	14		11				
00:45	2	10	5	16			26	12:45	12	59	12	52			111
01:00	1		4					13:00	9		9				
01:15	0		1					13:15	16		11				
01:30	0		1					13:30	11		16				
01:45	1	2	1	7			9	13:45	15	51	20	56			107
02:00	2		0					14:00	20		17				
02:15	1		0					14:15	19		14				
02:30	0		1					14:30	18		12				
02:45	1	4	0	1			5	14:45	15	72	9	52			124
03:00	1		0					15:00	15		11				
03:15	0		2					15:15	13		16				
03:30	1		1					15:30	21		20				
03:45	0	2	1	4			6	15:45	22	71	18	65			136
04:00	3		0					16:00	24		24				
04:15	2		1					16:15	35		21				
04:30	4		2					16:30	20		22				
04:45	5	14	4	7			21	16:45	28	107	15	82			189
05:00	10		2					17:00	21		21				
05:15	9		1					17:15	33		23				
05:30	11		2					17:30	28		15				
05:45	18	48	3	8			56	17:45	20	102	8	67			169
06:00	20		4					18:00	19		9				
06:15	22		5					18:15	20		12				
06:30	31		9					18:30	15		11				
06:45	25	98	10	28			126	18:45	11	65	15	47			112
07:00	20		12					19:00	9		9				
07:15	19		9					19:15	12		10				
07:30	15		15					19:30	8		4				
07:45	21	75	14	50			125	19:45	9	38	9	32			70
08:00	22		18					20:00	5		5				
08:15	26		20					20:15	2		4				
08:30	20		15					20:30	2		1				
08:45	18	86	14	67			153	20:45	4	13	2	12			25
09:00	20		13					21:00	6		1				
09:15	15		15					21:15	2		1				
09:30	19		15					21:30	4		3				
09:45	11	65	18	61			126	21:45	2	14	4	9			23
10:00	14		11					22:00	6		2				
10:15	21		9					22:15	2		1				
10:30	16		10					22:30	1		0				
10:45	19	70	13	43			113	22:45	1	10	1	4			14
11:00	20		15					23:00	2		2				
11:15	22		15					23:15	3		1				
11:30	18		18					23:30	5		2				
11:45	25	85	15	63			148	23:45	4	14	1	6			20
Total Vol.		559		355			**914**			616		484			**1100**

Daily Totals

NB	SB	EB	WB	Combined
1175	839			**2014**

	AM			PM		
Split %	61.2%	38.8%	**45.4%**	56.0%	44.0%	**54.6%**
Peak Hour	06:00	07:30	**07:45**	16:45	15:45	**16:00**
Volume	98	67	**156**	110	85	**189**
P.H.F.	0.79	0.84	**0.85**	0.87	0.89	**0.84**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

OTAY MESA E-O ENRICO FERMI

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			7		4			12:00			25		67		
00:15			8		3			12:15			26		60		
00:30			3		2			12:30			21		54		
00:45			2	20	1	10	30	12:45			21	93	65	246	339
01:00			1		4			13:00			19		34		
01:15			1		2			13:15			26		44		
01:30			0		1			13:30			22		51		
01:45			1	3	0	7	10	13:45			19	86	35	164	250
02:00			2		1			14:00			21		42		
02:15			1		2			14:15			18		35		
02:30			0		1			14:30			17		40		
02:45			1	4	0	4	8	14:45			26	82	55	172	254
03:00			1		2			15:00			22		65		
03:15			0		1			15:15			25		80		
03:30			1		1			15:30			20		98		
03:45			1	3	1	5	8	15:45			19	86	121	364	450
04:00			5		0			16:00			28		202		
04:15			3		0			16:15			20		105		
04:30			4		1			16:30			19		118		
04:45			6	18	0	1	19	16:45			26	93	70	495	588
05:00			11		1			17:00			22		66		
05:15			8		2			17:15			30		51		
05:30			20		3			17:30			25		35		
05:45			19	58	11	17	75	17:45			21	98	33	185	283
06:00			28		19			18:00			18		34		
06:15			54		16			18:15			29		40		
06:30			70		20			18:30			22		44		
06:45			88	240	18	73	313	18:45			26	95	51	169	264
07:00			105		21			19:00			18		40		
07:15			135		18			19:15			20		35		
07:30			188		33			19:30			15		28		
07:45			195	623	31	103	726	19:45			19	72	20	123	195
08:00			65		25			20:00			11		19		
08:15			70		28			20:15			15		20		
08:30			44		22			20:30			9		15		
08:45			41	220	26	101	321	20:45			12	47	19	73	120
09:00			44		23			21:00			11		20		
09:15			51		25			21:15			9		19		
09:30			40		19			21:30			5		11		
09:45			35	170	26	93	263	21:45			4	29	15	65	94
10:00			44		33			22:00			4		9		
10:15			28		35			22:15			3		12		
10:30			21		44			22:30			2		5		
10:45			16	109	32	144	253	22:45			1	10	4	30	40
11:00			22		35			23:00			1		9		
11:15			19		44			23:15			4		5		
11:30			20		48			23:30			2		4		
11:45			18	79	51	178	257	23:45			3	10	5	23	33
Total Vol.				1547		736	**2283**					801		2109	**2910**

Daily Totals

NB	SB	EB	WB	Combined
		2348	2845	**5193**

	AM			PM		
Split %	67.8%	32.2%	**44.0%**	27.5%	72.5%	**56.0%**
Peak Hour	07:00	11:45	**07:00**	16:45	15:45	**15:45**
Volume	623	232	**726**	103	546	**632**
P.H.F.	0.80	0.87	**0.80**	0.86	0.68	**0.69**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

OTAY MESA BTN ENRICO FERMI & SANYO

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			6		6			12:00			50		88		
00:15			5		9			12:15			40		70		
00:30			4		5			12:30			35		65		
00:45			3	18	4	24	42	12:45			28	153	95	318	471
01:00			5		0			13:00			26		70		
01:15			4		0			13:15			22		54		
01:30			0		1			13:30			29		44		
01:45			1	10	2	3	13	13:45			35	112	44	212	324
02:00			2		1			14:00			22		51		
02:15			4		0			14:15			26		40		
02:30			0		0			14:30			25		65		
02:45			0	6	0	1	7	14:45			24	97	51	207	304
03:00			1		3			15:00			19		65		
03:15			2		0			15:15			26		77		
03:30			1		1			15:30			33		98		
03:45			2	6	0	4	10	15:45			21	99	135	375	474
04:00			1		0			16:00			33		218		
04:15			0		2			16:15			25		105		
04:30			0		3			16:30			20		121		
04:45			5	6	1	6	12	16:45			19	97	88	532	629
05:00			9		2			17:00			20		70		
05:15			12		6			17:15			28		65		
05:30			19		4			17:30			25		51		
05:45			20	60	5	17	77	17:45			21	94	44	230	324
06:00			28		12			18:00			18		51		
06:15			35		9			18:15			15		40		
06:30			40		5			18:30			22		66		
06:45			88	191	18	44	235	18:45			21	76	45	202	278
07:00			108		22			19:00			19		32		
07:15			121		21			19:15			16		42		
07:30			168		41			19:30			11		28		
07:45			195	592	40	124	716	19:45			9	55	29	131	186
08:00			88		32			20:00			12		33		
08:15			65		31			20:15			10		25		
08:30			40		28			20:30			9		18		
08:45			51	244	33	124	368	20:45			5	36	15	91	127
09:00			44		22			21:00			4		19		
09:15			51		29			21:15			5		12		
09:30			40		19			21:30			6		11		
09:45			35	170	20	90	260	21:45			9	24	9	51	75
10:00			44		15			22:00			4		10		
10:15			41		11			22:15			5		9		
10:30			52		28			22:30			4		4		
10:45			35	172	35	89	261	22:45			1	14	5	28	42
11:00			40		44			23:00			2		4		
11:15			35		54			23:15			4		10		
11:30			62		70			23:30			5		9		
11:45			44	181	68	236	417	23:45			2	13	8	31	44
Total Vol.				1656		762	**2418**					870		2408	**3278**

Daily Totals

NB	SB	EB	WB	Combined
		2526	3170	**5696**

	AM			PM		
Split %	68.5%	31.5%	**42.5%**	26.5%	73.5%	**57.5%**
Peak Hour	07:00	11:30	**07:00**	12:00	15:45	**15:45**
Volume	592	296	**716**	153	579	**678**
P.H.F.	0.76	0.84	**0.76**	0.77	0.66	**0.68**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

OTAY MESA BTN SANYO & HARVEST

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			10		9			12:00			98		135		
00:15			4		12			12:15			88		141		
00:30			9		14			12:30			70		151		
00:45			5	28	11	46	74	12:45			55	311	141	568	879
01:00			10		9			13:00			45		135		
01:15			5		5			13:15			65		141		
01:30			4		4			13:30			41		161		
01:45			6	25	0	18	43	13:45			40	191	145	582	773
02:00			2		3			14:00			65		151		
02:15			4		2			14:15			44		135		
02:30			2		1			14:30			40		162		
02:45			1	9	2	8	17	14:45			52	201	165	613	814
03:00			0		0			15:00			68		151		
03:15			6		1			15:15			60		189		
03:30			4		2			15:30			54		195		
03:45			5	15	3	6	21	15:45			62	244	226	761	1005
04:00			11		6			16:00			70		295		
04:15			9		5			16:15			51		189		
04:30			12		4			16:30			55		212		
04:45			18	50	9	24	74	16:45			48	224	161	857	1081
05:00			25		4			17:00			51		151		
05:15			35		9			17:15			62		142		
05:30			54		12			17:30			51		88		
05:45			65	179	18	43	222	17:45			44	208	114	495	703
06:00			88		22			18:00			33		103		
06:15			102		26			18:15			42		116		
06:30			98		35			18:30			51		98		
06:45			121	409	40	123	532	18:45			40	166	90	407	573
07:00			151		44			19:00			35		80		
07:15			226		48			19:15			44		66		
07:30			268		60			19:30			28		64		
07:45			305	950	65	217	1167	19:45			21	128	70	280	408
08:00			161		68			20:00			19		54		
08:15			135		60			20:15			26		40		
08:30			111		55			20:30			20		41		
08:45			105	512	78	261	773	20:45			15	80	35	170	250
09:00			111		54			21:00			18		40		
09:15			90		66			21:15			21		28		
09:30			84		68			21:30			18		22		
09:45			88	373	70	258	631	21:45			11	68	19	109	177
10:00			70		54			22:00			9		20		
10:15			65		62			22:15			12		22		
10:30			88		55			22:30			4		16		
10:45			87	310	95	266	576	22:45			9	34	18	76	110
11:00			84		121			23:00			5		12		
11:15			85		106			23:15			12		9		
11:30			77		123			23:30			8		12		
11:45			78	324	114	464	788	23:45			9	34	11	44	78
Total Vol.				3184		1734	**4918**					1889		4962	**6851**

Daily Totals

NB	SB	EB	WB	Combined
		5073	6696	**11769**

	AM			PM		
Split %	64.7%	35.3%	**41.8%**	27.6%	72.4%	**58.2%**
Peak Hour	07:15	11:45	**07:15**	12:00	15:45	**15:45**
Volume	960	541	**1201**	311	922	**1160**
P.H.F.	0.79	0.90	**0.81**	0.79	0.78	**0.79**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

OTAY MESA BTN PIPER RANCH & LA MEDIA

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			19		18			12:00			124		131		
00:15			21		22			12:15			115		154		
00:30			20		26			12:30			135		161		
00:45			16	76	19	85	161	12:45			105	479	115	561	1040
01:00			11		12			13:00			126		126		
01:15			19		11			13:15			111		151		
01:30			12		15			13:30			98		143		
01:45			11	53	19	57	110	13:45			91	426	155	575	1001
02:00			19		21			14:00			88		141		
02:15			11		11			14:15			95		165		
02:30			9		9			14:30			78		154		
02:45			12	51	5	46	97	14:45			95	356	161	621	977
03:00			4		4			15:00			95		196		
03:15			9		6			15:15			88		184		
03:30			5		9			15:30			103		202		
03:45			4	22	12	31	53	15:45			119	405	184	766	1171
04:00			5		11			16:00			108		232		
04:15			6		15			16:15			121		209		
04:30			12		9			16:30			103		181		
04:45			15	38	21	56	94	16:45			111	443	170	792	1235
05:00			19		19			17:00			118		162		
05:15			22		22			17:15			126		151		
05:30			45		35			17:30			91		111		
05:45			62	148	44	120	268	17:45			95	430	108	532	962
06:00			77		45			18:00			95		119		
06:15			84		51			18:15			103		126		
06:30			121		68			18:30			111		115		
06:45			135	417	88	252	669	18:45			98	407	106	466	873
07:00			151		98			19:00			70		98		
07:15			162		121			19:15			54		103		
07:30			177		135			19:30			66		115		
07:45			232	722	184	538	1260	19:45			61	251	84	400	651
08:00			141		116			20:00			65		88		
08:15			130		118			20:15			75		95		
08:30			105		103			20:30			54		65		
08:45			101	477	91	428	905	20:45			40	234	70	318	552
09:00			111		90			21:00			35		54		
09:15			97		88			21:15			28		44		
09:30			91		95			21:30			22		35		
09:45			88	387	98	371	758	21:45			26	111	40	173	284
10:00			90		105			22:00			19		32		
10:15			98		111			22:15			20		28		
10:30			99		103			22:30			18		19		
10:45			98	385	84	403	788	22:45			20	77	22	101	178
11:00			78		95			23:00			15		26		
11:15			115		121			23:15			22		15		
11:30			121		116			23:30			15		18		
11:45			103	417	126	458	875	23:45			14	66	20	79	145
Total Vol.				3193		2845	**6038**					3685		5384	**9069**

Daily Totals

NB	SB	EB	WB	Combined
		6878	8229	**15107**

	AM			PM		
Split %	52.9%	47.1%	**40.0%**	40.6%	59.4%	**60.0%**
Peak Hour	07:00	11:45	**07:15**	12:15	15:30	**15:30**
Volume	722	572	**1268**	481	827	**1278**
P.H.F.	0.78	0.89	**0.76**	0.89	0.89	**0.94**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

SIEMPRE VIVA W-O SR-905 SB RAMPS

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			25		21			12:00			169		188		
00:15			24		25			12:15			152		184		
00:30			21		14			12:30			149		184		
00:45			13	83	17	77	160	12:45			158	628	177	733	1361
01:00			7		3			13:00			136		162		
01:15			5		13			13:15			146		151		
01:30			13		10			13:30			141		142		
01:45			6	31	10	36	67	13:45			149	572	154	609	1181
02:00			13		11			14:00			137		189		
02:15			18		12			14:15			143		170		
02:30			6		11			14:30			176		168		
02:45			10	47	9	43	90	14:45			168	624	195	722	1346
03:00			4		19			15:00			186		162		
03:15			2		15			15:15			175		184		
03:30			11		17			15:30			168		177		
03:45			8	25	14	65	90	15:45			182	711	161	684	1395
04:00			16		18			16:00			168		166		
04:15			27		24			16:15			166		141		
04:30			16		42			16:30			170		168		
04:45			35	94	37	121	215	16:45			184	688	151	626	1314
05:00			28		36			17:00			212		142		
05:15			29		41			17:15			188		135		
05:30			25		44			17:30			165		138		
05:45			34	116	48	169	285	17:45			151	716	115	530	1246
06:00			41		62			18:00			152		121		
06:15			41		45			18:15			151		109		
06:30			41		69			18:30			123		115		
06:45			44	167	108	284	451	18:45			126	552	121	466	1018
07:00			56		105			19:00			124		116		
07:15			61		99			19:15			116		105		
07:30			66		145			19:30			107		98		
07:45			61	244	179	528	772	19:45			82	429	90	409	838
08:00			88		151			20:00			85		88		
08:15			67		113			20:15			118		74		
08:30			59		131			20:30			72		54		
08:45			90	304	168	563	867	20:45			72	347	66	282	629
09:00			88		175			21:00			70		40		
09:15			91		151			21:15			50		45		
09:30			77		188			21:30			63		40		
09:45			105	361	179	693	1054	21:45			40	223	32	157	380
10:00			98		191			22:00			30		33		
10:15			105		188			22:15			37		28		
10:30			118		197			22:30			33		35		
10:45			123	444	174	750	1194	22:45			21	121	25	121	242
11:00			105		173			23:00			14		18		
11:15			111		184			23:15			25		22		
11:30			98		195			23:30			15		9		
11:45			126	440	195	747	1187	23:45			16	70	21	70	140
Total Vol.				2356		4076	**6432**					5681		5409	**11090**

Daily Totals

NB	SB	EB	WB	Combined
		8037	9485	**17522**

	AM			PM		
Split %	36.6%	63.4%	**36.7%**	51.2%	48.8%	**63.3%**
Peak Hour	11:45	11:15	**11:45**	16:30	12:00	**14:45**
Volume	596	762	**1347**	754	733	**1415**
P.H.F.	0.88	0.98	**0.94**	0.89	0.97	**0.97**

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

LA MEDIA S-O 905 WB OFF RAMP

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	11		21					12:00	104		121				
00:15	18		18					12:15	131		135				
00:30	20		23					12:30	135		162				
00:45	15	64	22	84			148	12:45	116	486	162	580			1066
01:00	12		14					13:00	141		151				
01:15	3		11					13:15	135		140				
01:30	4		16					13:30	125		131				
01:45	5	24	20	61			85	13:45	141	542	128	550			1092
02:00	6		18					14:00	131		141				
02:15	4		11					14:15	126		162				
02:30	11		15					14:30	106		184				
02:45	13	34	20	64			98	14:45	121	484	151	638			1122
03:00	12		19					15:00	115		162				
03:15	9		16					15:15	105		177				
03:30	15		20					15:30	118		191				
03:45	15	51	19	74			125	15:45	108	446	184	714			1160
04:00	18		22					16:00	115		195				
04:15	12		24					16:15	108		184				
04:30	18		30					16:30	121		177				
04:45	32	80	33	109			189	16:45	131	475	184	740			1215
05:00	40		19					17:00	101		195				
05:15	61		21					17:15	95		151				
05:30	84		25					17:30	88		135				
05:45	98	283	35	100			383	17:45	90	374	131	612			986
06:00	115		40					18:00	103		141				
06:15	12		65					18:15	111		128				
06:30	98		70					18:30	95		115				
06:45	105	330	88	263			593	18:45	77	386	121	505			891
07:00	144		88					19:00	103		123				
07:15	168		121					19:15	105		90				
07:30	184		105					19:30	88		88				
07:45	195	691	135	449			1140	19:45	95	391	84	385			776
08:00	121		90					20:00	77		70				
08:15	135		114					20:15	54		65				
08:30	99		91					20:30	55		55				
08:45	105	460	95	390			850	20:45	40	226	61	251			477
09:00	116		105					21:00	35		40				
09:15	121		116					21:15	40		35				
09:30	105		121					21:30	32		44				
09:45	121	463	103	445			908	21:45	28	135	41	160			295
10:00	103		115					22:00	26		35				
10:15	115		105					22:15	33		65				
10:30	121		126					22:30	31		54				
10:45	135	474	131	477			951	22:45	28	118	40	194			312
11:00	121		158					23:00	21		35				
11:15	135		141					23:15	19		33				
11:30	115		135					23:30	20		21				
11:45	123	494	106	540			1034	23:45	15	75	22	111			186
Total Vol.		3448		3056			**6504**			4138		5440			**9578**

Daily Totals

NB	SB	EB	WB	Combined
7586	8496			**16082**

	AM			PM		
Split %	53.0%	47.0%	**40.4%**	43.2%	56.8%	**59.6%**
Peak Hour	07:00	10:45	**07:00**	13:00	15:30	**16:00**
Volume	691	565	**1140**	542	754	**1215**
P.H.F.	0.89	0.89	**0.86**	0.93	0.97	**0.96**

PACIFIC TECHNICAL DATA

TUESDAY, APRIL 8TH, 2014 CITY: OTAY MESA PROJECT: PTD14-0411-01

AIRWAY E-O ENRICO FERMI

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			1		1			12:00			5		3		
00:15			0		0			12:15			4		4		
00:30			1		0			12:30			6		3		
00:45			2	4	0	1	5	12:45			9	24	2	12	36
01:00			1		0			13:00			5		4		
01:15			1		0			13:15			4		3		
01:30			0		3			13:30			9		3		
01:45			0	2	0	3	5	13:45			6	24	7	17	41
02:00			0		0			14:00			3		2		
02:15			0		0			14:15			7		4		
02:30			0		0			14:30			1		2		
02:45			1	1	0	0	1	14:45			4	15	2	10	25
03:00			3		0			15:00			5		3		
03:15			5		2			15:15			5		4		
03:30			0		1			15:30			6		0		
03:45			0	8	3	6	14	15:45			4	20	6	13	33
04:00			0		0			16:00			5		4		
04:15			9		1			16:15			4		4		
04:30			0		2			16:30			6		5		
04:45			0	9	4	7	16	16:45			2	17	2	15	32
05:00			0		2			17:00			1		7		
05:15			0		0			17:15			1		3		
05:30			6		1			17:30			2		2		
05:45			0	6	3	6	12	17:45			0	4	6	18	22
06:00			0		0			18:00			2		6		
06:15			8		1			18:15			0		2		
06:30			5		1			18:30			8		1		
06:45			2	15	4	6	21	18:45			4	14	6	15	29
07:00			2		3			19:00			7		0		
07:15			2		1			19:15			2		2		
07:30			4		3			19:30			0		0		
07:45			4	12	3	10	22	19:45			0	9	4	6	15
08:00			3		4			20:00			6		0		
08:15			2		3			20:15			0		0		
08:30			4		1			20:30			4		2		
08:45			2	11	1	9	20	20:45			2	12	3	5	17
09:00			6		4			21:00			3		0		
09:15			1		4			21:15			0		1		
09:30			3		1			21:30			0		1		
09:45			9	19	3	12	31	21:45			2	5	0	2	7
10:00			8		6			22:00			5		0		
10:15			9		2			22:15			0		0		
10:30			6		1			22:30			0		6		
10:45			6	29	11	20	49	22:45			3	8	0	6	14
11:00			7		9			23:00			2		0		
11:15			6		10			23:15			0		2		
11:30			4		7			23:30			0		2		
11:45			2	19	2	28	47	23:45			0	2	0	4	6
Total Vol.				135		108	**243**					154		123	**277**

Daily Totals

NB	SB	EB	WB	Combined
		289	231	**520**

	AM			PM		
Split %	55.6%	44.4%	**46.7%**	55.6%	44.4%	**53.3%**
Peak Hour	09:45	10:45	**10:45**	12:45	15:45	**13:00**
Volume	32	37	**60**	27	19	**41**
P.H.F.	0.89	0.84	**0.88**	0.75	0.79	**0.79**

AM/PM Peak Hour Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	ENRICO FERMI	LOCATION #:	1
TUESDAY	EAST & WEST:	SIEMPRE VIVA	CONTROL:	SIGNAL

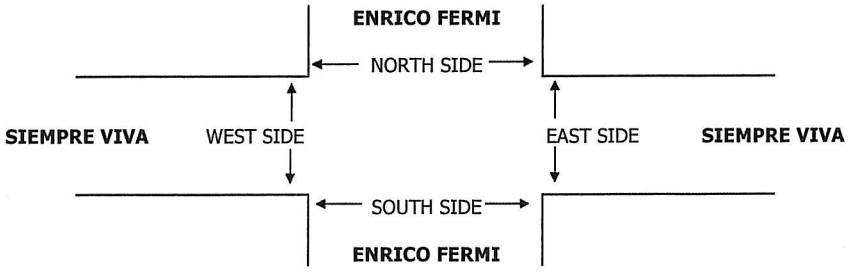
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND ENRICO FERMI			SOUTHBOUND ENRICO FERMI			EASTBOUND SIEMPRE VIVA			WESTBOUND SIEMPRE VIVA			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 2	ET 1	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	30	9	0	0	3	8	15	4	6	0	9	1	85
	7:15 AM	26	9	0	0	2	5	12	1	0	2	6	1	64
	7:30 AM	31	12	0	2	6	6	16	3	3	0	7	3	89
	7:45 AM	32	14	0	0	1	7	22	2	3	7	10	0	98
	8:00 AM	17	7	0	0	3	5	16	2	8	0	8	3	69
	8:15 AM	20	14	1	0	10	5	14	2	7	1	4	2	80
	8:30 AM	31	17	0	0	11	4	8	2	13	2	10	1	99
	8:45 AM	40	19	2	1	5	5	14	5	10	2	7	3	113
	VOLUMES	227	101	3	3	41	45	117	21	50	14	61	14	697
	APPROACH %	69%	31%	1%	3%	46%	51%	62%	11%	27%	16%	69%	16%	
	APP/DEPART	331	/	232	89	/	105	188	/	27	89	/	333	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	108	57	3	1	29	19	52	11	38	5	29	9	361
	APPROACH %	64%	34%	2%	2%	59%	39%	51%	11%	38%	12%	67%	21%	
	PEAK HR FACTOR		0.689			0.817			0.871			0.827		0.799
	APP/DEPART	168	/	118	49	/	72	101	/	15	43	/	156	0
PM	4:00 PM	28	19	0	1	9	11	8	1	5	1	8	1	92
	4:15 PM	52	27	0	1	6	17	12	0	4	3	5	4	131
	4:30 PM	34	19	0	0	4	16	10	1	2	2	5	1	94
	4:45 PM	44	21	0	1	2	10	5	2	4	1	8	3	101
	5:00 PM	42	23	0	0	6	14	9	0	5	3	2	2	106
	5:15 PM	33	28	0	2	1	10	8	4	6	2	4	2	100
	5:30 PM	30	25	0	0	3	7	6	1	5	5	7	1	90
	5:45 PM	28	17	0	3	0	6	8	1	3	3	7	1	77
	VOLUMES	291	179	0	8	31	91	66	10	34	20	46	15	791
	APPROACH %	62%	38%	0%	6%	24%	70%	60%	9%	31%	25%	57%	19%	
	APP/DEPART	470	/	260	130	/	85	110	/	18	81	/	428	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	172	90	0	2	18	57	36	3	15	9	20	10	432
	APPROACH %	66%	34%	0%	3%	23%	74%	67%	6%	28%	23%	51%	26%	
	PEAK HR FACTOR		0.829			0.802			0.844			0.813		0.824
	APP/DEPART	262	/	136	77	/	42	54	/	5	39	/	249	0

U-TURNS

	NB X	SB X	EB X	WB X	TTL
7:00 AM				1	1
7:15 AM					0
7:30 AM					0
7:45 AM					0
8:00 AM					0
8:15 AM					0
8:30 AM					0
8:45 AM				2	2
VOLUMES	0	0	0	3	3
4:00 PM					0
4:15 PM				2	2
4:30 PM					0
4:45 PM					0
5:00 PM				2	2
5:15 PM				3	3
5:30 PM				1	1
5:45 PM				2	2
VOLUMES	0	0	0	10	10



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

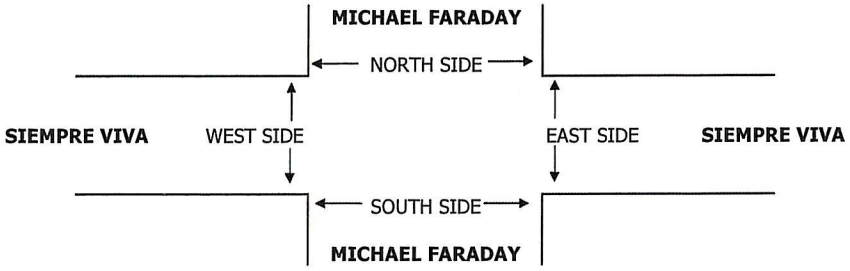
PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	MICHAEL FARADAY	LOCATION #:	2
TUESDAY	EAST & WEST:	SIEMPRE VIVA	CONTROL:	2-WAY STOP (NS)

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND MICHAEL FARADAY			SOUTHBOUND MICHAEL FARADAY			EASTBOUND SIEMPRE VIVA			WESTBOUND SIEMPRE VIVA				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0.5	ST 0.5	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	1	1	1	1	1	0	8	25	5	2	44	1	90			1		1
	7:15 AM	1	1	0	0	1	1	9	16	2	0	38	0	69			3		3
	7:30 AM	1	0	0	0	2	4	6	27	4	0	42	0	86			1		1
	7:45 AM	3	2	0	0	5	4	7	25	2	0	50	0	98			1		1
	8:00 AM	4	0	1	0	0	5	6	28	6	2	25	0	77			2		2
	8:15 AM	4	2	0	0	4	4	10	25	8	4	29	0	90			2		2
	8:30 AM	6	4	1	0	5	8	12	20	5	6	37	0	104			2		2
	8:45 AM	5	4	2	0	2	6	13	27	3	2	47	0	111			4		4
	VOLUMES	25	14	5	1	20	32	71	193	35	16	312	1	725	0	0	16	0	16
	APPROACH %	57%	32%	11%	2%	38%	60%	24%	65%	12%	5%	95%	0%						
	APP/DEPART	44	/	86	53	/	71	299	/	199	329	/	369	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	19	10	4	0	11	23	41	100	22	14	138	0	382					
	APPROACH %	58%	30%	12%	0%	32%	68%	25%	61%	13%	9%	91%	0%						
	PEAK HR FACTOR		0.750			0.654			0.948			0.776		0.860					
	APP/DEPART	33	/	51	34	/	47	163	/	104	152	/	180	0					
PM	4:00 PM	12	2	0	0	2	18	9	15	7	2	49	0	116			3	1	4
	4:15 PM	14	9	1	1	5	9	13	12	10	5	66	2	147			5		5
	4:30 PM	10	6	3	0	4	18	14	11	4	3	50	2	125			8		8
	4:45 PM	13	9	0	0	3	6	11	12	8	3	55	0	120			5		5
	5:00 PM	17	4	0	0	5	18	7	15	2	3	64	0	135			3	1	4
	5:15 PM	22	2	0	0	5	9	6	13	3	0	52	1	113			3		3
	5:30 PM	13	3	2	0	5	7	5	12	5	1	48	0	101			1		1
	5:45 PM	11	1	0	1	6	7	5	8	3	3	39	1	85			2		2
	VOLUMES	112	36	6	2	35	92	70	98	42	20	423	6	942	0	0	30	2	32
	APPROACH %	73%	23%	4%	2%	27%	71%	33%	47%	20%	4%	94%	1%						
	APP/DEPART	154	/	112	129	/	97	210	/	106	449	/	627	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	54	28	4	1	17	51	45	50	24	14	235	4	527					
	APPROACH %	63%	33%	5%	1%	25%	74%	38%	42%	20%	6%	93%	2%						
	PEAK HR FACTOR		0.896			0.750			0.850			0.866		0.896					
	APP/DEPART	86	/	77	69	/	55	119	/	55	253	/	340	0					



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

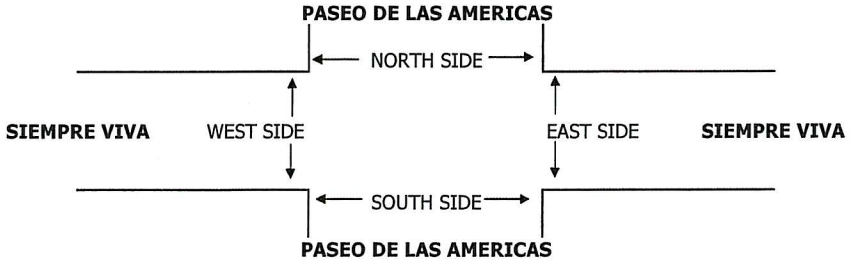
DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	PASEO DE LAS AMERICAS	LOCATION #:	3
TUESDAY	EAST & WEST:	SIEMPRE VIVA	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND PASEO DE LAS AMERICAS			SOUTHBOUND PASEO DE LAS AMERICAS			EASTBOUND SIEMPRE VIVA			WESTBOUND SIEMPRE VIVA			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 1.5	SR 0.5	EL 1	ET 3	ER 1	WL 2	WT 2	WR 0	TOTAL
AM	7:00 AM	15	5	0	0	16	15	32	35	22	3	34	0	177
	7:15 AM	23	8	2	0	16	7	45	23	33	1	39	0	197
	7:30 AM	21	6	0	2	30	25	56	45	28	1	44	1	259
	7:45 AM	28	8	0	4	32	19	52	36	56	1	46	1	283
	8:00 AM	34	15	1	1	25	9	42	48	29	1	26	1	232
	8:15 AM	18	10	0	2	21	25	41	33	37	3	27	4	221
	8:30 AM	37	9	0	1	15	30	36	38	40	2	45	3	256
	8:45 AM	32	13	0	2	1	36	40	40	30	0	57	3	254
	VOLUMES	208	74	3	12	156	166	344	298	275	12	318	13	1,879
	APPROACH %	73%	26%	1%	4%	47%	50%	38%	32%	30%	3%	93%	4%	
	APP/DEPART	285	/	431	334	/	443	917	/	313	343	/	692	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	101	39	1	9	108	78	191	162	150	6	143	7	995
	APPROACH %	72%	28%	1%	5%	55%	40%	38%	32%	30%	4%	92%	4%	
	PEAK HR FACTOR		0.705			0.855			0.873			0.813		0.879
	APP/DEPART	141	/	237	195	/	264	503	/	172	156	/	322	0
PM	4:00 PM	92	45	0	2	23	38	29	31	23	4	66	5	358
	4:15 PM	62	27	0	2	15	27	27	37	30	5	83	3	318
	4:30 PM	81	35	0	2	16	40	27	26	24	2	76	2	331
	4:45 PM	59	17	0	1	11	29	25	17	12	1	63	4	239
	5:00 PM	64	34	0	1	11	52	27	44	45	4	72	3	357
	5:15 PM	65	20	1	2	17	28	22	18	23	0	84	3	283
	5:30 PM	52	13	0	0	14	42	33	12	24	6	54	2	252
	5:45 PM	42	11	0	0	24	21	31	5	17	0	57	1	209
	VOLUMES	517	202	1	10	131	277	221	190	198	22	555	23	2,347
	APPROACH %	72%	28%	0%	2%	31%	66%	36%	31%	33%	4%	93%	4%	
	APP/DEPART	720	/	446	418	/	351	609	/	201	600	/	1,349	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	294	124	0	7	65	134	108	111	89	12	288	14	1,246
	APPROACH %	70%	30%	0%	3%	32%	65%	35%	36%	29%	4%	92%	4%	
	PEAK HR FACTOR		0.763			0.817			0.819			0.863		0.870
	APP/DEPART	418	/	246	206	/	166	308	/	118	314	/	716	0

U-TURNS					
NB X	SB X	EB X	WB X	TTL	
		83		83	
		49		49	
		59		59	
		78		78	
		62		62	
		69		69	
2	1	72		75	
		80		80	
2	1	552	0	555	
		88		88	
		103		103	
		84		84	
		94		94	
		98		98	
		104		104	
		95		95	
		84		84	
0	0	750	0	750	



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

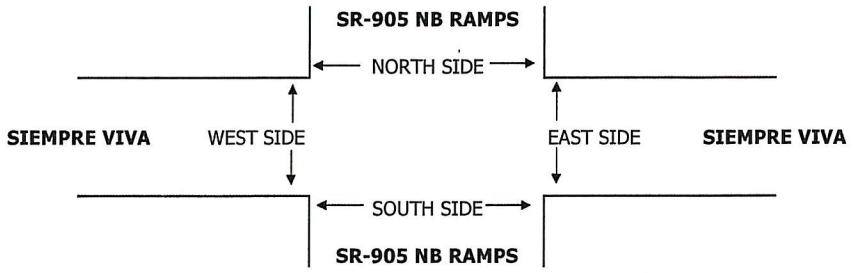
PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	SR-905 NB RAMPS	LOCATION #:	4
TUESDAY	EAST & WEST:	SIEMPRE VIVA	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND SR-905 NB RAMPS			SOUTHBOUND SR-905 NB RAMPS			EASTBOUND SIEMPRE VIVA			WESTBOUND SIEMPRE VIVA				U-TURNS				
	LANES:	NL 0.5	NT 0.5	NR 2	SL	ST	SR	EL 2	ET 3	ER 0	WL	WT 3	WR 1	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	28	0	71				25	112			46	93	375					0
	7:15 AM	28	0	69				22	102			48	91	360					0
	7:30 AM	42	1	75				14	162			58	85	437					0
	7:45 AM	33	0	82				18	183			73	90	479					0
	8:00 AM	42	0	86				28	145			60	77	438					0
	8:15 AM	38	0	68				23	122			54	82	387			1		1
	8:30 AM	37	1	66				19	140			78	99	440			1		1
	8:45 AM	40	0	80				21	125			87	121	474			1		1
	VOLUMES	288	2	597	0	0	0	170	1,091	0	0	504	738	3,390	0	0	3	0	3
	APPROACH %	32%	0%	67%	0%	0%	0%	13%	87%	0%	0%	41%	59%						
	APP/DEPART	887	/	910	0	/	0	1,261	/	1,688	1,242	/	792	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	150	1	302	0	0	0	88	590	0	0	265	348	1,744					
	APPROACH %	33%	0%	67%	0%	0%	0%	13%	87%	0%	0%	43%	57%						
	PEAK HR FACTOR		0.885			0.000			0.843			0.866		0.910					
	APP/DEPART	453	/	437	0	/	0	678	/	892	613	/	415	0					
PM	4:00 PM	31	0	78				65	114			115	190	593					0
	4:15 PM	28	1	77				46	137			101	152	542			2		2
	4:30 PM	20	0	73				69	103			126	159	550			2		2
	4:45 PM	21	0	55				63	106			109	165	519		1	1		2
	5:00 PM	22	0	59				93	94			116	185	569					0
	5:15 PM	12	0	53				92	100			96	184	537					0
	5:30 PM	21	2	72				61	84			98	153	491			1		1
	5:45 PM	12	1	72				53	80			84	110	412					0
	VOLUMES	167	4	539	0	0	0	542	818	0	0	845	1,298	4,213	0	1	6	0	7
	APPROACH %	24%	1%	76%	0%	0%	0%	40%	60%	0%	0%	39%	61%						
	APP/DEPART	710	/	1,844	0	/	0	1,360	/	1,357	2,143	/	1,012	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	100	1	283	0	0	0	243	460	0	0	451	666	2,204					
	APPROACH %	26%	0%	74%	0%	0%	0%	35%	65%	0%	0%	40%	60%						
	PEAK HR FACTOR		0.881			0.000			0.960			0.916		0.929					
	APP/DEPART	384	/	910	0	/	0	703	/	743	1,117	/	551	0					



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	SR-905 SB RAMPS	LOCATION #:	5
TUESDAY	EAST & WEST:	SIEMPRE VIVA	CONTROL:	SIGNAL

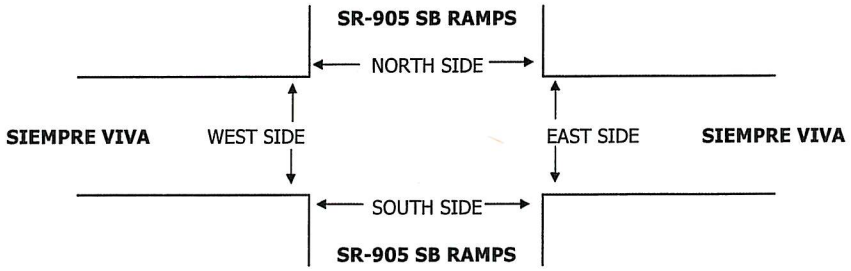
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

		NORTHBOUND SR-905 SB RAMPS			SOUTHBOUND SR-905 SB RAMPS			EASTBOUND SIEMPRE VIVA			WESTBOUND SIEMPRE VIVA			
	LANES:	NL X	NT X	NR 2	SL X	ST X	SR 1	EL X	ET 3	ER 0	WL 2	WT 3	WR X	TOTAL
AM	7:00 AM			88			41		49	10	17	68		273
	7:15 AM			79			41		50	10	21	58		259
	7:30 AM			118			64		46	13	21	76		338
	7:45 AM			164			89		47	13	26	81		420
	8:00 AM			101			58		65	20	19	82		345
	8:15 AM			101			43		51	15	19	71		300
	8:30 AM			105			42		46	13	24	93		323
	8:45 AM			84			64		75	17	28	102		370
	VOLUMES	0	0	840	0	0	442	0	429	111	175	631	0	2,628
	APPROACH %	0%	0%	100%	0%	0%	100%	0%	79%	21%	22%	78%	0%	
	APP/DEPART	840	/	0	442	/	286	540	/	1,269	806	/	1,073	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	484	0	0	254	0	209	61	85	310	0	1,403
	APPROACH %	0%	0%	100%	0%	0%	100%	0%	77%	23%	22%	78%	0%	
	PEAK HR FACTOR		0.738			0.713			0.794			0.923		0.835
	APP/DEPART	484	/	0	254	/	146	270	/	693	395	/	564	0
PM	4:00 PM			55			54		115	47	45	108		424
	4:15 PM			80			54		107	53	42	86		422
	4:30 PM			67			58		104	62	38	107		436
	4:45 PM			58			67		126	57	47	89		444
	5:00 PM			48			52		143	65	41	94		443
	5:15 PM			63			60		120	67	51	71		432
	5:30 PM			49			53		104	56	40	78		380
	5:45 PM			46			55		89	57	36	58		341
	VOLUMES	0	0	466	0	0	453	0	908	464	340	691	0	3,322
	APPROACH %	0%	0%	100%	0%	0%	100%	0%	66%	34%	33%	67%	0%	
	APP/DEPART	466	/	0	453	/	804	1,372	/	1,374	1,031	/	1,144	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	0	236	0	0	237	0	493	251	177	361	0	1,755
	APPROACH %	0%	0%	100%	0%	0%	100%	0%	66%	34%	33%	67%	0%	
	PEAK HR FACTOR		0.881			0.884			0.894			0.928		0.988
	APP/DEPART	236	/	0	237	/	428	744	/	729	538	/	598	0

U-TURNS

NB X	SB X	EB X	WB X	TTL
				0
				0
				0
				0
				0
				0
			1	1
				0
0	0	0	1	1
				0
				0
				0
			2	2
				0
				0
				0
			3	3
0	0	0	5	5



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

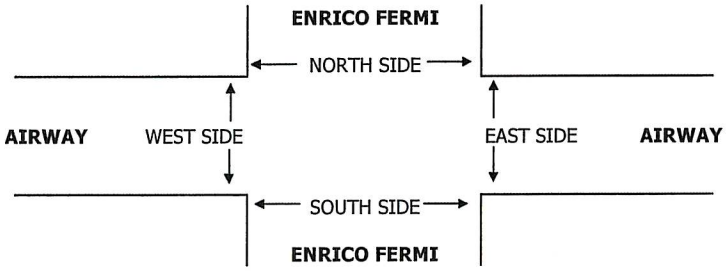
DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	ENRICO FERMI	LOCATION #:	6
TUESDAY	EAST & WEST:	AIRWAY	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND ENRICO FERMI			SOUTHBOUND ENRICO FERMI			EASTBOUND AIRWAY			WESTBOUND AIRWAY			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	7	15	1	1	9	1	1	0	0	2	0	1	38
	7:15 AM	4	16	2	0	7	2	2	0	1	0	0	1	35
	7:30 AM	8	26	2	2	15	1	5	1	2	0	1	1	64
	7:45 AM	10	19	2	2	7	4	4	0	3	1	1	1	54
	8:00 AM	8	14	2	0	8	7	2	0	1	1	3	1	47
	8:15 AM	10	12	0	1	13	3	7	1	3	2	0	0	52
	8:30 AM	11	14	2	0	10	5	2	1	2	0	1	0	48
	8:45 AM	7	22	2	1	12	2	2	0	1	0	1	0	50
	VOLUMES	65	138	13	7	81	25	25	3	13	6	7	5	388
	APPROACH %	30%	64%	6%	6%	72%	22%	61%	7%	32%	33%	39%	28%	
	APP/DEPART	216	/	168	113	/	100	41	/	23	18	/	97	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	36	71	6	5	43	15	18	2	9	4	5	3	217
	APPROACH %	32%	63%	5%	8%	68%	24%	62%	7%	31%	33%	42%	25%	
	PEAK HR FACTOR		0.785			0.875			0.659			0.600		0.848
	APP/DEPART	113	/	92	63	/	56	29	/	13	12	/	56	0
PM	4:00 PM	5	18	4	0	18	9	2	1	3	1	1	2	64
	4:15 PM	10	28	3	1	12	8	5	0	4	3	1	0	75
	4:30 PM	8	18	3	1	13	6	1	0	0	1	2	0	53
	4:45 PM	14	18	1	1	10	5	3	0	4	0	1	1	58
	5:00 PM	14	20	0	0	12	11	1	0	5	3	3	1	70
	5:15 PM	10	25	0	0	11	10	6	1	2	0	2	1	68
	5:30 PM	13	20	2	0	5	11	7	0	1	2	0	0	61
	5:45 PM	10	14	0	0	3	3	2	0	3	1	5	0	41
	VOLUMES	84	161	13	3	84	63	27	2	22	11	15	5	490
	APPROACH %	33%	62%	5%	2%	56%	42%	53%	4%	43%	35%	48%	16%	
	APP/DEPART	258	/	193	150	/	117	51	/	18	31	/	162	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	51	83	3	1	38	37	17	1	12	5	6	3	257
	APPROACH %	37%	61%	2%	1%	50%	49%	57%	3%	40%	36%	43%	21%	
	PEAK HR FACTOR		0.979			0.826			0.833			0.500		0.918
	APP/DEPART	137	/	103	76	/	55	30	/	5	14	/	94	0

U-TURNS					
NB X	SB X	EB X	WB X	TTL	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
0	0	0	0	0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
0	0	0	0	0	



		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	TOTAL	0	0	0	0	0
PM	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	TOTAL	0	0	0	0	0

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

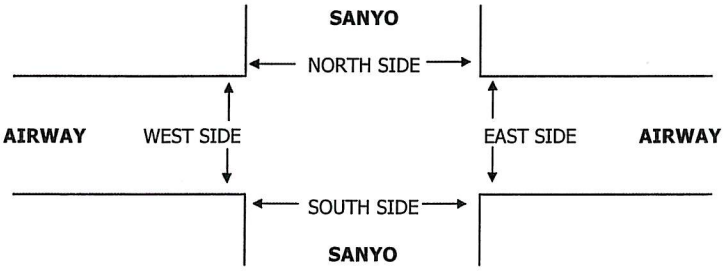
DATE:					
4/8/14	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01	
TUESDAY	NORTH & SOUTH:	SANYO	LOCATION #:	7	
	EAST & WEST:	AIRWAY	CONTROL:	4-WAY STOP	

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND SANYO			SOUTHBOUND SANYO			EASTBOUND AIRWAY			WESTBOUND AIRWAY			
	LANES:	NL 0.5	NT 0.5	NR 1	SL 1	ST 0.5	SR 0.5	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	4	10	3	3	31	8	8	6	5	0	12	8	98
	7:15 AM	6	10	1	12	27	13	13	5	5	1	10	15	118
	7:30 AM	1	10	1	13	53	18	12	7	7	1	13	17	153
	7:45 AM	3	17	1	16	47	25	14	17	13	0	15	9	177
	8:00 AM	4	13	0	10	39	26	12	7	11	0	21	11	154
	8:15 AM	7	10	0	9	33	19	9	23	19	0	10	12	151
	8:30 AM	6	10	0	16	34	16	8	7	13	2	21	7	140
	8:45 AM	11	8	2	11	27	14	8	7	12	0	12	28	140
	VOLUMES	42	88	8	90	291	139	84	79	85	4	114	107	1,131
	APPROACH %	30%	64%	6%	17%	56%	27%	34%	32%	34%	2%	51%	48%	
	APP/DEPART	138	/	279	520	/	380	248	/	177	225	/	295	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	15	50	2	48	172	88	47	54	50	1	59	49	635
	APPROACH %	22%	75%	3%	16%	56%	29%	31%	36%	33%	1%	54%	45%	
	PEAK HR FACTOR		0.798			0.875			0.740			0.852		0.897
	APP/DEPART	67	/	146	308	/	223	151	/	104	109	/	162	0
PM	4:00 PM	13	35	2	13	33	18	12	8	3	1	16	25	179
	4:15 PM	11	28	1	7	18	10	12	17	9	1	27	23	164
	4:30 PM	10	32	1	4	20	8	10	6	11	4	26	26	158
	4:45 PM	12	27	0	9	17	14	16	11	6	2	17	17	148
	5:00 PM	11	27	1	11	16	3	16	13	10	0	30	20	158
	5:15 PM	12	34	0	4	16	10	10	10	12	3	19	21	151
	5:30 PM	8	18	1	12	15	10	9	13	3	0	29	12	130
	5:45 PM	10	25	0	11	25	6	12	11	4	0	19	16	139
	VOLUMES	87	226	6	71	160	79	97	89	58	11	183	160	1,227
	APPROACH %	27%	71%	2%	23%	52%	25%	40%	36%	24%	3%	52%	45%	
	APP/DEPART	319	/	483	310	/	229	244	/	166	354	/	349	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	46	122	4	33	88	50	50	42	29	8	86	91	649
	APPROACH %	27%	71%	2%	19%	51%	29%	41%	35%	24%	4%	46%	49%	
	PEAK HR FACTOR		0.860			0.668			0.796			0.826		0.906
	APP/DEPART	172	/	263	171	/	125	121	/	79	185	/	182	0

U-TURNS					
	NB X	SB X	EB X	WB X	TTL
					0
					0
					0
					0
					0
					0
					0
					0
AM	0	0	0	0	0
					0
					0
				1	1
					0
					0
	1				1
			1		1
					0
PM	1	0	1	1	3



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

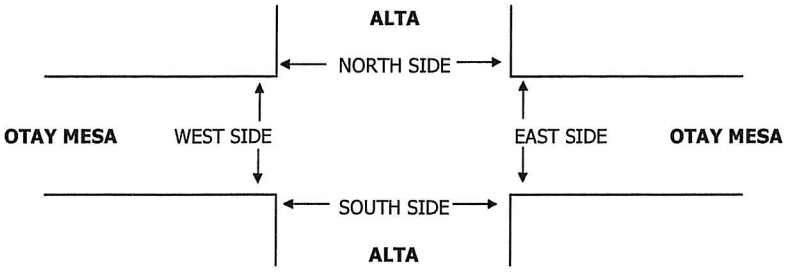
PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	ALTA	LOCATION #:	8
TUESDAY	EAST & WEST:	OTAY MESA	CONTROL:	3-WAY STOP

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND ALTA			SOUTHBOUND ALTA			EASTBOUND OTAY MESA			WESTBOUND OTAY MESA				U-TURNS				
	LANES:	NL 0	NT 1	NR X	SL X	ST 1	SR 0	EL 0.5	ET X	ER 0.5	WL X	WT X	WR X	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	0	0			0	13	95		0				108					0
	7:15 AM	0	0			0	15	137		0				152					0
	7:30 AM	0	0			0	34	169		1				204			1		1
	7:45 AM	0	0			0	21	178		0				199					0
	8:00 AM	0	0			0	26	61		0				87					0
	8:15 AM	0	0			0	19	53		0				72					0
	8:30 AM	0	0			0	15	34		0				49					0
	8:45 AM	0	0			0	17	31		0				48					0
	VOLUMES	0	0	0	0	0	160	758	0	1	0	0	0	919	0	0	1	0	1
	APPROACH %	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	758	160	/	1	759	/	0	0	/	160	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	0	0	83	579	0	1	0	0	0	663					
	APPROACH %	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.610			0.815			0.000		0.813					
	APP/DEPART	0	/	579	83	/	1	580	/	0	0	/	83	0					
PM	4:00 PM	0	2			1	201	14		0				218					0
	4:15 PM	0	1			1	70	10		0				82					0
	4:30 PM	0	0			0	101	16		0				117					0
	4:45 PM	0	0			0	58	12		0				70					0
	5:00 PM	0	0			1	50	14		0				65					0
	5:15 PM	0	0			0	43	18		0				61					0
	5:30 PM	0	0			0	28	21		0				49					0
	5:45 PM	0	0			0	20	13		0				33					0
	VOLUMES	0	3	0	0	3	571	118	0	0	0	0	0	695	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	1%	99%	100%	0%	0%	0%	0%	0%						
	APP/DEPART	3	/	121	574	/	3	118	/	0	0	/	571	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	3	0	0	2	430	52	0	0	0	0	0	487					
	APPROACH %	0%	100%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.375			0.535			0.813			0.000		0.558					
	APP/DEPART	3	/	55	432	/	2	52	/	0	0	/	430	0					



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	ENRICO FERMI	LOCATION #:	9
TUESDAY	EAST & WEST:	OTAY MESA	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND ENRICO FERMI			SOUTHBOUND ENRICO FERMI			EASTBOUND OTAY MESA			WESTBOUND OTAY MESA			
	LANES:	NL 1	NT X	NR 1	SL X	ST X	SR X	EL X	ET 1	ER 0	WL 1	WT 1	WR X	TOTAL
AM	7:00 AM	2		6					106	5	4	14		137
	7:15 AM	5		8					121	7	0	17		158
	7:30 AM	7		5					178	10	6	32		238
	7:45 AM	10		8					174	12	1	29		234
	8:00 AM	6		4					61	9	1	26		107
	8:15 AM	7		9					58	6	1	26		107
	8:30 AM	9		7					32	6	5	17		76
	8:45 AM	11		7					39	9	2	24		92
	VOLUMES	57	0	54	0	0	0	0	769	64	20	185	0	1,149
	APPROACH %	51%	0%	49%	0%	0%	0%	0%	92%	8%	10%	90%	0%	
	APP/DEPART	111	/	0	0	/	84	833	/	823	205	/	242	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	24	0	27	0	0	0	0	579	34	11	92	0	767
	APPROACH %	47%	0%	53%	0%	0%	0%	0%	94%	6%	11%	89%	0%	
	PEAK HR FACTOR		0.708			0.000			0.815			0.678		0.806
	APP/DEPART	51	/	0	0	/	45	613	/	606	103	/	116	0
PM	4:00 PM	7		3					22	4	14	204		254
	4:15 PM	13		5					16	5	3	96		138
	4:30 PM	10		6					21	2	9	103		151
	4:45 PM	10		8					15	6	7	68		114
	5:00 PM	14		4					16	3	5	58		100
	5:15 PM	19		5					22	3	7	43		99
	5:30 PM	26		4					23	3	3	27		86
	5:45 PM	12		4					20	0	2	33		71
	VOLUMES	111	0	39	0	0	0	0	155	26	50	632	0	1,013
	APPROACH %	74%	0%	26%	0%	0%	0%	0%	86%	14%	7%	93%	0%	
	APP/DEPART	150	/	0	0	/	76	181	/	194	682	/	743	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	40	0	22	0	0	0	0	74	17	33	471	0	657
	APPROACH %	65%	0%	35%	0%	0%	0%	0%	81%	19%	7%	93%	0%	
	PEAK HR FACTOR		0.861			0.000			0.875			0.578		0.647
	APP/DEPART	62	/	0	0	/	50	91	/	96	504	/	511	0

U-TURNS

NB	SB	EB	WB	TTL
X	X	X	X	
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
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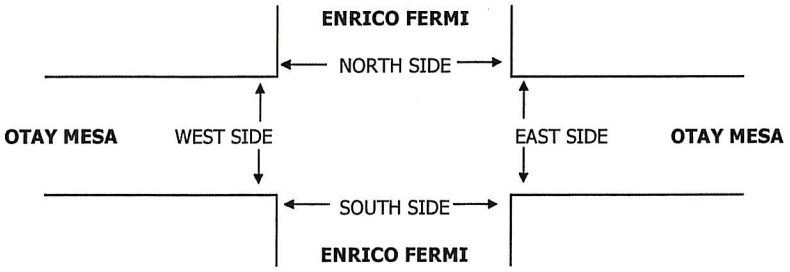
				0
				0
				0
0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

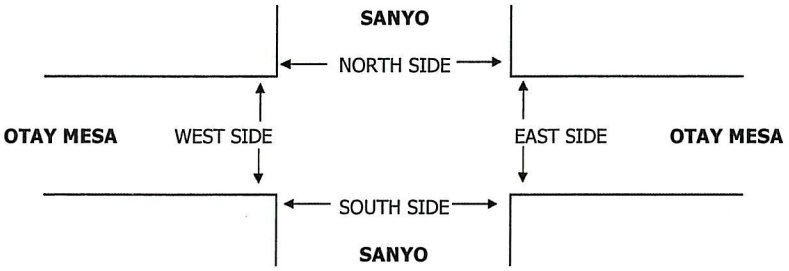
PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	SANYO	LOCATION #:	10
TUESDAY	EAST & WEST:	OTAY MESA	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND SANYO			SOUTHBOUND SANYO			EASTBOUND OTAY MESA			WESTBOUND OTAY MESA				U-TURNS				
	LANES:	NL 1.5	NT X	NR 0.5	SL X	ST X	SR X	EL X	ET 2	ER 0	WL 1	WT 1	WR X	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	16		1					103	53	1	15		189					0
	7:15 AM	25		1					133	87	0	19		265					0
	7:30 AM	28		0					178	93	2	38		339					0
	7:45 AM	29		1					166	129	0	30		355					0
	8:00 AM	32		1					69	89	2	32		225					0
	8:15 AM	31		0					61	73	1	30		196					0
	8:30 AM	27		0					44	66	4	26		167					0
	8:45 AM	41		0					44	68	1	30		184					0
	VOLUMES	229	0	4	0	0	0	0	798	658	11	220	0	1,920	0	0	0	0	0
	APPROACH %	98%	0%	2%	0%	0%	0%	0%	55%	45%	5%	95%	0%						
	APP/DEPART	233	/	0	0	/	669	1,456	/	802	231	/	449	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	114	0	3	0	0	0	0	546	398	4	119	0	1,184					
	APPROACH %	97%	0%	3%	0%	0%	0%	0%	58%	42%	3%	97%	0%						
	PEAK HR FACTOR		0.886			0.000			0.800			0.769		0.834					
	APP/DEPART	117	/	0	0	/	402	944	/	549	123	/	233	0					
PM	4:00 PM	93		0					25	43	2	210		373					0
	4:15 PM	69		0					19	35	1	104		228					0
	4:30 PM	91		0					24	29	1	110		255					0
	4:45 PM	81		1					18	35	1	77		213					0
	5:00 PM	83		0					19	27	2	74		205					0
	5:15 PM	80		2					29	25	0	62		198					0
	5:30 PM	48		1					28	24	2	42		145					0
	5:45 PM	65		2					19	29	4	41		160					0
	VOLUMES	610	0	6	0	0	0	0	181	247	13	720	0	1,777	0	0	0	0	0
	APPROACH %	99%	0%	1%	0%	0%	0%	0%	42%	58%	2%	98%	0%						
	APP/DEPART	616	/	0	0	/	260	428	/	187	733	/	1,330	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	334	0	1	0	0	0	0	86	142	5	501	0	1,069					
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	38%	62%	1%	99%	0%						
	PEAK HR FACTOR		0.901			0.000			0.838			0.597		0.716					
	APP/DEPART	335	/	0	0	/	147	228	/	87	506	/	835	0					



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

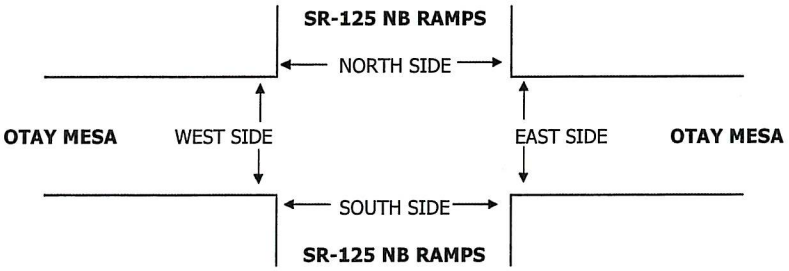
DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	SR-125 NB RAMPS	LOCATION #:	11
TUESDAY	EAST & WEST:	OTAY MESA	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND SR-125 NB RAMPS			SOUTHBOUND SR-125 NB RAMPS			EASTBOUND OTAY MESA			WESTBOUND OTAY MESA			
	LANES:	NL X	NT X	NR X	SL X	ST X	SR X	EL 2	ET 2	ER X	WL X	WT 1.5	WR 1.5	TOTAL
AM	7:00 AM							22	173			25	11	231
	7:15 AM							35	211			33	16	295
	7:30 AM							35	278			48	17	378
	7:45 AM							34	289			55	20	398
	8:00 AM							28	148			41	27	244
	8:15 AM							28	134			42	18	222
	8:30 AM							35	105			45	14	199
	8:45 AM							21	120			36	26	203
	VOLUMES	0	0	0	0	0	0	238	1,458	0	0	325	149	2,170
	APPROACH %	0%	0%	0%	0%	0%	0%	14%	86%	0%	0%	69%	31%	
	APP/DEPART	0	/	387	0	/	0	1,696	/	1,458	474	/	325	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	132	926	0	0	177	80	1,315
	APPROACH %	0%	0%	0%	0%	0%	0%	12%	88%	0%	0%	69%	31%	
	PEAK HR FACTOR		0.000			0.000			0.819			0.857		0.826
	APP/DEPART	0	/	212	0	/	0	1,058	/	926	257	/	177	0
PM	4:00 PM							61	60			177	111	409
	4:15 PM							76	58			131	75	340
	4:30 PM							61	55			129	70	315
	4:45 PM							84	51			96	72	303
	5:00 PM							75	46			88	70	279
	5:15 PM							68	62			75	69	274
	5:30 PM							71	43			54	45	213
	5:45 PM							67	37			61	53	218
	VOLUMES	0	0	0	0	0	0	563	412	0	0	811	565	2,351
	APPROACH %	0%	0%	0%	0%	0%	0%	58%	42%	0%	0%	59%	41%	
	APP/DEPART	0	/	1,128	0	/	0	975	/	412	1,376	/	811	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	0	0	0	282	224	0	0	533	328	1,367
	APPROACH %	0%	0%	0%	0%	0%	0%	56%	44%	0%	0%	62%	38%	
	PEAK HR FACTOR		0.000			0.000			0.937			0.747		0.836
	APP/DEPART	0	/	610	0	/	0	506	/	224	861	/	533	0

U-TURNS					
NB X	SB X	EB X	WB X	TTL	
				0	
				0	
				0	
				0	
		2		2	
				0	
		2		2	
				0	
0	0	4	0	4	
				0	
				0	
		1		1	
				0	
				0	
				0	
				0	
				0	
0	0	1	0	1	



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:					
4/8/14	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01	
TUESDAY	NORTH & SOUTH:	SR-125 SB RAMPS	LOCATION #:	12	
	EAST & WEST:	OTAY MESA	CONTROL:	SIGNAL	

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND SR-125 SB RAMPS			SOUTHBOUND SR-125 SB RAMPS			EASTBOUND OTAY MESA			WESTBOUND OTAY MESA			
	LANES:	NL X	NT X	NR X	SL 2	ST X	SR 1	EL X	ET 3	ER X	WL X	WT 3	WR X	TOTAL
AM	7:00 AM				71		62		122			24		279
	7:15 AM				93		76		152			31		352
	7:30 AM				140		97		170			47		454
	7:45 AM				139		136		183			53		511
	8:00 AM				69		77		106			40		292
	8:15 AM				67		70		94			40		271
	8:30 AM				57		60		81			42		240
	8:45 AM				59		56		81			37		233
	VOLUMES	0	0	0	695	0	634	0	989	0	0	314	0	2,632
	APPROACH %	0%	0%	0%	52%	0%	48%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	1,329	/	0	989	/	1,684	314	/	948	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	0	0	0	441	0	386	0	611	0	0	171	0	1,609
	APPROACH %	0%	0%	0%	53%	0%	47%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.752			0.835			0.807			0.787
	APP/DEPART	0	/	0	827	/	0	611	/	1,052	171	/	557	0
PM	4:00 PM				12		54		110			172		348
	4:15 PM				18		45		116			129		308
	4:30 PM				16		42		99			129		286
	4:45 PM				14		39		117			95		265
	5:00 PM				20		42		101			88		251
	5:15 PM				25		43		105			77		250
	5:30 PM				21		44		92			53		210
	5:45 PM				15		45		88			58		206
	VOLUMES	0	0	0	141	0	354	0	828	0	0	801	0	2,124
	APPROACH %	0%	0%	0%	28%	0%	72%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	495	/	0	828	/	969	801	/	1,155	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	0	0	60	0	180	0	442	0	0	525	0	1,207
	APPROACH %	0%	0%	0%	25%	0%	75%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.909			0.944			0.763			0.867
	APP/DEPART	0	/	0	240	/	0	442	/	502	525	/	705	0

U-TURNS

NB X	SB X	EB X	WB X	TTL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
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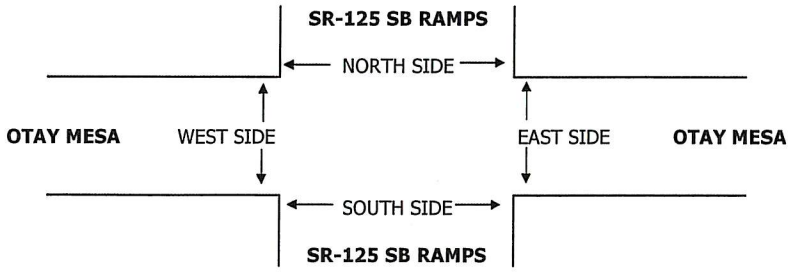
				0
0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	PIPER RANCH	LOCATION #:	13
TUESDAY	EAST & WEST:	OTAY MESA	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND PIPER RANCH			SOUTHBOUND PIPER RANCH			EASTBOUND OTAY MESA			WESTBOUND OTAY MESA			
	LANES:	NL	NT	NR	SL 1.5	ST	SR 1.5	EL 1	ET 3	ER	WL	WT 3	WR 0	TOTAL
AM	7:00 AM				12		18	33	115			77	16	271
	7:15 AM				14		28	32	121			91	17	303
	7:30 AM				19		25	39	139			116	18	356
	7:45 AM				15		22	51	175			151	35	449
	8:00 AM				18		16	47	95			85	21	282
	8:15 AM				9		26	44	81			95	24	279
	8:30 AM				13		22	25	77			77	27	241
	8:45 AM				8		24	35	70			71	23	231
	VOLUMES	0	0	0	108	0	181	306	873	0	0	763	181	2,412
	APPROACH %	0%	0%	0%	37%	0%	63%	26%	74%	0%	0%	81%	19%	
	APP/DEPART	0	/	487	289	/	0	1,179	/	981	944	/	944	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	66	0	91	169	530	0	0	443	91	1,390
	APPROACH %	0%	0%	0%	42%	0%	58%	24%	76%	0%	0%	83%	17%	
	PEAK HR FACTOR		0.000			0.892			0.773			0.718		0.774
	APP/DEPART	0	/	260	157	/	0	699	/	596	534	/	534	0
PM	4:00 PM				24		40	22	81			212	23	402
	4:15 PM				25		47	20	95			152	28	367
	4:30 PM				16		45	19	90			131	35	336
	4:45 PM				18		45	15	96			126	17	317
	5:00 PM				14		61	31	84			105	20	315
	5:15 PM				20		33	28	88			114	16	299
	5:30 PM				19		31	25	70			81	18	244
	5:45 PM				17		33	22	75			79	15	241
	VOLUMES	0	0	0	153	0	335	182	679	0	0	1,000	172	2,521
	APPROACH %	0%	0%	0%	31%	0%	69%	21%	79%	0%	0%	85%	15%	
	APP/DEPART	0	/	354	488	/	0	861	/	832	1,172	/	1,335	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	83	0	177	76	362	0	0	621	103	1,422
	APPROACH %	0%	0%	0%	32%	0%	68%	17%	83%	0%	0%	86%	14%	
	PEAK HR FACTOR		0.000			0.903			0.952			0.770		0.884
	APP/DEPART	0	/	179	260	/	0	438	/	445	724	/	798	0

U-TURNS

NB	SB	EB	WB	TTL
X	X	X	X	
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
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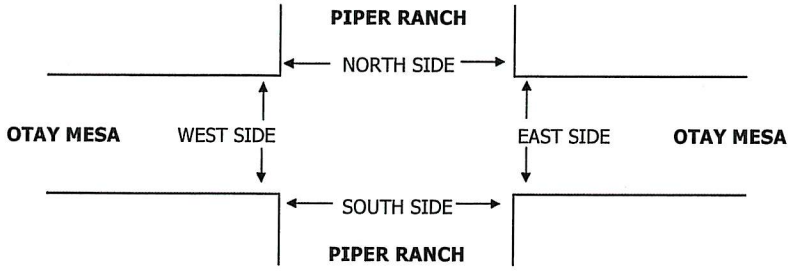
0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

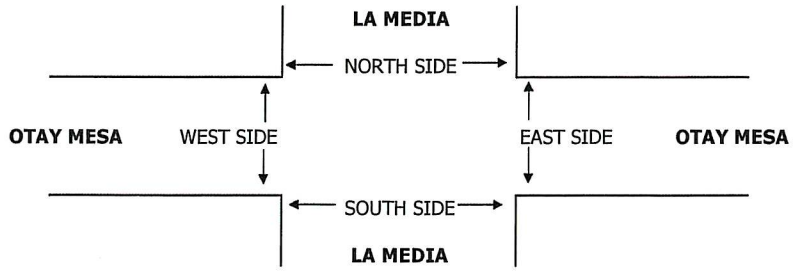
DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	LA MEDIA	LOCATION #:	14
TUESDAY	EAST & WEST:	OTAY MESA	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND LA MEDIA			SOUTHBOUND LA MEDIA			EASTBOUND OTAY MESA			WESTBOUND OTAY MESA			
	LANES:	NL 1	NT 2	NR 0	SL 2	ST 1	SR 0	EL 1	ET 3	ER 1	WL 1	WT 2.5	WR 0.5	TOTAL
AM	7:00 AM	6	18	115	4	11	1	8	30	8	58	24	2	285
	7:15 AM	6	20	138	5	13	7	5	44	10	81	28	4	361
	7:30 AM	7	21	152	7	9	5	7	46	12	84	47	8	405
	7:45 AM	15	32	145	6	23	6	9	38	19	90	60	13	456
	8:00 AM	5	28	86	5	7	8	6	36	11	78	32	10	312
	8:15 AM	11	26	91	8	18	7	5	28	12	71	39	9	325
	8:30 AM	14	21	61	5	17	4	8	36	12	62	27	9	276
	8:45 AM	12	25	74	4	21	9	8	26	21	53	35	6	294
	VOLUMES	76	191	862	44	119	47	56	284	105	577	292	61	2,714
	APPROACH %	7%	17%	76%	21%	57%	22%	13%	64%	24%	62%	31%	7%	
	APP/DEPART	1,129	/	308	210	/	801	445	/	1,190	930	/	415	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	33	101	521	23	52	26	27	164	52	333	167	35	1,534
	APPROACH %	5%	15%	80%	23%	51%	26%	11%	67%	21%	62%	31%	7%	
	PEAK HR FACTOR		0.853			0.721			0.920			0.821		0.841
	APP/DEPART	655	/	163	101	/	437	243	/	708	535	/	226	0
PM	4:00 PM	17	17	71	8	37	8	8	33	33	118	101	26	477
	4:15 PM	20	15	68	11	35	9	12	36	38	110	72	11	437
	4:30 PM	24	21	78	5	32	6	4	23	32	107	51	10	393
	4:45 PM	19	21	74	5	36	7	5	27	38	110	49	8	399
	5:00 PM	11	19	70	9	34	15	9	40	41	106	55	6	415
	5:15 PM	13	20	68	5	37	9	10	33	30	89	44	11	369
	5:30 PM	6	17	55	6	41	10	9	31	18	66	35	13	307
	5:45 PM	5	17	67	3	29	5	8	37	22	78	29	12	312
	VOLUMES	115	147	551	52	281	69	65	260	252	784	436	97	3,109
	APPROACH %	14%	18%	68%	13%	70%	17%	11%	45%	44%	60%	33%	7%	
	APP/DEPART	813	/	309	402	/	1,317	577	/	863	1,317	/	620	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	80	74	291	29	140	30	29	119	141	445	273	55	1,706
	APPROACH %	18%	17%	65%	15%	70%	15%	10%	41%	49%	58%	35%	7%	
	PEAK HR FACTOR		0.904			0.905			0.840			0.789		0.894
	APP/DEPART	445	/	158	199	/	726	289	/	439	773	/	383	0

U-TURNS					
	NB	SB	EB	WB	TTL
	X	X	X	X	
AM					0
			3		3
			3		3
	1				1
			2		2
					0
					0
	2				2
	3	0	8	0	11
PM			3		3
			1		1
			3		3
	2				2
	1		1		2
					0
			3		3
					0
	3	0	11	0	14



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:	LOCATION:	OTAY MESA	PROJECT #:	PTD14-0411-01
4/8/14	NORTH & SOUTH:	PASEO DE LAS AMERICAS	LOCATION #:	15
TUESDAY	EAST & WEST:	AIRWAY	CONTROL:	2-WAY STOP (NS)

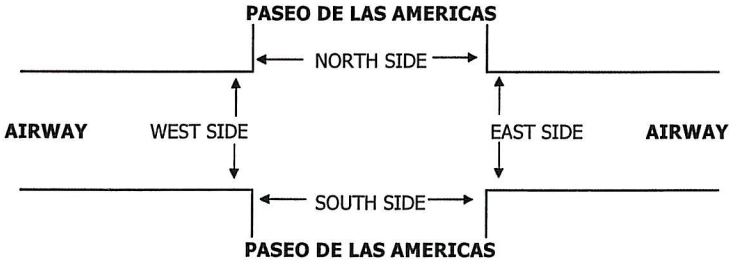
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND PASEO DE LAS AMERICAS			SOUTHBOUND PASEO DE LAS AMERICAS			EASTBOUND AIRWAY			WESTBOUND AIRWAY			
	LANES:	NL 1	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	10	4	3	0	2	2	4	6	0	0	9	0	40
	7:15 AM	15	7	0	0	1	1	3	11	3	2	10	0	53
	7:30 AM	21	6	3	0	1	1	8	10	3	2	7	0	62
	7:45 AM	7	4	3	0	1	1	3	16	6	0	12	1	54
	8:00 AM	13	4	3	1	0	0	6	13	3	1	23	0	67
	8:15 AM	10	4	4	0	6	0	3	21	5	2	12	0	67
	8:30 AM	9	5	4	0	10	2	2	22	0	5	20	0	79
	8:45 AM	5	7	7	1	24	16	3	8	6	3	18	0	98
	VOLUMES	90	41	27	2	45	23	32	107	26	15	111	1	520
	APPROACH %	57%	26%	17%	3%	64%	33%	19%	65%	16%	12%	87%	1%	
	APP/DEPART	158	/	74	70	/	86	165	/	136	127	/	224	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	37	20	18	2	40	18	14	64	14	11	73	0	311
	APPROACH %	49%	27%	24%	3%	67%	30%	15%	70%	15%	13%	87%	0%	
	PEAK HR FACTOR		0.938			0.366			0.793			0.840		0.793
	APP/DEPART	75	/	34	60	/	65	92	/	84	84	/	128	0
PM	4:00 PM	28	0	2	0	0	1	0	15	3	10	15	2	76
	4:15 PM	21	1	1	0	3	1	5	13	3	3	29	1	81
	4:30 PM	26	2	4	0	2	1	1	10	6	5	26	2	85
	4:45 PM	12	4	1	0	5	0	7	10	6	1	26	2	74
	5:00 PM	17	3	2	0	6	1	9	7	7	13	32	0	97
	5:15 PM	16	3	1	0	2	2	3	10	7	2	23	7	76
	5:30 PM	10	3	1	0	6	2	7	14	2	4	27	1	77
	5:45 PM	18	5	1	1	4	0	6	13	5	3	19	0	75
	VOLUMES	148	21	13	1	28	8	38	92	39	41	197	15	641
	APPROACH %	81%	12%	7%	3%	76%	22%	22%	54%	23%	16%	78%	6%	
	APP/DEPART	182	/	74	37	/	108	169	/	106	253	/	353	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	76	10	8	0	16	3	22	40	22	22	113	5	337
	APPROACH %	81%	11%	9%	0%	84%	16%	26%	48%	26%	16%	81%	4%	
	PEAK HR FACTOR		0.734			0.679			0.913			0.778		0.869
	APP/DEPART	94	/	37	19	/	60	84	/	48	140	/	192	0

U-TURNS

	NB	SB	EB	WB	TTL
	X	X	X	X	
7:00 AM					0
7:15 AM					0
7:30 AM					0
7:45 AM				1	1
8:00 AM					0
8:15 AM					0
8:30 AM	1				1
8:45 AM					0
TOTAL	1	0	0	1	2
4:00 PM					0
4:15 PM					0
4:30 PM					0
4:45 PM					0
5:00 PM					0
5:15 PM					0
5:30 PM					0
5:45 PM					0
TOTAL	0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX B

- Existing and Baseline 2015 - Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	11	38	5	29	9	108	57	3	1	29	19
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	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	0.97	1.00		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.88		1.00	0.96		1.00	0.99		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)	3433	1647		1770	3413		1770	3515		1770	3329	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1647		1770	3413		1770	3515		1770	3329	
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)	57	12	41	5	32	10	117	62	3	1	32	21
RTOR Reduction (vph)	0	36	0	0	9	0	0	1	0	0	11	0
Lane Group Flow (vph)	57	17	0	5	33	0	117	64	0	1	42	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	2	2		1	1		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	10.0	10.0		7.7	7.7		8.0	45.0		0.6	37.6	
Effective Green, g (s)	10.0	10.0		7.7	7.7		8.0	45.0		0.6	37.6	
Actuated g/C Ratio	0.12	0.12		0.09	0.09		0.10	0.55		0.01	0.46	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	6.2	6.2		5.4	5.4		2.0	2.5		2.0	5.9	
Lane Grp Cap (vph)	416	199		165	318		171	1919		12	1519	
v/s Ratio Prot	c0.02	0.01		0.00	c0.01		c0.07	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.14	0.09		0.03	0.10		0.68	0.03		0.08	0.03	
Uniform Delay, d1	32.3	32.1		34.0	34.2		36.0	8.6		40.6	12.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.5		0.2	0.3		8.7	0.0		1.1	0.0	
Delay (s)	32.8	32.7		34.1	34.5		44.7	8.7		41.7	12.4	
Level of Service	C	C		C	C		D	A		D	B	
Approach Delay (s)		32.7			34.5			31.8			12.9	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	82.4	Sum of lost time (s)	19.1
Intersection Capacity Utilization	29.2%	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												
Volume (veh/h)	41	100	22	14	138	0	19	10	4	0	11	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	109	24	15	150	0	21	11	4	0	12	25
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked												
vC, conflicting volume	150			133			346	390	66	334	402	75
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	150			133			346	390	66	334	402	75
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			96	98	100	100	98	97
cM capacity (veh/h)	1429			1450			541	521	984	565	513	971

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	45	72	60	15	100	50	36	6	31
Volume Left	45	0	0	15	0	0	21	0	0
Volume Right	0	0	24	0	0	0	4	0	25
cSH	1429	1700	1700	1450	1700	1700	565	513	829
Volume to Capacity	0.03	0.04	0.04	0.01	0.06	0.03	0.06	0.01	0.04
Queue Length 95th (ft)	2	0	0	1	0	0	5	1	3
Control Delay (s)	7.6	0.0	0.0	7.5	0.0	0.0	11.8	12.1	9.5
Lane LOS	A			A			B	B	A
Approach Delay (s)	1.9			0.7			11.8	9.9	
Approach LOS							B	A	

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	25.6%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	162	150	6	143	7	101	39	1	9	108	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1770	5763	1583	1770	5048		1770	3527		1770	3316	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5048		1770	3527		1770	3316	
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)	208	176	163	7	155	8	110	42	1	10	117	85
RTOR Reduction (vph)	0	0	112	0	3	0	0	1	0	0	51	0
Lane Group Flow (vph)	208	176	51	7	160	0	110	42	0	10	151	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	16.2	32.7	32.7	1.0	17.5		11.0	50.5		1.0	40.5	
Effective Green, g (s)	16.2	32.7	32.7	1.0	17.5		11.0	50.5		1.0	40.5	
Actuated g/C Ratio	0.16	0.32	0.32	0.01	0.17		0.11	0.49		0.01	0.39	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	276	1815	498	17	851		187	1715		17	1293	
v/s Ratio Prot	c0.12	0.03		0.00	c0.03		c0.06	0.01		0.01	c0.05	
v/s Ratio Perm			0.03									
v/c Ratio	0.75	0.10	0.10	0.41	0.19		0.59	0.02		0.59	0.12	
Uniform Delay, d1	41.9	25.1	25.2	51.1	37.0		44.2	13.9		51.2	20.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.9	0.1	0.3	5.8	0.3		3.0	0.0		29.3	0.2	
Delay (s)	51.8	25.2	25.4	56.9	37.3		47.3	13.9		80.5	20.4	
Level of Service	D	C	C	E	D		D	B		F	C	
Approach Delay (s)		35.4			38.1			37.9			23.2	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	18.6
Intersection Capacity Utilization	48.6%	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												
Volume (vph)	88	590	0	0	265	348	150	1	302	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.94	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4520	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4520	1362		1775	2787			
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)	96	641	0	0	288	378	163	1	328	0	0	0
RTOR Reduction (vph)	0	0	0	0	70	72	0	0	277	0	0	0
Lane Group Flow (vph)	96	641	0	0	407	117	0	164	51	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	8.0	71.0			58.8	58.8		14.8	14.8			
Effective Green, g (s)	8.0	71.0			58.8	58.8		14.8	14.8			
Actuated g/C Ratio	0.08	0.75			0.62	0.62		0.16	0.16			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	289	3800			2797	843		276	434			
v/s Ratio Prot	c0.03	c0.13			0.09							
v/s Ratio Perm						0.09		0.09	0.02			
v/c Ratio	0.33	0.17			0.15	0.14		0.59	0.12			
Uniform Delay, d1	41.0	3.5			7.6	7.5		37.3	34.5			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.7	0.1			0.1	0.3		3.4	0.1			
Delay (s)	41.7	3.6			7.7	7.9		40.7	34.6			
Level of Service	D	A			A	A		D	C			
Approach Delay (s)		8.5			7.7			36.6			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	209	61	85	310	0	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4913		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4913		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	227	66	92	337	0	526
RTOR Reduction (vph)	18	0	0	0	0	461
Lane Group Flow (vph)	275	0	92	337	0	65
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	43.4		7.4	60.0		7.4
Effective Green, g (s)	43.4		7.4	60.0		7.4
Actuated g/C Ratio	0.72		0.12	1.00		0.12
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3553		423	5085		343
v/s Ratio Prot	c0.06		c0.03			
v/s Ratio Perm				0.07		0.02
v/c Ratio	0.08		0.22	0.07		0.19
Uniform Delay, d1	2.4		23.7	0.0		23.6
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.0		0.3	0.0		0.3
Delay (s)	2.5		24.0	0.0		23.9
Level of Service	A		C	A		C
Approach Delay (s)	2.5			5.2	23.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	30.0%	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 (veh/h)	18	2	9	4	5	3	36	71	6	5	43	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	20	2	10	4	5	3	39	77	7	5	47	16
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	68	61	12	131	111	67	606	54	10	400	130
Arrive On Green	0.02	0.04	0.04	0.01	0.07	0.07	0.04	0.18	0.18	0.01	0.15	0.15
Sat Flow, veh/h	1774	1770	1583	1774	1863	1583	1774	3285	295	1774	2629	853
Grp Volume(v), veh/h	20	2	10	4	5	3	39	41	43	5	31	32
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1811	1774	1770	1712
Q Serve(g_s), s	0.3	0.0	0.2	0.1	0.1	0.0	0.6	0.5	0.5	0.1	0.4	0.4
Cycle Q Clear(g_c), s	0.3	0.0	0.2	0.1	0.1	0.0	0.6	0.5	0.5	0.1	0.4	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.50
Lane Grp Cap(c), veh/h	37	68	61	12	131	111	67	326	334	10	269	261
V/C Ratio(X)	0.55	0.03	0.16	0.34	0.04	0.03	0.58	0.13	0.13	0.52	0.11	0.12
Avail Cap(c_a), veh/h	824	2290	2049	2296	2410	2049	911	835	854	1114	2182	2111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	12.2	12.2	13.0	11.4	11.4	12.4	8.9	9.0	13.0	9.6	9.6
Incr Delay (d2), s/veh	4.6	0.2	1.5	16.5	0.1	0.1	3.0	0.2	0.2	14.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.1	0.0	0.0	0.3	0.3	0.3	0.1	0.2	0.2
LnGrp Delay(d),s/veh	17.4	12.4	13.7	29.5	11.5	11.5	15.4	9.1	9.1	28.0	9.8	9.8
LnGrp LOS	B	B	B	C	B	B	B	A	A	C	A	A
Approach Vol, veh/h		32			12			123			68	
Approach Delay, s/veh		15.9			17.5			11.1			11.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	3.6	9.4	6.2	7.0	4.5	8.6	5.3	7.8
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	16.5	12.4	34.0	* 34	13.5	32.4	12.2	34.0
Max Q Clear Time (g_c+I1), s	2.1	2.5	2.1	2.2	2.6	2.4	2.3	2.1
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	64	14	11	73	0	37	20	18	2	40	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	70	15	12	79	0	40	22	20	2	43	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	79			85			212	211	42	199	218	40
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	79			85			212	211	42	199	218	40
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			94	97	98	100	93	98
cM capacity (veh/h)	1517			1510			667	673	1019	700	666	1023

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	15	46	38	12	53	26	40	41	65
Volume Left	15	0	0	12	0	0	40	0	2
Volume Right	0	0	15	0	0	0	0	20	20
cSH	1517	1700	1700	1510	1700	1700	667	802	746
Volume to Capacity	0.01	0.03	0.02	0.01	0.03	0.02	0.06	0.05	0.09
Queue Length 95th (ft)	1	0	0	1	0	0	5	4	7
Control Delay (s)	7.4	0.0	0.0	7.4	0.0	0.0	10.7	9.7	10.3
Lane LOS	A			A			B	A	B
Approach Delay (s)	1.1			1.0			10.2		10.3
Approach LOS							B		B

Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	22.8%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	47	54	50	0	1	59	49	0	15	50	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	51	59	54	0	1	64	53	0	16	54	2
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	9.7	9.2	9.4
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	38%	0%	64%	0%	100%	0%	0%	22%	0%
Vol Thru, %	62%	93%	36%	35%	0%	100%	29%	78%	0%
Vol Right, %	0%	7%	0%	65%	0%	0%	71%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	27	74	77	1	39	69	220	88
LT Vol	25	25	27	27	0	39	20	172	0
Through Vol	0	2	0	50	0	0	49	0	88
RT Vol	15	0	47	0	1	0	0	48	0
Lane Flow Rate	43	29	80	84	1	43	75	239	96
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.077	0.05	0.143	0.13	0.002	0.073	0.117	0.374	0.128
Departure Headway (Hd)	6.356	6.115	6.386	5.605	6.677	6.172	5.667	5.74	4.928
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	566	588	564	643	538	583	635	631	732
Service Time	4.071	3.83	4.096	3.315	4.39	3.885	3.38	3.44	2.628
HCM Lane V/C Ratio	0.076	0.049	0.142	0.131	0.002	0.074	0.118	0.379	0.131
HCM Control Delay	9.6	9.2	10.2	9.2	9.4	9.4	9.1	11.8	8.4
HCM Lane LOS	A	A	B	A	A	A	A	B	A
HCM 95th-tile Q	0.2	0.2	0.5	0.4	0	0.2	0.4	1.7	0.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	48	172	88
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	52	187	96
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	10.8
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	579	34	11	92	24	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1849		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1849		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	629	37	12	100	26	29
RTOR Reduction (vph)	1	0	0	0	0	27
Lane Group Flow (vph)	665	0	12	100	26	2
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	40.1		0.9	45.8	4.8	4.8
Effective Green, g (s)	40.1		0.9	45.8	4.8	4.8
Actuated g/C Ratio	0.64		0.01	0.73	0.08	0.08
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	1184		25	1363	135	121
v/s Ratio Prot	c0.36		c0.01	0.05		
v/s Ratio Perm					c0.01	0.00
v/c Ratio	0.56		0.48	0.07	0.19	0.02
Uniform Delay, d1	6.3		30.6	2.4	27.1	26.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7		5.2	0.0	0.3	0.0
Delay (s)	7.0		35.8	2.4	27.3	26.7
Level of Service	A		D	A	C	C
Approach Delay (s)	7.0			6.0	27.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	62.6	Sum of lost time (s)	16.8
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	546	398	4	119	114	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.94		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3315		1770	1863	3433	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3315		1770	1863	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	593	433	4	129	124	3
RTOR Reduction (vph)	112	0	0	0	3	0
Lane Group Flow (vph)	914	0	4	129	124	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	21.7		0.6	27.6	5.9	
Effective Green, g (s)	21.7		0.6	27.6	5.9	
Actuated g/C Ratio	0.48		0.01	0.62	0.13	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1605		23	1147	452	
v/s Ratio Prot	c0.28		0.00	c0.07	c0.04	
v/s Ratio Perm						
v/c Ratio	0.57		0.17	0.11	0.28	
Uniform Delay, d1	8.2		21.9	3.5	17.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.5		1.3	0.1	0.1	
Delay (s)	8.7		23.2	3.6	17.6	
Level of Service	A		C	A	B	
Approach Delay (s)	8.7			4.2	17.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	44.8	Sum of lost time (s)	16.6
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	132	926	177	80	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.98	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4726	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4726	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	1007	192	87	0	0
RTOR Reduction (vph)	0	0	7	20	0	0
Lane Group Flow (vph)	143	1007	209	43	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	6.7	60.0	41.4	41.4		
Effective Green, g (s)	6.7	60.0	41.4	41.4		
Actuated g/C Ratio	0.11	1.00	0.69	0.69		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	383	3539	3260	939		
v/s Ratio Prot	0.04		0.04			
v/s Ratio Perm		c0.28		0.03		
v/c Ratio	0.37	0.28	0.06	0.05		
Uniform Delay, d1	24.7	0.0	3.0	3.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.6	0.2	0.0	0.1		
Delay (s)	25.3	0.2	3.1	3.1		
Level of Service	C	A	A	A		
Approach Delay (s)		3.3	3.1		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	3.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	611	171	0	441	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	664	186	0	479	420
RTOR Reduction (vph)	0	0	0	0	0	295
Lane Group Flow (vph)	0	664	186	0	479	125
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		c0.13	0.04		c0.14	
v/s Ratio Perm						0.08
v/c Ratio		0.25	0.07		0.47	0.27
Uniform Delay, d1		8.9	8.0		18.6	17.4
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2	0.1		1.5	1.4
Delay (s)		9.1	8.1		20.1	18.7
Level of Service		A	A		C	B
Approach Delay (s)		9.1	8.1		19.5	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	38.3%	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)	36	3	15	9	20	10	172	90	0	2	18	57
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	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	0.97	1.00		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	0.95		1.00	1.00		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1627		1770	3362		1770	3539		1770	3138	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1627		1770	3362		1770	3539		1770	3138	
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	3	16	10	22	11	187	98	0	2	20	62
RTOR Reduction (vph)	0	15	0	0	10	0	0	0	0	0	34	0
Lane Group Flow (vph)	39	4	0	10	23	0	187	98	0	2	48	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	2	2		1	1		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.2	7.2		7.6	7.6		13.5	51.6		0.6	38.7	
Effective Green, g (s)	7.2	7.2		7.6	7.6		13.5	51.6		0.6	38.7	
Actuated g/C Ratio	0.08	0.08		0.09	0.09		0.16	0.60		0.01	0.45	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	6.2	6.2		5.4	5.4		2.0	2.5		2.0	5.9	
Lane Grp Cap (vph)	287	136		156	296		277	2120		12	1410	
v/s Ratio Prot	c0.01	0.00		0.01	c0.01		c0.11	c0.03		0.00	0.02	
v/s Ratio Perm												
v/c Ratio	0.14	0.03		0.06	0.08		0.68	0.05		0.17	0.03	
Uniform Delay, d1	36.6	36.2		36.0	36.0		34.2	7.1		42.5	13.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.3		0.4	0.3		5.0	0.0		2.4	0.0	
Delay (s)	37.2	36.5		36.4	36.3		39.3	7.2		44.9	13.3	
Level of Service	D	D		D	D		D	A		D	B	
Approach Delay (s)		37.0			36.3			28.2			14.0	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	86.1	Sum of lost time (s)	19.1
Intersection Capacity Utilization	32.7%	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 (veh/h)	45	50	24	14	235	4	54	28	4	1	17	51
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	54	26	15	255	4	59	30	4	1	18	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked												
vC, conflicting volume	260			80			388	455	40	433	466	130
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	260			80			388	455	40	433	466	130
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			88	94	100	100	96	94
cM capacity (veh/h)	1302			1515			478	476	1022	463	469	896

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	49	36	44	15	170	89	93	10	65
Volume Left	49	0	0	15	0	0	59	1	0
Volume Right	0	0	26	0	0	4	4	0	55
cSH	1302	1700	1700	1515	1700	1700	490	469	793
Volume to Capacity	0.04	0.02	0.03	0.01	0.10	0.05	0.19	0.02	0.08
Queue Length 95th (ft)	3	0	0	1	0	0	17	2	7
Control Delay (s)	7.9	0.0	0.0	7.4	0.0	0.0	14.1	12.9	9.9
Lane LOS	A			A			B	B	A
Approach Delay (s)	3.0			0.4			14.1	10.3	
Approach LOS							B	B	

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.3%	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)	108	111	89	12	288	14	294	124	0	7	65	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5763	1583	1770	5050		1770	3539		1770	3182	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5050		1770	3539		1770	3182	
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)	117	121	97	13	313	15	320	135	0	8	71	146
RTOR Reduction (vph)	0	0	72	0	3	0	0	0	0	0	96	0
Lane Group Flow (vph)	117	121	25	13	325	0	320	135	0	8	121	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	12.6	30.6	30.6	2.3	20.3		26.5	65.8		1.0	40.3	
Effective Green, g (s)	12.6	30.6	30.6	2.3	20.3		26.5	65.8		1.0	40.3	
Actuated g/C Ratio	0.11	0.26	0.26	0.02	0.17		0.22	0.56		0.01	0.34	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	188	1490	409	34	866		396	1968		14	1083	
v/s Ratio Prot	c0.07	0.02		0.01	c0.06		c0.18	0.04		0.00	c0.04	
v/s Ratio Perm			0.02									
v/c Ratio	0.62	0.08	0.06	0.38	0.37		0.81	0.07		0.57	0.11	
Uniform Delay, d1	50.6	33.2	33.0	57.3	43.4		43.5	12.1		58.4	26.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.5	0.1	0.2	2.6	0.7		10.9	0.1		30.5	0.2	
Delay (s)	55.1	33.3	33.2	59.9	44.1		54.4	12.2		88.9	26.9	
Level of Service	E	C	C	E	D		D	B		F	C	
Approach Delay (s)		40.9			44.7			41.9			29.1	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	40.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	118.3	Sum of lost time (s)	18.6
Intersection Capacity Utilization	54.4%	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)	243	460	0	0	451	666	100	1	283	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.94	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4500	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4500	1362		1775	2787			
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)	264	500	0	0	490	724	109	1	308	0	0	0
RTOR Reduction (vph)	0	0	0	0	82	144	0	0	270	0	0	0
Lane Group Flow (vph)	264	500	0	0	770	218	0	110	38	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Effective Green, g (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Actuated g/C Ratio	0.13	0.78			0.60	0.60		0.12	0.12			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	458	3960			2704	818		220	346			
v/s Ratio Prot	c0.08	0.10			c0.17							
v/s Ratio Perm						0.16		0.06	0.01			
v/c Ratio	0.58	0.13			0.28	0.27		0.50	0.11			
Uniform Delay, d1	38.6	2.6			9.1	9.0		38.8	36.9			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.8	0.1			0.3	0.8		1.8	0.1			
Delay (s)	40.4	2.6			9.4	9.8		40.6	37.1			
Level of Service	D	A			A	A		D	D			
Approach Delay (s)		15.7			9.5			38.0			0.0	
Approach LOS		B			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	493	251	177	361	0	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.95		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4828		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4828		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	536	273	192	392	0	257
RTOR Reduction (vph)	82	0	0	0	0	219
Lane Group Flow (vph)	727	0	192	392	0	38
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	41.9		8.9	60.0		8.9
Effective Green, g (s)	41.9		8.9	60.0		8.9
Actuated g/C Ratio	0.70		0.15	1.00		0.15
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3371		509	5085		413
v/s Ratio Prot	c0.15		c0.06			
v/s Ratio Perm				0.08		0.01
v/c Ratio	0.22		0.38	0.08		0.09
Uniform Delay, d1	3.2		23.0	0.0		22.1
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1		0.5	0.0		0.1
Delay (s)	3.4		23.5	0.0		22.2
Level of Service	A		C	A		C
Approach Delay (s)	3.4			7.8	22.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	31.1%	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 (veh/h)	1	12	5	6	3	3	83	3	1	38	37	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	1	13	5	7	3	3	90	3	1	41	40	18
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	65	23	20	149	127	129	480	152	70	359	151
Arrive On Green	0.00	0.03	0.03	0.01	0.08	0.08	0.07	0.18	0.18	0.04	0.15	0.15
Sat Flow, veh/h	1774	2547	922	1774	1863	1583	1774	2648	837	1774	2428	1024
Grp Volume(v), veh/h	1	9	9	7	3	3	90	2	2	41	28	30
Grp Sat Flow(s),veh/h/ln	1774	1770	1700	1774	1863	1583	1774	1770	1715	1774	1770	1682
Q Serve(g_s), s	0.0	0.1	0.1	0.1	0.0	0.0	1.3	0.0	0.0	0.6	0.4	0.4
Cycle Q Clear(g_c), s	0.0	0.1	0.1	0.1	0.0	0.0	1.3	0.0	0.0	0.6	0.4	0.4
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.49	1.00		0.61
Lane Grp Cap(c), veh/h	7	45	43	20	149	127	129	321	311	70	262	249
V/C Ratio(X)	0.15	0.20	0.21	0.35	0.02	0.02	0.70	0.01	0.01	0.59	0.11	0.12
Avail Cap(c_a), veh/h	800	2224	2136	2229	2341	1989	885	811	786	1082	2119	2014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	12.9	12.9	13.3	11.5	11.5	12.3	9.1	9.1	12.8	10.0	10.0
Incr Delay (d2), s/veh	3.9	2.5	2.9	9.9	0.1	0.1	2.5	0.0	0.0	2.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	0.1	0.0	0.0	0.7	0.0	0.0	0.4	0.2	0.2
LnGrp Delay(d),s/veh	17.4	15.5	15.9	23.2	11.5	11.6	14.8	9.1	9.1	15.7	10.2	10.2
LnGrp LOS	B	B	B	C	B	B	B	A	A	B	B	B
Approach Vol, veh/h		19			13			94			99	
Approach Delay, s/veh		15.8			17.8			14.6			12.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	9.5	6.3	6.7	5.5	8.6	4.8	8.2
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	16.5	12.4	34.0	* 34	13.5	32.4	12.2	34.0
Max Q Clear Time (g_c+I1), s	2.6	2.0	2.1	2.1	3.3	2.4	2.0	2.0
Green Ext Time (p_c), s	0.0	0.1	0.0	0.1	0.1	0.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	42	29	8	86	91	46	122	4	33	88	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	46	32	9	93	99	50	133	4	36	96	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	192			77			336	380	39	362	346	96
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192			77			336	380	39	362	346	96
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			89	75	100	92	83	94
cM capacity (veh/h)	1378			1519			468	526	1025	441	550	941

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	54	30	47	9	62	130	50	137	186
Volume Left	54	0	0	9	0	0	50	0	36
Volume Right	0	0	32	0	0	99	0	4	54
cSH	1378	1700	1700	1519	1700	1700	468	535	594
Volume to Capacity	0.04	0.02	0.03	0.01	0.04	0.08	0.11	0.26	0.31
Queue Length 95th (ft)	3	0	0	0	0	0	9	25	33
Control Delay (s)	7.7	0.0	0.0	7.4	0.0	0.0	13.6	14.0	13.8
Lane LOS	A			A			B	B	B
Approach Delay (s)	3.2			0.3			13.9		13.8
Approach LOS							B		B

Intersection Summary				
Average Delay	8.0			
Intersection Capacity Utilization	38.1%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	52	0	0	0	0	0	0	0	0	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	57	0	0	0	0	0	0	0	0	3	0
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	9.5	0	7.4
HCM LOS	A	-	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	0%	100%	100%	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	2	52	0	0	0	0	2	430
LT Vol	2	2	0	0	0	0	0	2	0
Through Vol	0	0	0	0	0	0	0	0	430
RT Vol	0	0	52	0	0	0	0	0	0
Lane Flow Rate	2	2	57	0	0	0	0	2	467
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.003	0.002	0.096	0	0	0	0	0.003	0.512
Departure Headway (Hd)	5.523	3.779	6.124	5.622	5.773	5.773	4.029	4.753	4.052
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	651	951	588	0	0	0	0	757	897
Service Time	3.229	1.486	3.826	3.324	3.48	3.48	1.736	2.453	1.752
HCM Lane V/C Ratio	0.003	0.002	0.097	0	0	0	0	0.003	0.521
HCM Control Delay	8.2	6.5	9.5	8.3	8.5	8.5	6.7	7.5	10.9
HCM Lane LOS	A	A	A	N	N	N	N	A	B
HCM 95th-tile Q	0	0	0.3	0	0	0	0	0	3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	2	430
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	2	467
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	10.9
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	74	17	33	471	40	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	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)	1817		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1817		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	18	36	512	43	24
RTOR Reduction (vph)	6	0	0	0	0	22
Lane Group Flow (vph)	92	0	36	512	43	2
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	25.4		1.0	31.2	4.6	4.6
Effective Green, g (s)	25.4		1.0	31.2	4.6	4.6
Actuated g/C Ratio	0.53		0.02	0.65	0.10	0.10
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	965		37	1216	170	152
v/s Ratio Prot	0.05		0.02	c0.27		
v/s Ratio Perm					c0.02	0.00
v/c Ratio	0.10		0.97	0.42	0.25	0.02
Uniform Delay, d1	5.5		23.4	4.0	20.0	19.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		136.0	0.3	0.3	0.0
Delay (s)	5.6		159.4	4.3	20.3	19.6
Level of Service	A		F	A	C	B
Approach Delay (s)	5.6			14.4	20.0	
Approach LOS	A			B	C	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	16.8
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	86	142	5	501	334	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.91		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3208		1770	1863	3441	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3208		1770	1863	3441	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	154	5	545	363	1
RTOR Reduction (vph)	95	0	0	0	0	0
Lane Group Flow (vph)	152	0	5	545	364	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	17.0		0.8	23.1	10.1	
Effective Green, g (s)	17.0		0.8	23.1	10.1	
Actuated g/C Ratio	0.38		0.02	0.52	0.23	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1225		31	967	780	
v/s Ratio Prot	0.05		0.00	c0.29	c0.11	
v/s Ratio Perm						
v/c Ratio	0.12		0.16	0.56	0.47	
Uniform Delay, d1	8.9		21.5	7.3	14.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		0.9	0.8	0.2	
Delay (s)	9.0		22.4	8.1	15.0	
Level of Service	A		C	A	B	
Approach Delay (s)	9.0			8.2	15.0	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	44.5	Sum of lost time (s)	16.6
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	282	224	533	328	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.97	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4661	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4661	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	243	579	357	0	0
RTOR Reduction (vph)	0	0	55	79	0	0
Lane Group Flow (vph)	307	243	670	132	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	10.6	60.0	37.5	37.5		
Effective Green, g (s)	10.6	60.0	37.5	37.5		
Actuated g/C Ratio	0.18	1.00	0.62	0.62		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	606	3539	2913	851		
v/s Ratio Prot	c0.09		c0.14			
v/s Ratio Perm		0.07		0.10		
v/c Ratio	0.51	0.07	0.23	0.15		
Uniform Delay, d1	22.3	0.0	4.9	4.7		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.7	0.0	0.2	0.4		
Delay (s)	23.0	0.0	5.1	5.1		
Level of Service	C	A	A	A		
Approach Delay (s)		12.9	5.1		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	442	525	0	60	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	480	571	0	65	196
RTOR Reduction (vph)	0	0	0	0	0	138
Lane Group Flow (vph)	0	480	571	0	65	58
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		0.09	c0.11		0.02	
v/s Ratio Perm						c0.04
v/c Ratio		0.18	0.22		0.06	0.12
Uniform Delay, d1		8.5	8.7		16.3	16.6
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2	0.2		0.1	0.5
Delay (s)		8.7	8.9		16.4	17.1
Level of Service		A	A		B	B
Approach Delay (s)		8.7	8.9		17.0	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	31.5%	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)	58	3	8	9	8	22	69	193	0	2	27	57
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	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	0.97	1.00		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.89		1.00	0.89		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1653		1770	3153		1770	3539		1770	3178	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1653		1770	3153		1770	3539		1770	3178	
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)	63	3	9	10	9	24	75	210	0	2	29	62
RTOR Reduction (vph)	0	8	0	0	22	0	0	0	0	0	29	0
Lane Group Flow (vph)	63	4	0	10	11	0	75	210	0	2	62	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	2	2		1	1		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	10.3	10.3		8.1	8.1		6.6	56.6		0.7	50.7	
Effective Green, g (s)	10.3	10.3		8.1	8.1		6.6	56.6		0.7	50.7	
Actuated g/C Ratio	0.11	0.11		0.09	0.09		0.07	0.60		0.01	0.53	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	6.2	6.2		5.4	5.4		2.0	2.5		2.0	5.9	
Lane Grp Cap (vph)	372	179		151	269		123	2112		13	1699	
v/s Ratio Prot	c0.02	0.00		c0.01	0.00		c0.04	c0.06		0.00	0.02	
v/s Ratio Perm												
v/c Ratio	0.17	0.02		0.07	0.04		0.61	0.10		0.15	0.04	
Uniform Delay, d1	38.4	37.8		39.9	39.8		42.8	8.2		46.8	10.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1		0.4	0.2		5.8	0.1		2.0	0.0	
Delay (s)	39.0	37.9		40.3	39.9		48.6	8.3		48.8	10.5	
Level of Service	D	D		D	D		D	A		D	B	
Approach Delay (s)		38.8			40.0			18.9			11.3	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	94.8	Sum of lost time (s)	19.1
Intersection Capacity Utilization	27.0%	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 (veh/h)	45	72	24	14	120	4	22	28	36	1	17	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	78	26	15	130	4	24	30	39	1	18	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked												
vC, conflicting volume	135			104			316	354	52	354	365	67
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	135			104			316	354	52	354	365	67
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			96	94	96	100	97	98
cM capacity (veh/h)	1447			1485			565	545	1004	513	537	982

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	49	52	52	15	87	48	93	10	31
Volume Left	49	0	0	15	0	0	24	1	0
Volume Right	0	0	26	0	0	4	39	0	22
cSH	1447	1700	1700	1485	1700	1700	681	534	788
Volume to Capacity	0.03	0.03	0.03	0.01	0.05	0.03	0.14	0.02	0.04
Queue Length 95th (ft)	3	0	0	1	0	0	12	1	3
Control Delay (s)	7.6	0.0	0.0	7.4	0.0	0.0	11.1	11.9	9.8
Lane LOS	A			A			B	B	A
Approach Delay (s)	2.4			0.8			11.1	10.3	
Approach LOS							B	B	

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	28.3%	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)	108	111	89	12	288	14	294	124	0	7	65	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5763	1583	1770	5050		1770	3539		1770	3182	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5050		1770	3539		1770	3182	
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)	117	121	97	13	313	15	320	135	0	8	71	146
RTOR Reduction (vph)	0	0	58	0	4	0	0	0	0	0	118	0
Lane Group Flow (vph)	117	121	39	13	324	0	320	135	0	8	99	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	8.0	39.0	39.0	0.7	31.7		20.1	38.1		0.7	18.7	
Effective Green, g (s)	8.0	39.0	39.0	0.7	31.7		20.1	38.1		0.7	18.7	
Actuated g/C Ratio	0.08	0.40	0.40	0.01	0.33		0.21	0.39		0.01	0.19	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	145	2314	635	12	1648		366	1388		12	612	
v/s Ratio Prot	c0.07	0.02		0.01	c0.06		c0.18	0.04		0.00	c0.03	
v/s Ratio Perm			0.02									
v/c Ratio	0.81	0.05	0.06	1.08	0.20		0.87	0.10		0.67	0.16	
Uniform Delay, d1	43.8	17.8	17.8	48.2	23.5		37.3	18.6		48.1	32.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.6	0.0	0.2	289.8	0.3		19.5	0.0		73.9	0.4	
Delay (s)	69.4	17.8	18.0	338.0	23.8		56.8	18.7		122.0	33.1	
Level of Service	E	B	B	F	C		E	B		F	C	
Approach Delay (s)		35.9			35.8			45.5			36.2	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.42			
Actuated Cycle Length (s)	97.1	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	54.4%	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)	243	460	0	0	451	666	100	1	283	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.94	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4500	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4500	1362		1775	2787			
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)	264	500	0	0	490	724	109	1	308	0	0	0
RTOR Reduction (vph)	0	0	0	0	82	144	0	0	270	0	0	0
Lane Group Flow (vph)	264	500	0	0	770	218	0	110	38	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Effective Green, g (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Actuated g/C Ratio	0.13	0.78			0.60	0.60		0.12	0.12			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	458	3960			2704	818		220	346			
v/s Ratio Prot	c0.08	0.10			c0.17							
v/s Ratio Perm						0.16		0.06	0.01			
v/c Ratio	0.58	0.13			0.28	0.27		0.50	0.11			
Uniform Delay, d1	38.6	2.6			9.1	9.0		38.8	36.9			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.8	0.1			0.3	0.8		1.8	0.1			
Delay (s)	40.4	2.6			9.4	9.8		40.6	37.1			
Level of Service	D	A			A	A		D	D			
Approach Delay (s)		15.7			9.5			38.0			0.0	
Approach LOS		B			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	493	251	177	361	0	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.95		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4828		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4828		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	536	273	192	392	0	257
RTOR Reduction (vph)	82	0	0	0	0	219
Lane Group Flow (vph)	727	0	192	392	0	38
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	41.9		8.9	60.0		8.9
Effective Green, g (s)	41.9		8.9	60.0		8.9
Actuated g/C Ratio	0.70		0.15	1.00		0.15
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3371		509	5085		413
v/s Ratio Prot	c0.15		c0.06			
v/s Ratio Perm				0.08		0.01
v/c Ratio	0.22		0.38	0.08		0.09
Uniform Delay, d1	3.2		23.0	0.0		22.1
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1		0.5	0.0		0.1
Delay (s)	3.4		23.5	0.0		22.2
Level of Service	A		C	A		C
Approach Delay (s)	3.4			7.8	22.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	31.1%	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 (veh/h)	33	12	3	6	1	5	33	190	1	38	46	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	13	3	7	1	5	36	207	1	41	50	18
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	150	33	20	135	115	62	578	3	69	425	145
Arrive On Green	0.04	0.05	0.05	0.01	0.07	0.07	0.04	0.16	0.16	0.04	0.16	0.16
Sat Flow, veh/h	1774	2879	640	1774	1863	1583	1774	3612	17	1774	2590	886
Grp Volume(v), veh/h	36	8	8	7	1	5	36	101	107	41	33	35
Grp Sat Flow(s),veh/h/ln	1774	1770	1750	1774	1863	1583	1774	1770	1860	1774	1770	1706
Q Serve(g_s), s	0.5	0.1	0.1	0.1	0.0	0.1	0.5	1.4	1.4	0.6	0.4	0.5
Cycle Q Clear(g_c), s	0.5	0.1	0.1	0.1	0.0	0.1	0.5	1.4	1.4	0.6	0.4	0.5
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.01	1.00		0.52
Lane Grp Cap(c), veh/h	62	92	91	20	135	115	62	283	298	69	290	280
V/C Ratio(X)	0.58	0.08	0.09	0.35	0.01	0.04	0.58	0.36	0.36	0.59	0.11	0.12
Avail Cap(c_a), veh/h	794	2207	2182	2213	2323	1975	879	805	846	1074	1649	1590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	12.3	12.3	13.4	11.7	11.8	13.0	10.2	10.2	12.9	9.7	9.7
Incr Delay (d2), s/veh	3.2	0.5	0.5	9.9	0.0	0.2	3.2	0.8	0.7	2.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.1	0.1	0.0	0.0	0.3	0.7	0.8	0.4	0.2	0.2
LnGrp Delay(d),s/veh	16.1	12.8	12.8	23.3	11.8	11.9	16.1	11.0	10.9	15.8	9.9	9.9
LnGrp LOS	B	B	B	C	B	B	B	B	B	B	A	A
Approach Vol, veh/h		52			13			244			109	
Approach Delay, s/veh		15.1			18.0			11.7			12.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	9.0	6.3	7.4	4.5	9.1	5.8	8.0
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	16.5	12.4	34.0	* 34	13.5	25.4	12.2	34.0
Max Q Clear Time (g_c+I1), s	2.6	3.4	2.1	2.1	2.5	2.5	2.5	2.1
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.0	1.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	40	22	22	113	5	76	10	8	0	16	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	43	24	24	123	5	83	11	9	0	17	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	128			67			224	279	34	257	289	64
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	128			67			224	279	34	257	289	64
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			88	98	99	100	97	100
cM capacity (veh/h)	1455			1532			677	608	1032	644	600	987

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	24	29	38	24	82	46	83	20	21
Volume Left	24	0	0	24	0	0	83	0	0
Volume Right	0	0	24	0	0	5	0	9	3
cSH	1455	1700	1700	1532	1700	1700	677	744	640
Volume to Capacity	0.02	0.02	0.02	0.02	0.05	0.03	0.12	0.03	0.03
Queue Length 95th (ft)	1	0	0	1	0	0	10	2	2
Control Delay (s)	7.5	0.0	0.0	7.4	0.0	0.0	11.1	10.0	10.8
Lane LOS	A			A			B	A	B
Approach Delay (s)	2.0			1.2			10.8		10.8
Approach LOS							B		B

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	50	42	29	0	8	86	91	0	46	122	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	46	32	0	9	93	99	0	50	133	4
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	9.9	9.6	10.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	43%	0%	70%	0%	100%	0%	0%	27%	0%
Vol Thru, %	57%	94%	30%	42%	0%	100%	24%	73%	0%
Vol Right, %	0%	6%	0%	58%	0%	0%	76%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	107	65	71	50	8	57	120	121	50
LT Vol	61	61	21	21	0	57	29	88	0
Through Vol	0	4	0	29	0	0	91	0	50
RT Vol	46	0	50	0	8	0	0	33	0
Lane Flow Rate	116	71	77	54	9	62	130	132	54
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.202	0.117	0.141	0.088	0.016	0.105	0.2	0.226	0.081
Departure Headway (Hd)	6.238	5.978	6.573	5.806	6.584	6.079	5.541	6.175	5.333
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	576	600	546	617	544	590	648	581	672
Service Time	3.973	3.714	4.311	3.543	4.321	3.815	3.278	3.909	3.067
HCM Lane V/C Ratio	0.201	0.118	0.141	0.088	0.017	0.105	0.201	0.227	0.08
HCM Control Delay	10.6	9.5	10.4	9.1	9.4	9.5	9.7	10.7	8.5
HCM Lane LOS	B	A	B	A	A	A	A	B	A
HCM 95th-tile Q	0.7	0.4	0.5	0.3	0	0.4	0.7	0.9	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	33	88	50
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	36	96	54
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	10.1
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	33	24	221	283	40	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	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)	1757		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1757		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	26	240	308	43	68
RTOR Reduction (vph)	19	0	0	0	0	61
Lane Group Flow (vph)	43	0	240	308	43	7
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	10.9		10.9	26.6	4.6	4.6
Effective Green, g (s)	10.9		10.9	26.6	4.6	4.6
Actuated g/C Ratio	0.25		0.25	0.62	0.11	0.11
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	443		446	1147	188	168
v/s Ratio Prot	0.02		c0.14	c0.17		
v/s Ratio Perm					c0.02	0.00
v/c Ratio	0.10		0.54	0.27	0.23	0.04
Uniform Delay, d1	12.4		14.0	3.8	17.7	17.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.6	0.1	0.2	0.0
Delay (s)	12.5		14.6	4.0	17.9	17.4
Level of Service	B		B	A	B	B
Approach Delay (s)	12.5			8.6	17.6	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	43.2	Sum of lost time (s)	16.8
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	45	142	5	313	334	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.89		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3136		1770	1863	3441	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3136		1770	1863	3441	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	154	5	340	363	1
RTOR Reduction (vph)	105	0	0	0	0	0
Lane Group Flow (vph)	98	0	5	340	364	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	12.5		0.6	18.4	9.3	
Effective Green, g (s)	12.5		0.6	18.4	9.3	
Actuated g/C Ratio	0.32		0.02	0.47	0.24	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1005		27	878	820	
v/s Ratio Prot	0.03		0.00	c0.18	c0.11	
v/s Ratio Perm						
v/c Ratio	0.10		0.19	0.39	0.44	
Uniform Delay, d1	9.3		19.0	6.7	12.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		1.2	0.3	0.1	
Delay (s)	9.3		20.2	7.0	12.8	
Level of Service	A		C	A	B	
Approach Delay (s)	9.3			7.2	12.8	
Approach LOS	A			A	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)	39.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	282	183	533	328	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.97	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4661	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4661	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	199	579	357	0	0
RTOR Reduction (vph)	0	0	55	79	0	0
Lane Group Flow (vph)	307	199	670	132	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	10.6	60.0	37.5	37.5		
Effective Green, g (s)	10.6	60.0	37.5	37.5		
Actuated g/C Ratio	0.18	1.00	0.62	0.62		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	606	3539	2913	851		
v/s Ratio Prot	c0.09		c0.14			
v/s Ratio Perm		0.06		0.10		
v/c Ratio	0.51	0.06	0.23	0.15		
Uniform Delay, d1	22.3	0.0	4.9	4.7		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.7	0.0	0.2	0.4		
Delay (s)	23.0	0.0	5.1	5.1		
Level of Service	C	A	A	A		
Approach Delay (s)		14.0	5.1		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	406	525	0	55	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	441	571	0	60	196
RTOR Reduction (vph)	0	0	0	0	0	138
Lane Group Flow (vph)	0	441	571	0	60	58
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		0.09	c0.11		0.02	
v/s Ratio Perm						c0.04
v/c Ratio		0.17	0.22		0.06	0.12
Uniform Delay, d1		8.5	8.7		16.3	16.6
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.2		0.1	0.5
Delay (s)		8.6	8.9		16.4	17.1
Level of Service		A	A		B	B
Approach Delay (s)		8.6	8.9		17.0	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	228	48	24	195
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	248	52	26	212
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					781	
pX, platoon unblocked						
vC, conflicting volume	680	132	238			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	680	132	238			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	81			
cM capacity (veh/h)	339	917	1329			

Direction, Lane #	NB 1	SB 1
Volume Total	300	238
Volume Left	248	0
Volume Right	0	212
cSH	1329	1700
Volume to Capacity	0.19	0.14
Queue Length 95th (ft)	17	0
Control Delay (s)	7.2	0.0
Lane LOS	A	
Approach Delay (s)	7.2	0.0
Approach LOS		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	41	9	0	228	24	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	10	0	248	26	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1238		
pX, platoon unblocked						
vC, conflicting volume	274	26	26			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	274	26	26			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	99	100			
cM capacity (veh/h)	716	1050	1588			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	45	10	248	26
Volume Left	45	0	0	0
Volume Right	0	10	0	0
cSH	716	1050	1700	1700
Volume to Capacity	0.06	0.01	0.15	0.02
Queue Length 95th (ft)	5	1	0	0
Control Delay (s)	10.4	8.5	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.0		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	22.0%	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)	58	3	8	9	8	22	69	193	0	2	27	57
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	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	0.97	1.00		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.89		1.00	0.89		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1653		1770	3153		1770	3539		1770	3178	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1653		1770	3153		1770	3539		1770	3178	
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)	63	3	9	10	9	24	75	210	0	2	29	62
RTOR Reduction (vph)	0	8	0	0	22	0	0	0	0	0	29	0
Lane Group Flow (vph)	63	4	0	10	11	0	75	210	0	2	62	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	2	2		1	1		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	10.3	10.3		8.1	8.1		6.6	56.6		0.7	50.7	
Effective Green, g (s)	10.3	10.3		8.1	8.1		6.6	56.6		0.7	50.7	
Actuated g/C Ratio	0.11	0.11		0.09	0.09		0.07	0.60		0.01	0.53	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	6.2	6.2		5.4	5.4		2.0	2.5		2.0	5.9	
Lane Grp Cap (vph)	372	179		151	269		123	2112		13	1699	
v/s Ratio Prot	c0.02	0.00		c0.01	0.00		c0.04	c0.06		0.00	0.02	
v/s Ratio Perm												
v/c Ratio	0.17	0.02		0.07	0.04		0.61	0.10		0.15	0.04	
Uniform Delay, d1	38.4	37.8		39.9	39.8		42.8	8.2		46.8	10.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1		0.4	0.2		5.8	0.1		2.0	0.0	
Delay (s)	39.0	37.9		40.3	39.9		48.6	8.3		48.8	10.5	
Level of Service	D	D		D	D		D	A		D	B	
Approach Delay (s)		38.8			40.0			18.9			11.3	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	94.8	Sum of lost time (s)	19.1
Intersection Capacity Utilization	27.0%	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 (veh/h)	45	72	24	14	120	4	22	28	36	1	17	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	78	26	15	130	4	24	30	39	1	18	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked												
vC, conflicting volume	135			104			316	354	52	354	365	67
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	135			104			316	354	52	354	365	67
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			96	94	96	100	97	98
cM capacity (veh/h)	1447			1485			565	545	1004	513	537	982

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	49	52	52	15	87	48	93	10	31
Volume Left	49	0	0	15	0	0	24	1	0
Volume Right	0	0	26	0	0	4	39	0	22
cSH	1447	1700	1700	1485	1700	1700	681	534	788
Volume to Capacity	0.03	0.03	0.03	0.01	0.05	0.03	0.14	0.02	0.04
Queue Length 95th (ft)	3	0	0	1	0	0	12	1	3
Control Delay (s)	7.6	0.0	0.0	7.4	0.0	0.0	11.1	11.9	9.8
Lane LOS	A			A			B	B	A
Approach Delay (s)	2.4			0.8			11.1	10.3	
Approach LOS							B	B	

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	28.3%	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)	108	111	89	12	288	14	294	124	0	7	65	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5763	1583	1770	5050		1770	3539		1770	3182	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5050		1770	3539		1770	3182	
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)	117	121	97	13	313	15	320	135	0	8	71	146
RTOR Reduction (vph)	0	0	58	0	4	0	0	0	0	0	118	0
Lane Group Flow (vph)	117	121	39	13	324	0	320	135	0	8	99	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	8.0	39.0	39.0	0.7	31.7		20.1	38.1		0.7	18.7	
Effective Green, g (s)	8.0	39.0	39.0	0.7	31.7		20.1	38.1		0.7	18.7	
Actuated g/C Ratio	0.08	0.40	0.40	0.01	0.33		0.21	0.39		0.01	0.19	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	145	2314	635	12	1648		366	1388		12	612	
v/s Ratio Prot	c0.07	0.02		0.01	c0.06		c0.18	0.04		0.00	c0.03	
v/s Ratio Perm			0.02									
v/c Ratio	0.81	0.05	0.06	1.08	0.20		0.87	0.10		0.67	0.16	
Uniform Delay, d1	43.8	17.8	17.8	48.2	23.5		37.3	18.6		48.1	32.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.6	0.0	0.2	289.8	0.3		19.5	0.0		73.9	0.4	
Delay (s)	69.4	17.8	18.0	338.0	23.8		56.8	18.7		122.0	33.1	
Level of Service	E	B	B	F	C		E	B		F	C	
Approach Delay (s)		35.9			35.8			45.5			36.2	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	97.1	Sum of lost time (s)	18.6
Intersection Capacity Utilization	54.4%	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)	243	460	0	0	451	666	100	1	283	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.94	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4500	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4500	1362		1775	2787			
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)	264	500	0	0	490	724	109	1	308	0	0	0
RTOR Reduction (vph)	0	0	0	0	82	144	0	0	270	0	0	0
Lane Group Flow (vph)	264	500	0	0	770	218	0	110	38	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Effective Green, g (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Actuated g/C Ratio	0.13	0.78			0.60	0.60		0.12	0.12			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	458	3960			2704	818		220	346			
v/s Ratio Prot	c0.08	0.10			c0.17							
v/s Ratio Perm						0.16		0.06	0.01			
v/c Ratio	0.58	0.13			0.28	0.27		0.50	0.11			
Uniform Delay, d1	38.6	2.6			9.1	9.0		38.8	36.9			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.8	0.1			0.3	0.8		1.8	0.1			
Delay (s)	40.4	2.6			9.4	9.8		40.6	37.1			
Level of Service	D	A			A	A		D	D			
Approach Delay (s)		15.7			9.5			38.0			0.0	
Approach LOS		B			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	493	251	177	361	0	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.95		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4828		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4828		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	536	273	192	392	0	257
RTOR Reduction (vph)	82	0	0	0	0	219
Lane Group Flow (vph)	727	0	192	392	0	38
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	41.9		8.9	60.0		8.9
Effective Green, g (s)	41.9		8.9	60.0		8.9
Actuated g/C Ratio	0.70		0.15	1.00		0.15
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3371		509	5085		413
v/s Ratio Prot	c0.15		c0.06			
v/s Ratio Perm				0.08		0.01
v/c Ratio	0.22		0.38	0.08		0.09
Uniform Delay, d1	3.2		23.0	0.0		22.1
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1		0.5	0.0		0.1
Delay (s)	3.4		23.5	0.0		22.2
Level of Service	A		C	A		C
Approach Delay (s)	3.4			7.8	22.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	31.1%	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 (veh/h)	33	12	3	6	1	5	33	190	1	38	46	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	13	3	7	1	5	36	207	1	41	50	18
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	150	33	20	135	115	62	578	3	69	425	145
Arrive On Green	0.04	0.05	0.05	0.01	0.07	0.07	0.04	0.16	0.16	0.04	0.16	0.16
Sat Flow, veh/h	1774	2879	640	1774	1863	1583	1774	3612	17	1774	2590	886
Grp Volume(v), veh/h	36	8	8	7	1	5	36	101	107	41	33	35
Grp Sat Flow(s),veh/h/ln	1774	1770	1750	1774	1863	1583	1774	1770	1860	1774	1770	1706
Q Serve(g_s), s	0.5	0.1	0.1	0.1	0.0	0.1	0.5	1.4	1.4	0.6	0.4	0.5
Cycle Q Clear(g_c), s	0.5	0.1	0.1	0.1	0.0	0.1	0.5	1.4	1.4	0.6	0.4	0.5
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.01	1.00		0.52
Lane Grp Cap(c), veh/h	62	92	91	20	135	115	62	283	298	69	290	280
V/C Ratio(X)	0.58	0.08	0.09	0.35	0.01	0.04	0.58	0.36	0.36	0.59	0.11	0.12
Avail Cap(c_a), veh/h	794	2207	2182	2213	2323	1975	879	805	846	1074	1649	1590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	12.3	12.3	13.4	11.7	11.8	13.0	10.2	10.2	12.9	9.7	9.7
Incr Delay (d2), s/veh	3.2	0.5	0.5	9.9	0.0	0.2	3.2	0.8	0.7	2.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.1	0.1	0.0	0.0	0.3	0.7	0.8	0.4	0.2	0.2
LnGrp Delay(d),s/veh	16.1	12.8	12.8	23.3	11.8	11.9	16.1	11.0	10.9	15.8	9.9	9.9
LnGrp LOS	B	B	B	C	B	B	B	B	B	B	A	A
Approach Vol, veh/h		52			13			244			109	
Approach Delay, s/veh		15.1			18.0			11.7			12.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	9.0	6.3	7.4	4.5	9.1	5.8	8.0
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	16.5	12.4	34.0	* 34	13.5	25.4	12.2	34.0
Max Q Clear Time (g_c+I1), s	2.6	3.4	2.1	2.1	2.5	2.5	2.5	2.1
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.0	1.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	40	22	22	113	5	76	10	8	0	16	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	43	24	24	123	5	83	11	9	0	17	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	128			67			224	279	34	257	289	64
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	128			67			224	279	34	257	289	64
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			88	98	99	100	97	100
cM capacity (veh/h)	1455			1532			677	608	1032	644	600	987

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	24	29	38	24	82	46	83	20	21
Volume Left	24	0	0	24	0	0	83	0	0
Volume Right	0	0	24	0	0	5	0	9	3
cSH	1455	1700	1700	1532	1700	1700	677	744	640
Volume to Capacity	0.02	0.02	0.02	0.02	0.05	0.03	0.12	0.03	0.03
Queue Length 95th (ft)	1	0	0	1	0	0	10	2	2
Control Delay (s)	7.5	0.0	0.0	7.4	0.0	0.0	11.1	10.0	10.8
Lane LOS	A			A			B	A	B
Approach Delay (s)	2.0			1.2			10.8		10.8
Approach LOS							B		B

Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	25.4%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	50	42	29	0	8	86	91	0	46	122	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	46	32	0	9	93	99	0	50	133	4
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	9.9	9.6	10.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	43%	0%	70%	0%	100%	0%	0%	27%	0%
Vol Thru, %	57%	94%	30%	42%	0%	100%	24%	73%	0%
Vol Right, %	0%	6%	0%	58%	0%	0%	76%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	107	65	71	50	8	57	120	121	50
LT Vol	61	61	21	21	0	57	29	88	0
Through Vol	0	4	0	29	0	0	91	0	50
RT Vol	46	0	50	0	8	0	0	33	0
Lane Flow Rate	116	71	77	54	9	62	130	132	54
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.202	0.117	0.141	0.088	0.016	0.105	0.2	0.226	0.081
Departure Headway (Hd)	6.238	5.978	6.573	5.806	6.584	6.079	5.541	6.175	5.333
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	576	600	546	617	544	590	648	581	672
Service Time	3.973	3.714	4.311	3.543	4.321	3.815	3.278	3.909	3.067
HCM Lane V/C Ratio	0.201	0.118	0.141	0.088	0.017	0.105	0.201	0.227	0.08
HCM Control Delay	10.6	9.5	10.4	9.1	9.4	9.5	9.7	10.7	8.5
HCM Lane LOS	B	A	B	A	A	A	A	B	A
HCM 95th-tile Q	0.7	0.4	0.5	0.3	0	0.4	0.7	0.9	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	33	88	50
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	36	96	54
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	10.1
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	33	24	221	283	40	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	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)	1757		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1757		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	26	240	308	43	68
RTOR Reduction (vph)	19	0	0	0	0	61
Lane Group Flow (vph)	43	0	240	308	43	7
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	10.9		10.9	26.6	4.6	4.6
Effective Green, g (s)	10.9		10.9	26.6	4.6	4.6
Actuated g/C Ratio	0.25		0.25	0.62	0.11	0.11
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	443		446	1147	188	168
v/s Ratio Prot	0.02		c0.14	c0.17		
v/s Ratio Perm					c0.02	0.00
v/c Ratio	0.10		0.54	0.27	0.23	0.04
Uniform Delay, d1	12.4		14.0	3.8	17.7	17.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.6	0.1	0.2	0.0
Delay (s)	12.5		14.6	4.0	17.9	17.4
Level of Service	B		B	A	B	B
Approach Delay (s)	12.5			8.6	17.6	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	43.2	Sum of lost time (s)	16.8
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	45	142	5	313	334	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.89		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3136		1770	1863	3441	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3136		1770	1863	3441	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	154	5	340	363	1
RTOR Reduction (vph)	105	0	0	0	0	0
Lane Group Flow (vph)	98	0	5	340	364	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	12.5		0.6	18.4	9.3	
Effective Green, g (s)	12.5		0.6	18.4	9.3	
Actuated g/C Ratio	0.32		0.02	0.47	0.24	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1005		27	878	820	
v/s Ratio Prot	0.03		0.00	c0.18	c0.11	
v/s Ratio Perm						
v/c Ratio	0.10		0.19	0.39	0.44	
Uniform Delay, d1	9.3		19.0	6.7	12.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		1.2	0.3	0.1	
Delay (s)	9.3		20.2	7.0	12.8	
Level of Service	A		C	A	B	
Approach Delay (s)	9.3			7.2	12.8	
Approach LOS	A			A	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)	39.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	282	183	533	328	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.97	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4661	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4661	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	199	579	357	0	0
RTOR Reduction (vph)	0	0	55	79	0	0
Lane Group Flow (vph)	307	199	670	132	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	10.6	60.0	37.5	37.5		
Effective Green, g (s)	10.6	60.0	37.5	37.5		
Actuated g/C Ratio	0.18	1.00	0.62	0.62		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	606	3539	2913	851		
v/s Ratio Prot	c0.09		c0.14			
v/s Ratio Perm		0.06		0.10		
v/c Ratio	0.51	0.06	0.23	0.15		
Uniform Delay, d1	22.3	0.0	4.9	4.7		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.7	0.0	0.2	0.4		
Delay (s)	23.0	0.0	5.1	5.1		
Level of Service	C	A	A	A		
Approach Delay (s)		14.0	5.1		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	406	525	0	55	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	441	571	0	60	196
RTOR Reduction (vph)	0	0	0	0	0	138
Lane Group Flow (vph)	0	441	571	0	60	58
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		0.09	c0.11		0.02	
v/s Ratio Perm						c0.04
v/c Ratio		0.17	0.22		0.06	0.12
Uniform Delay, d1		8.5	8.7		16.3	16.6
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.2		0.1	0.5
Delay (s)		8.6	8.9		16.4	17.1
Level of Service		A	A		B	B
Approach Delay (s)		8.6	8.9		17.0	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	228	48	24	195
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	248	52	26	212
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					781	
pX, platoon unblocked						
vC, conflicting volume	680	132	238			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	680	132	238			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	81			
cM capacity (veh/h)	339	917	1329			

Direction, Lane #	NB 1	SB 1
Volume Total	300	238
Volume Left	248	0
Volume Right	0	212
cSH	1329	1700
Volume to Capacity	0.19	0.14
Queue Length 95th (ft)	17	0
Control Delay (s)	7.2	0.0
Lane LOS	A	
Approach Delay (s)	7.2	0.0
Approach LOS		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	41	9	0	228	24	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	10	0	248	26	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1238		
pX, platoon unblocked						
vC, conflicting volume	274	26	26			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	274	26	26			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	99	100			
cM capacity (veh/h)	716	1050	1588			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	45	10	248	26
Volume Left	45	0	0	0
Volume Right	0	10	0	0
cSH	716	1050	1700	1700
Volume to Capacity	0.06	0.01	0.15	0.02
Queue Length 95th (ft)	5	1	0	0
Control Delay (s)	10.4	8.5	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.0		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	22.0%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX C

- 2015 Plus Phase 1 - Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	490	21	20	132	105	43	122	63	318	50	19
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	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	0.97	1.00		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.93		1.00	0.95		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)	3433	1851		1770	3304		1770	3360		1770	3391	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1851		1770	3304		1770	3360		1770	3391	
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)	90	533	23	22	143	114	47	133	68	346	54	21
RTOR Reduction (vph)	0	1	0	0	101	0	0	41	0	0	13	0
Lane Group Flow (vph)	90	555	0	22	156	0	47	160	0	346	62	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	2	2		1	1		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	45.4	45.4		16.1	16.1		6.6	28.0		28.7	50.1	
Effective Green, g (s)	45.4	45.4		16.1	16.1		6.6	28.0		28.7	50.1	
Actuated g/C Ratio	0.33	0.33		0.12	0.12		0.05	0.20		0.21	0.36	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	6.2	6.2		5.4	5.4		2.0	2.5		2.0	5.9	
Lane Grp Cap (vph)	1135	612		207	387		85	685		369	1237	
v/s Ratio Prot	0.03	c0.30		0.01	c0.05		0.03	c0.05		c0.20	0.02	
v/s Ratio Perm												
v/c Ratio	0.08	0.91		0.11	0.40		0.55	0.23		0.94	0.05	
Uniform Delay, d1	31.6	43.9		54.2	56.2		63.9	45.7		53.4	28.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	18.8		0.5	1.6		4.4	0.8		30.6	0.1	
Delay (s)	31.7	62.8		54.7	57.8		68.3	46.5		84.1	28.3	
Level of Service	C	E		D	E		E	D		F	C	
Approach Delay (s)		58.4			57.6			50.6			74.1	
Approach LOS		E			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	137.3	Sum of lost time (s)	19.1
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)	58	123	8	69	487	339	69	193	15	81	27	57
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	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	0.97	1.00		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.94		1.00	0.99		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1845		1770	3321		1770	3502		1770	3178	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1845		1770	3321		1770	3502		1770	3178	
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)	63	134	9	75	529	368	75	210	16	88	29	62
RTOR Reduction (vph)	0	2	0	0	79	0	0	3	0	0	39	0
Lane Group Flow (vph)	63	141	0	75	818	0	75	223	0	88	52	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	2	2		1	1		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	18.2	18.2		30.1	30.1		8.6	44.3		10.4	46.1	
Effective Green, g (s)	18.2	18.2		30.1	30.1		8.6	44.3		10.4	46.1	
Actuated g/C Ratio	0.15	0.15		0.25	0.25		0.07	0.36		0.09	0.38	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	6.2	6.2		5.4	5.4		2.0	2.5		2.0	5.9	
Lane Grp Cap (vph)	511	275		436	818		124	1270		150	1199	
v/s Ratio Prot	0.02	c0.08		0.04	c0.25		0.04	c0.06		c0.05	0.02	
v/s Ratio Perm												
v/c Ratio	0.12	0.51		0.17	1.00		0.60	0.18		0.59	0.04	
Uniform Delay, d1	45.0	47.9		36.2	46.0		55.1	26.5		53.8	24.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	4.5		0.4	31.3		5.6	0.3		3.7	0.1	
Delay (s)	45.4	52.3		36.6	77.3		60.7	26.8		57.5	24.1	
Level of Service	D	D		D	E		E	C		E	C	
Approach Delay (s)		50.2			74.2			35.2			40.5	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	60.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	122.1	Sum of lost time (s)	19.1
Intersection Capacity Utilization	61.4%	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 (veh/h)	41	602	22	14	174	2	8	10	15	9	11	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	654	24	15	189	2	9	11	16	10	12	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked				0.94			0.94	0.94	0.94	0.94	0.94	
vC, conflicting volume	191			678			896	977	339	659	988	96
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	191			528			760	847	167	508	858	96
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			97	96	98	97	95	99
cM capacity (veh/h)	1380			972			255	266	796	385	262	942

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	45	436	242	15	126	65	36	16	16
Volume Left	45	0	0	15	0	0	9	10	0
Volume Right	0	0	24	0	0	2	16	0	10
cSH	1380	1700	1700	972	1700	1700	376	327	475
Volume to Capacity	0.03	0.26	0.14	0.02	0.07	0.04	0.10	0.05	0.03
Queue Length 95th (ft)	3	0	0	1	0	0	8	4	3
Control Delay (s)	7.7	0.0	0.0	8.8	0.0	0.0	15.6	16.6	12.8
Lane LOS	A			A			C	C	B
Approach Delay (s)	0.5			0.6			15.6	14.7	
Approach LOS							C	B	

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	39.2%	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 (veh/h)	45	190	24	14	591	13	22	28	36	3	17	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	207	26	15	642	14	24	30	39	3	18	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked	0.95						0.95	0.95		0.95	0.95	0.95
vC, conflicting volume	657			233			700	1004	116	935	1010	328
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	539			233			585	905	116	832	911	195
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			93	88	96	98	92	97
cM capacity (veh/h)	976			1332			328	246	914	206	244	775

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	49	138	95	15	428	228	93	12	31
Volume Left	49	0	0	15	0	0	24	3	0
Volume Right	0	0	26	0	0	14	39	0	22
cSH	976	1700	1700	1332	1700	1700	390	233	470
Volume to Capacity	0.05	0.08	0.06	0.01	0.25	0.13	0.24	0.05	0.07
Queue Length 95th (ft)	4	0	0	1	0	0	23	4	5
Control Delay (s)	8.9	0.0	0.0	7.7	0.0	0.0	17.1	21.3	13.2
Lane LOS	A			A			C	C	B
Approach Delay (s)	1.5			0.2			17.1	15.5	
Approach LOS							C	C	

Intersection Summary			
Average Delay	2.6		
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												
Volume (vph)	191	590	150	6	250	18	101	39	1	52	108	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1770	5763	1583	1770	5033		1770	3527		1770	3316	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5033		1770	3527		1770	3316	
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)	208	641	163	7	272	20	110	42	1	57	117	85
RTOR Reduction (vph)	0	0	83	0	7	0	0	1	0	0	68	0
Lane Group Flow (vph)	208	641	80	7	285	0	110	42	0	57	134	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	10.7	41.9	41.9	0.7	31.9		7.2	19.7		4.5	17.0	
Effective Green, g (s)	10.7	41.9	41.9	0.7	31.9		7.2	19.7		4.5	17.0	
Actuated g/C Ratio	0.13	0.49	0.49	0.01	0.37		0.08	0.23		0.05	0.20	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	221	2827	776	14	1880		149	813		93	660	
v/s Ratio Prot	c0.12	c0.11		0.00	0.06		c0.06	c0.01		0.03	c0.04	
v/s Ratio Perm			0.05									
v/c Ratio	0.94	0.23	0.10	0.50	0.15		0.74	0.05		0.61	0.20	
Uniform Delay, d1	37.0	12.5	11.7	42.2	17.8		38.2	25.6		39.6	28.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	43.8	0.2	0.3	9.9	0.2		15.1	0.0		8.1	0.5	
Delay (s)	80.8	12.7	11.9	52.0	17.9		53.3	25.6		47.7	29.0	
Level of Service	F	B	B	D	B		D	C		D	C	
Approach Delay (s)		26.5			18.7			45.5			33.1	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	85.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	48.6%	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												
Volume (vph)	108	218	89	12	716	57	294	124	0	18	65	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5763	1583	1770	5029		1770	3539		1770	3182	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5029		1770	3539		1770	3182	
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)	117	237	97	13	778	62	320	135	0	20	71	146
RTOR Reduction (vph)	0	0	58	0	7	0	0	0	0	0	112	0
Lane Group Flow (vph)	117	237	39	13	833	0	320	135	0	20	105	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	8.0	39.0	39.0	0.7	31.7		20.1	35.9		2.0	17.8	
Effective Green, g (s)	8.0	39.0	39.0	0.7	31.7		20.1	35.9		2.0	17.8	
Actuated g/C Ratio	0.08	0.41	0.41	0.01	0.33		0.21	0.37		0.02	0.19	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	147	2336	641	12	1657		369	1320		36	588	
v/s Ratio Prot	c0.07	0.04		0.01	c0.17		c0.18	0.04		0.01	c0.03	
v/s Ratio Perm			0.02									
v/c Ratio	0.80	0.10	0.06	1.08	0.50		0.87	0.10		0.56	0.18	
Uniform Delay, d1	43.3	17.7	17.4	47.8	25.9		36.8	19.6		46.7	33.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	23.6	0.1	0.2	289.8	1.1		18.3	0.0		10.1	0.5	
Delay (s)	66.9	17.8	17.6	337.6	27.0		55.0	19.7		56.8	33.5	
Level of Service	E	B	B	F	C		E	B		E	C	
Approach Delay (s)		30.5			31.7			44.5			35.5	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	18.6
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	830	0	0	295	367	150	1	345	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.94	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4529	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4529	1362		1775	2787			
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)	96	902	0	0	321	399	163	1	375	0	0	0
RTOR Reduction (vph)	0	0	0	0	67	76	0	0	210	0	0	0
Lane Group Flow (vph)	96	902	0	0	454	123	0	164	165	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	8.0	70.7			58.5	58.5		15.1	15.1			
Effective Green, g (s)	8.0	70.7			58.5	58.5		15.1	15.1			
Actuated g/C Ratio	0.08	0.74			0.62	0.62		0.16	0.16			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	289	3784			2788	838		282	442			
v/s Ratio Prot	c0.03	c0.18			0.10							
v/s Ratio Perm						0.09		0.09	0.06			
v/c Ratio	0.33	0.24			0.16	0.15		0.58	0.37			
Uniform Delay, d1	41.0	3.8			7.8	7.7		37.0	35.7			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.7	0.1			0.1	0.4		3.0	0.5			
Delay (s)	41.7	3.9			7.9	8.1		40.1	36.2			
Level of Service	D	A			A	A		D	D			
Approach Delay (s)		7.6			8.0			37.4			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	41.6%	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												
Volume (vph)	243	520	0	0	571	743	100	1	294	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.94	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4522	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4522	1362		1775	2787			
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)	264	565	0	0	621	808	109	1	320	0	0	0
RTOR Reduction (vph)	0	0	0	0	73	161	0	0	280	0	0	0
Lane Group Flow (vph)	264	565	0	0	952	243	0	110	40	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Effective Green, g (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Actuated g/C Ratio	0.13	0.78			0.60	0.60		0.12	0.12			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	458	3960			2717	818		220	346			
v/s Ratio Prot	c0.08	0.11			c0.21							
v/s Ratio Perm						0.18		0.06	0.01			
v/c Ratio	0.58	0.14			0.35	0.30		0.50	0.11			
Uniform Delay, d1	38.6	2.6			9.6	9.2		38.8	37.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.8	0.1			0.4	0.9		1.8	0.1			
Delay (s)	40.4	2.7			9.9	10.1		40.6	37.1			
Level of Service	D	A			A	B		D	D			
Approach Delay (s)		14.7			10.0			38.0			0.0	
Approach LOS		B			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	243	61	106	319	0	689
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4933		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4933		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	66	115	347	0	749
RTOR Reduction (vph)	19	0	0	0	0	643
Lane Group Flow (vph)	311	0	115	347	0	106
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	42.3		8.5	60.0		8.5
Effective Green, g (s)	42.3		8.5	60.0		8.5
Actuated g/C Ratio	0.70		0.14	1.00		0.14
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3477		486	5085		394
v/s Ratio Prot	c0.06		0.03			
v/s Ratio Perm				0.07		c0.04
v/c Ratio	0.09		0.24	0.07		0.27
Uniform Delay, d1	2.8		22.9	0.0		23.0
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1		0.3	0.0		0.4
Delay (s)	2.8		23.1	0.0		23.3
Level of Service	A		C	A		C
Approach Delay (s)	2.8			5.8	23.3	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	502	251	263	395	0	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.95		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4831		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4831		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	546	273	286	429	0	312
RTOR Reduction (vph)	90	0	0	0	0	257
Lane Group Flow (vph)	729	0	286	429	0	55
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	40.2		10.6	60.0		10.6
Effective Green, g (s)	40.2		10.6	60.0		10.6
Actuated g/C Ratio	0.67		0.18	1.00		0.18
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3236		606	5085		492
v/s Ratio Prot	c0.15		c0.08			
v/s Ratio Perm				0.08		0.02
v/c Ratio	0.23		0.47	0.08		0.11
Uniform Delay, d1	3.8		22.2	0.0		20.7
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.2		0.6	0.0		0.1
Delay (s)	4.0		22.8	0.0		20.8
Level of Service	A		C	A		C
Approach Delay (s)	4.0			9.1	20.8	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	33.0%	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 (veh/h)	43	2	14	4	3	5	16	283	6	5	372	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	47	2	15	4	3	5	17	308	7	5	404	16
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	104	93	12	112	95	31	1073	24	10	1011	40
Arrive On Green	0.04	0.06	0.06	0.01	0.06	0.06	0.02	0.30	0.30	0.01	0.29	0.29
Sat Flow, veh/h	1774	1770	1583	1774	1863	1583	1774	3538	80	1774	3471	137
Grp Volume(v), veh/h	47	2	15	4	3	5	17	154	161	5	206	214
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1849	1774	1770	1839
Q Serve(g_s), s	0.8	0.0	0.3	0.1	0.0	0.1	0.3	2.1	2.1	0.1	3.0	3.0
Cycle Q Clear(g_c), s	0.8	0.0	0.3	0.1	0.0	0.1	0.3	2.1	2.1	0.1	3.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.07
Lane Grp Cap(c), veh/h	76	104	93	12	112	95	31	537	561	10	515	535
V/C Ratio(X)	0.62	0.02	0.16	0.34	0.03	0.05	0.55	0.29	0.29	0.52	0.40	0.40
Avail Cap(c_a), veh/h	674	1873	1676	1878	1972	1676	746	683	714	911	1399	1454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	14.2	14.4	15.9	14.2	14.2	15.7	8.5	8.5	15.9	9.1	9.1
Incr Delay (d2), s/veh	3.1	0.1	1.0	16.6	0.1	0.3	5.5	0.3	0.3	15.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.1	0.1	0.0	0.0	0.2	1.1	1.1	0.1	1.5	1.6
LnGrp Delay(d),s/veh	18.2	14.3	15.3	32.5	14.3	14.5	21.1	8.8	8.8	31.0	9.6	9.6
LnGrp LOS	B	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		64			12			332			425	
Approach Delay, s/veh		17.4			20.5			9.5			9.9	
Approach LOS		B			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	3.7	14.3	6.2	7.9	4.1	14.0	6.2	7.9
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	16.5	12.4	34.0	* 34	13.5	25.4	12.2	34.0
Max Q Clear Time (g_c+I1), s	2.1	4.1	2.1	2.3	2.3	5.0	2.8	2.1
Green Ext Time (p_c), s	0.0	2.8	0.0	0.1	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	12	5	6	1	5	42	498	1	38	123	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	13	5	7	1	5	46	541	1	41	134	18
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	132	48	20	124	106	75	951	2	68	813	107
Arrive On Green	0.03	0.05	0.05	0.01	0.07	0.07	0.04	0.26	0.26	0.04	0.26	0.26
Sat Flow, veh/h	1774	2547	922	1774	1863	1583	1774	3624	7	1774	3143	416
Grp Volume(v), veh/h	36	9	9	7	1	5	46	264	278	41	74	78
Grp Sat Flow(s),veh/h/ln	1774	1770	1700	1774	1863	1583	1774	1770	1862	1774	1770	1789
Q Serve(g_s), s	0.6	0.1	0.2	0.1	0.0	0.1	0.8	4.1	4.1	0.7	1.0	1.1
Cycle Q Clear(g_c), s	0.6	0.1	0.2	0.1	0.0	0.1	0.8	4.1	4.1	0.7	1.0	1.1
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.00	1.00		0.23
Lane Grp Cap(c), veh/h	61	92	88	20	124	106	75	464	488	68	457	463
V/C Ratio(X)	0.59	0.10	0.10	0.35	0.01	0.05	0.62	0.57	0.57	0.60	0.16	0.17
Avail Cap(c_a), veh/h	685	1905	1830	1909	2005	1704	758	695	731	927	1423	1439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	14.3	14.3	15.5	13.8	13.8	14.9	10.1	10.1	15.0	9.1	9.1
Incr Delay (d2), s/veh	3.4	0.5	0.6	10.0	0.0	0.2	3.1	1.1	1.0	3.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.1	0.1	0.1	0.0	0.0	0.4	2.1	2.2	0.4	0.5	0.5
LnGrp Delay(d),s/veh	18.4	14.8	14.9	25.5	13.8	14.0	17.9	11.2	11.1	18.1	9.2	9.2
LnGrp LOS	B	B	B	C	B	B	B	B	B	B	A	A
Approach Vol, veh/h		54			13			588			193	
Approach Delay, s/veh		17.2			20.2			11.7			11.1	
Approach LOS		B			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	12.9	6.4	7.6	4.8	12.8	5.9	8.1
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	16.5	12.4	34.0	* 34	13.5	25.4	12.2	34.0
Max Q Clear Time (g_c+I1), s	2.7	6.1	2.1	2.2	2.8	3.1	2.6	2.1
Green Ext Time (p_c), s	0.0	2.2	0.0	0.1	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	81	14	11	75	0	37	20	18	2	40	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	88	15	12	82	0	40	22	20	2	43	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	82			103			232	232	52	210	239	41
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	82			103			232	232	52	210	239	41
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			94	97	98	100	93	98
cM capacity (veh/h)	1514			1486			645	655	1005	687	649	1021

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	15	59	45	12	54	27	40	41	65
Volume Left	15	0	0	12	0	0	40	0	2
Volume Right	0	0	15	0	0	0	0	20	20
cSH	1514	1700	1700	1486	1700	1700	645	785	730
Volume to Capacity	0.01	0.03	0.03	0.01	0.03	0.02	0.06	0.05	0.09
Queue Length 95th (ft)	1	0	0	1	0	0	5	4	7
Control Delay (s)	7.4	0.0	0.0	7.4	0.0	0.0	10.9	9.8	10.4
Lane LOS	A			A			B	A	B
Approach Delay (s)	1.0			1.0			10.4		10.4
Approach LOS							B		B

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	44	22	22	122	5	76	10	8	0	16	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	48	24	24	133	5	83	11	9	0	17	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	138			72			234	293	36	269	303	69
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	138			72			234	293	36	269	303	69
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			88	98	99	100	97	100
cM capacity (veh/h)	1443			1526			667	597	1029	632	589	980

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	24	32	40	24	88	50	83	20	21
Volume Left	24	0	0	24	0	0	83	0	0
Volume Right	0	0	24	0	0	5	0	9	3
cSH	1443	1700	1700	1526	1700	1700	667	733	629
Volume to Capacity	0.02	0.02	0.02	0.02	0.05	0.03	0.12	0.03	0.03
Queue Length 95th (ft)	1	0	0	1	0	0	11	2	3
Control Delay (s)	7.5	0.0	0.0	7.4	0.0	0.0	11.2	10.0	10.9
Lane LOS	A			A			B	B	B
Approach Delay (s)	1.9			1.1			10.9		10.9
Approach LOS							B		B

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	47	63	50	0	1	61	49	0	15	59	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	51	68	54	0	1	66	53	0	16	64	2
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10	9.5	9.6
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	34%	0%	60%	0%	100%	0%	0%	19%	0%
Vol Thru, %	66%	94%	40%	39%	0%	100%	29%	81%	0%
Vol Right, %	0%	6%	0%	61%	0%	0%	71%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	32	79	82	1	41	69	254	88
LT Vol	30	30	32	32	0	41	20	206	0
Through Vol	0	2	0	50	0	0	49	0	88
RT Vol	15	0	47	0	1	0	0	48	0
Lane Flow Rate	48	34	85	89	1	44	75	276	96
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.087	0.06	0.155	0.143	0.002	0.078	0.123	0.444	0.133
Departure Headway (Hd)	6.49	6.275	6.539	5.8	6.868	6.362	5.862	5.793	4.996
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	552	571	549	618	521	563	611	624	718
Service Time	4.228	4.013	4.273	3.535	4.606	4.1	3.599	3.521	2.723
HCM Lane V/C Ratio	0.087	0.06	0.155	0.144	0.002	0.078	0.123	0.442	0.134
HCM Control Delay	9.8	9.4	10.5	9.5	9.6	9.6	9.4	13.1	8.5
HCM Lane LOS	A	A	B	A	A	A	A	B	A
HCM 95th-tile Q	0.3	0.2	0.5	0.5	0	0.3	0.4	2.3	0.5

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	50	44	29	0	8	95	91	0	46	156	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	48	32	0	9	103	99	0	50	170	4
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.2	10	10.6
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	37%	0%	69%	0%	100%	0%	0%	25%	0%
Vol Thru, %	63%	95%	31%	43%	0%	100%	26%	75%	0%
Vol Right, %	0%	5%	0%	57%	0%	0%	74%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	82	72	51	8	63	123	130	50
LT Vol	78	78	22	22	0	63	32	97	0
Through Vol	0	4	0	29	0	0	91	0	50
RT Vol	46	0	50	0	8	0	0	33	0
Lane Flow Rate	135	89	78	55	9	69	133	141	54
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.236	0.151	0.147	0.093	0.016	0.12	0.212	0.248	0.083
Departure Headway (Hd)	6.306	6.085	6.766	6.01	6.759	6.253	5.728	6.322	5.489
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	569	589	530	595	529	573	625	568	652
Service Time	4.048	3.827	4.514	3.757	4.504	3.998	3.472	4.065	3.232
HCM Lane V/C Ratio	0.237	0.151	0.147	0.092	0.017	0.12	0.213	0.248	0.083
HCM Control Delay	11	9.9	10.7	9.4	9.6	9.9	10	11.2	8.7
HCM Lane LOS	B	A	B	A	A	A	A	B	A
HCM 95th-tile Q	0.9	0.5	0.5	0.3	0	0.4	0.8	1	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	48	206	88
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	52	224	96
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	11.9
HCM LOS	B

Lane

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	33	97	50
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	36	105	54
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	10.5
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	261	65	57	55	28	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	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)	1812		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1812		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	284	71	62	60	30	377
RTOR Reduction (vph)	10	0	0	0	0	312
Lane Group Flow (vph)	345	0	62	60	30	65
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	14.9		3.7	23.4	7.4	7.4
Effective Green, g (s)	14.9		3.7	23.4	7.4	7.4
Actuated g/C Ratio	0.35		0.09	0.55	0.17	0.17
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	630		153	1018	306	273
v/s Ratio Prot	c0.19		c0.04	0.03		
v/s Ratio Perm					0.02	c0.04
v/c Ratio	0.55		0.41	0.06	0.10	0.24
Uniform Delay, d1	11.2		18.5	4.5	14.9	15.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		0.6	0.0	0.1	0.2
Delay (s)	12.3		19.1	4.6	14.9	15.4
Level of Service	B		B	A	B	B
Approach Delay (s)	12.3			12.0	15.4	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	42.8	Sum of lost time (s)	16.8
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	33	28	223	283	57	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	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)	1748		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1748		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	30	242	308	62	78
RTOR Reduction (vph)	23	0	0	0	0	67
Lane Group Flow (vph)	43	0	242	308	62	11
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	10.5		10.6	25.9	6.1	6.1
Effective Green, g (s)	10.5		10.6	25.9	6.1	6.1
Actuated g/C Ratio	0.24		0.24	0.59	0.14	0.14
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	417		426	1096	245	219
v/s Ratio Prot	0.02		c0.14	c0.17		
v/s Ratio Perm					c0.04	0.01
v/c Ratio	0.10		0.57	0.28	0.25	0.05
Uniform Delay, d1	13.1		14.7	4.5	16.9	16.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		1.0	0.2	0.2	0.0
Delay (s)	13.2		15.7	4.6	17.1	16.5
Level of Service	B		B	A	B	B
Approach Delay (s)	13.2			9.5	16.8	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	245	424	4	86	120	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.90		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3203		1770	1863	3434	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3203		1770	1863	3434	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	266	461	4	93	130	3
RTOR Reduction (vph)	281	0	0	0	3	0
Lane Group Flow (vph)	446	0	4	93	130	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	13.5		0.5	19.3	4.0	
Effective Green, g (s)	13.5		0.5	19.3	4.0	
Actuated g/C Ratio	0.39		0.01	0.56	0.12	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1249		25	1039	396	
v/s Ratio Prot	c0.14		0.00	c0.05	c0.04	
v/s Ratio Perm						
v/c Ratio	0.36		0.16	0.09	0.33	
Uniform Delay, d1	7.5		16.8	3.6	14.1	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.2		1.1	0.0	0.2	
Delay (s)	7.7		17.9	3.6	14.2	
Level of Service	A		B	A	B	
Approach Delay (s)	7.7			4.2	14.2	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	34.6	Sum of lost time (s)	16.6
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	49	148	5	330	360	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.89		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3140		1770	1863	3441	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3140		1770	1863	3441	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	161	5	359	391	1
RTOR Reduction (vph)	109	0	0	0	0	0
Lane Group Flow (vph)	105	0	5	359	392	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	12.9		0.7	18.9	9.6	
Effective Green, g (s)	12.9		0.7	18.9	9.6	
Actuated g/C Ratio	0.32		0.02	0.47	0.24	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1017		31	884	829	
v/s Ratio Prot	0.03		0.00	c0.19	c0.11	
v/s Ratio Perm						
v/c Ratio	0.10		0.16	0.41	0.47	
Uniform Delay, d1	9.4		19.3	6.8	12.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		0.9	0.4	0.2	
Delay (s)	9.5		20.2	7.2	13.1	
Level of Service	A		C	A	B	
Approach Delay (s)	9.5			7.3	13.1	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	39.8	Sum of lost time (s)	16.6
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	132	634	183	84	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.98	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4723	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4723	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	689	199	91	0	0
RTOR Reduction (vph)	0	0	8	20	0	0
Lane Group Flow (vph)	143	689	217	45	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	6.7	60.0	41.4	41.4		
Effective Green, g (s)	6.7	60.0	41.4	41.4		
Actuated g/C Ratio	0.11	1.00	0.69	0.69		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	383	3539	3258	939		
v/s Ratio Prot	c0.04		0.05			
v/s Ratio Perm		c0.19		0.03		
v/c Ratio	0.37	0.19	0.07	0.05		
Uniform Delay, d1	24.7	0.0	3.0	3.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.6	0.1	0.0	0.1		
Delay (s)	25.3	0.1	3.1	3.1		
Level of Service	C	A	A	A		
Approach Delay (s)		4.5	3.1		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	282	189	559	345	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.97	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4660	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4660	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	205	608	375	0	0
RTOR Reduction (vph)	0	0	55	80	0	0
Lane Group Flow (vph)	307	205	707	141	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	10.6	60.0	37.5	37.5		
Effective Green, g (s)	10.6	60.0	37.5	37.5		
Actuated g/C Ratio	0.18	1.00	0.62	0.62		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	606	3539	2912	851		
v/s Ratio Prot	c0.09		c0.15			
v/s Ratio Perm		0.06		0.10		
v/c Ratio	0.51	0.06	0.24	0.17		
Uniform Delay, d1	22.3	0.0	5.0	4.7		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.7	0.0	0.2	0.4		
Delay (s)	23.0	0.0	5.2	5.1		
Level of Service	C	A	A	A		
Approach Delay (s)		13.8	5.2		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	435	177	0	325	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	473	192	0	353	420
RTOR Reduction (vph)	0	0	0	0	0	295
Lane Group Flow (vph)	0	473	192	0	353	125
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		c0.09	0.04		c0.10	
v/s Ratio Perm						0.08
v/c Ratio		0.18	0.07		0.34	0.27
Uniform Delay, d1		8.5	8.0		17.8	17.4
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2	0.1		0.9	1.4
Delay (s)		8.7	8.1		18.8	18.7
Level of Service		A	A		B	B
Approach Delay (s)		8.7	8.1		18.7	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	408	551	0	59	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	443	599	0	64	196
RTOR Reduction (vph)	0	0	0	0	0	138
Lane Group Flow (vph)	0	443	599	0	64	58
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		0.09	c0.12		0.02	
v/s Ratio Perm						c0.04
v/c Ratio		0.17	0.23		0.06	0.12
Uniform Delay, d1		8.5	8.8		16.3	16.6
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.2		0.1	0.5
Delay (s)		8.6	9.0		16.4	17.1
Level of Service		A	A		B	B
Approach Delay (s)		8.6	9.0		17.0	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	327	416	69	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	355	452	75	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					791	
pX, platoon unblocked						
vC, conflicting volume	1266	103	130			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1266	103	130			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	76			
cM capacity (veh/h)	141	952	1455			

Direction, Lane #	NB 1	SB 1
Volume Total	808	130
Volume Left	355	0
Volume Right	0	55
cSH	1455	1700
Volume to Capacity	0.24	0.08
Queue Length 95th (ft)	24	0
Control Delay (s)	5.2	0.0
Lane LOS	A	
Approach Delay (s)	5.2	0.0
Approach LOS		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	519	74	30	195
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	564	80	33	212
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					791	
pX, platoon unblocked						
vC, conflicting volume	1347	139	245			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1347	139	245			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	57			
cM capacity (veh/h)	95	910	1322			

Direction, Lane #	NB 1	SB 1
Volume Total	645	245
Volume Left	564	0
Volume Right	0	212
cSH	1322	1700
Volume to Capacity	0.43	0.14
Queue Length 95th (ft)	55	0
Control Delay (s)	9.1	0.0
Lane LOS	A	
Approach Delay (s)	9.1	0.0
Approach LOS		

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	318	312	0	333	69	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	346	339	0	362	75	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1318		
pX, platoon unblocked						
vC, conflicting volume	437	75	75			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	437	75	75			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	66	100			
cM capacity (veh/h)	577	986	1524			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	346	339	362	75
Volume Left	346	0	0	0
Volume Right	0	339	0	0
cSH	577	986	1700	1700
Volume to Capacity	0.60	0.34	0.21	0.04
Queue Length 95th (ft)	99	39	0	0
Control Delay (s)	20.1	10.5	0.0	0.0
Lane LOS	C	B		
Approach Delay (s)	15.4		0.0	0.0
Approach LOS	C			

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	41	82	0	545	30	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	89	0	592	33	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1318		
pX, platoon unblocked	0.89					
vC, conflicting volume	625	33	33			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	521	33	33			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	91	100			
cM capacity (veh/h)	461	1041	1579			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	45	89	592	33
Volume Left	45	0	0	0
Volume Right	0	89	0	0
cSH	461	1041	1700	1700
Volume to Capacity	0.10	0.09	0.35	0.02
Queue Length 95th (ft)	8	7	0	0
Control Delay (s)	13.6	8.8	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.4		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	428	428	0	107	107	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	465	465	0	116	116	0

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total (vph)	465	465	116	116
Volume Left (vph)	0	0	0	116
Volume Right (vph)	0	465	0	0
Hadj (s)	0.03	-0.67	0.03	0.23
Departure Headway (s)	5.0	4.3	5.2	5.9
Degree Utilization, x	0.65	0.56	0.17	0.19
Capacity (veh/h)	702	824	670	571
Control Delay (s)	15.6	11.4	9.2	10.3
Approach Delay (s)	13.5		9.2	10.3
Approach LOS	B		A	B

Intersection Summary			
Delay	12.8		
Level of Service	B		
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	107	107	0	428	428	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	116	116	0	465	465	0

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total (vph)	116	116	465	465
Volume Left (vph)	0	0	0	465
Volume Right (vph)	0	116	0	0
Hadj (s)	0.03	-0.67	0.03	0.23
Departure Headway (s)	7.0	6.3	6.1	6.1
Degree Utilization, x	0.23	0.20	0.78	0.79
Capacity (veh/h)	478	530	579	570
Control Delay (s)	10.8	9.6	27.5	28.7
Approach Delay (s)	10.2		27.5	28.7
Approach LOS	B		D	D

Intersection Summary			
Delay	24.5		
Level of Service	C		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	0	428	0	0	107	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	465	0	0	116	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			465		233	233
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			465		233	233
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		85	100
cM capacity (veh/h)			1096		756	807

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	465	0	116
Volume Left	0	0	116
Volume Right	465	0	0
cSH	1700	1700	756
Volume to Capacity	0.27	0.00	0.15
Queue Length 95th (ft)	0	0	14
Control Delay (s)	0.0	0.0	10.6
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.6
Approach LOS			B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	0	107	0	0	428	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	116	0	0	465	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			116		58	58
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			116		58	58
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		51	100
cM capacity (veh/h)			1472		949	1008

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	116	0	465
Volume Left	0	0	465
Volume Right	116	0	0
cSH	1700	1700	949
Volume to Capacity	0.07	0.00	0.49
Queue Length 95th (ft)	0	0	69
Control Delay (s)	0.0	0.0	12.4
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.4
Approach LOS			B

Intersection Summary			
Average Delay	9.9		
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	96	11	0	385	43
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	104	12	0	418	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	896	12			12	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	896	12			12	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	90			74	
cM capacity (veh/h)	230	1069			1607	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	0	104	12	418	47
Volume Left	0	0	0	418	0
Volume Right	0	104	0	0	0
cSH	1700	1069	1700	1607	1700
Volume to Capacity	0.00	0.10	0.01	0.26	0.03
Queue Length 95th (ft)	0	8	0	26	0
Control Delay (s)	0.0	8.7	0.0	8.0	0.0
Lane LOS	A	A		A	
Approach Delay (s)	8.7		0.0	7.2	
Approach LOS	A				

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	385	43	0	96	11
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	418	47	0	104	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	267	47			47	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	267	47			47	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	59			93	
cM capacity (veh/h)	674	1023			1561	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	0	418	47	104	12
Volume Left	0	0	0	104	0
Volume Right	0	418	0	0	0
cSH	1700	1023	1700	1561	1700
Volume to Capacity	0.00	0.41	0.03	0.07	0.01
Queue Length 95th (ft)	0	51	0	5	0
Control Delay (s)	0.0	10.9	0.0	7.5	0.0
Lane LOS	A	B		A	
Approach Delay (s)	10.9		0.0	6.7	
Approach LOS	B				

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

- **APPENDIX D**

- 2015 Plus Phases 1 and 2 - Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	1026	21	37	266	108	43	122	130	327	50	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.96		1.00	0.92		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)	1770	3528		1770	3386		1770	3266		1770	3391	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3528		1770	3386		1770	3266		1770	3391	
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)	90	1115	23	40	289	117	47	133	141	355	54	21
RTOR Reduction (vph)	0	1	0	0	26	0	0	124	0	0	18	0
Lane Group Flow (vph)	90	1137	0	40	380	0	47	150	0	355	57	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	11.4	54.4		5.9	48.4		20.6	14.2		25.7	19.3	
Effective Green, g (s)	11.4	54.4		5.9	48.4		20.6	14.2		25.7	19.3	
Actuated g/C Ratio	0.10	0.46		0.05	0.41		0.17	0.12		0.22	0.16	
Clearance Time (s)	4.9	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.2		2.0	5.4		2.0	2.5		2.0	2.5	
Lane Grp Cap (vph)	169	1615		87	1379		306	390		382	550	
v/s Ratio Prot	c0.05	c0.32		0.02	0.11		0.03	c0.05		c0.20	0.02	
v/s Ratio Perm												
v/c Ratio	0.53	0.70		0.46	0.28		0.15	0.38		0.93	0.10	
Uniform Delay, d1	51.2	25.8		54.9	23.5		41.7	48.3		45.7	42.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	2.6		1.4	0.5		0.1	0.5		28.1	0.1	
Delay (s)	52.8	28.4		56.3	24.0		41.8	48.7		73.8	42.4	
Level of Service	D	C		E	C		D	D		E	D	
Approach Delay (s)		30.2			26.9			47.7			68.3	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	118.8	Sum of lost time (s)	19.1
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												
Volume (veh/h)	41	1128	22	14	306	4	8	10	15	19	11	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	1226	24	15	333	4	9	11	16	21	12	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked				0.80			0.80	0.80	0.80	0.80	0.80	
vC, conflicting volume	337			1250			1540	1695	625	1089	1704	168
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	337			804			1168	1362	20	602	1374	168
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			98			92	90	98	92	89	99
cM capacity (veh/h)	1219			650			102	110	839	265	108	846

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	45	817	433	15	222	115	36	27	16
Volume Left	45	0	0	15	0	0	9	21	0
Volume Right	0	0	24	0	0	4	16	0	10
cSH	1219	1700	1700	650	1700	1700	177	200	236
Volume to Capacity	0.04	0.48	0.25	0.02	0.13	0.07	0.20	0.13	0.07
Queue Length 95th (ft)	3	0	0	2	0	0	18	11	5
Control Delay (s)	8.1	0.0	0.0	10.7	0.0	0.0	30.5	25.8	21.4
Lane LOS	A			B			D	D	C
Approach Delay (s)	0.3			0.5			30.5	24.1	
Approach LOS							D	C	

Intersection Summary				
Average Delay	1.5			
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												
Volume (vph)	191	1069	150	6	370	30	101	39	1	100	108	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1770	5763	1583	1770	5027		1770	3527		1770	3316	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5027		1770	3527		1770	3316	
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)	208	1162	163	7	402	33	110	42	1	109	117	85
RTOR Reduction (vph)	0	0	60	0	8	0	0	1	0	0	68	0
Lane Group Flow (vph)	208	1162	103	7	427	0	110	42	0	109	134	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	10.7	41.9	41.9	0.7	31.9		7.2	14.4		10.2	17.4	
Effective Green, g (s)	10.7	41.9	41.9	0.7	31.9		7.2	14.4		10.2	17.4	
Actuated g/C Ratio	0.12	0.49	0.49	0.01	0.37		0.08	0.17		0.12	0.20	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	220	2814	773	14	1869		148	591		210	672	
v/s Ratio Prot	c0.12	c0.20		0.00	0.08		c0.06	0.01		0.06	c0.04	
v/s Ratio Perm			0.07									
v/c Ratio	0.95	0.41	0.13	0.50	0.23		0.74	0.07		0.52	0.20	
Uniform Delay, d1	37.3	14.1	12.0	42.4	18.5		38.4	30.1		35.5	28.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	44.8	0.4	0.4	9.9	0.3		16.1	0.1		0.9	0.5	
Delay (s)	82.0	14.5	12.4	52.2	18.8		54.5	30.1		36.4	28.9	
Level of Service	F	B	B	D	B		D	C		D	C	
Approach Delay (s)		23.5			19.3			47.6			31.5	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	85.8	Sum of lost time (s)	18.6
Intersection Capacity Utilization	53.7%	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)	88	1098	0	0	329	389	150	1	393	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.94	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4538	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4538	1362		1775	2787			
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)	96	1193	0	0	358	423	163	1	427	0	0	0
RTOR Reduction (vph)	0	0	0	0	68	86	0	0	102	0	0	0
Lane Group Flow (vph)	96	1193	0	0	502	125	0	164	325	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	8.0	68.5			56.3	56.3		17.3	17.3			
Effective Green, g (s)	8.0	68.5			56.3	56.3		17.3	17.3			
Actuated g/C Ratio	0.08	0.72			0.59	0.59		0.18	0.18			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	289	3666			2689	807		323	507			
v/s Ratio Prot	0.03	c0.23			0.11							
v/s Ratio Perm						0.09		0.09	c0.12			
v/c Ratio	0.33	0.33			0.19	0.15		0.51	0.64			
Uniform Delay, d1	41.0	4.8			8.9	8.7		35.0	36.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.7	0.2			0.2	0.4		1.3	2.8			
Delay (s)	41.7	5.1			9.0	9.1		36.3	38.7			
Level of Service	D	A			A	A		D	D			
Approach Delay (s)		7.8			9.0			38.0			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	281	61	130	329	0	919
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4950		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4950		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	305	66	141	358	0	999
RTOR Reduction (vph)	23	0	0	0	0	707
Lane Group Flow (vph)	348	0	141	358	0	292
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	38.7		12.1	60.0		12.1
Effective Green, g (s)	38.7		12.1	60.0		12.1
Actuated g/C Ratio	0.65		0.20	1.00		0.20
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3192		692	5085		562
v/s Ratio Prot	c0.07		0.04			
v/s Ratio Perm				0.07		c0.10
v/c Ratio	0.11		0.20	0.07		0.52
Uniform Delay, d1	4.1		19.9	0.0		21.4
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1		0.1	0.0		0.8
Delay (s)	4.1		20.1	0.0		22.2
Level of Service	A		C	A		C
Approach Delay (s)	4.1			5.7	22.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	46.6%	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												
Volume (veh/h)	43	2	24	4	3	92	18	288	6	350	390	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	47	2	26	4	3	100	20	313	7	380	424	16
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	140	125	75	202	172	35	637	14	449	1437	54
Arrive On Green	0.04	0.08	0.08	0.04	0.11	0.11	0.02	0.18	0.18	0.25	0.41	0.41
Sat Flow, veh/h	1774	1770	1583	1774	1863	1583	1774	3539	79	1774	3478	131
Grp Volume(v), veh/h	47	2	26	4	3	100	20	156	164	380	215	225
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1849	1774	1770	1840
Q Serve(g_s), s	1.2	0.0	0.7	0.1	0.1	2.7	0.5	3.6	3.6	9.2	3.7	3.7
Cycle Q Clear(g_c), s	1.2	0.0	0.7	0.1	0.1	2.7	0.5	3.6	3.6	9.2	3.7	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.07
Lane Grp Cap(c), veh/h	70	140	125	75	202	172	35	318	333	449	731	760
V/C Ratio(X)	0.67	0.01	0.21	0.05	0.01	0.58	0.57	0.49	0.49	0.85	0.29	0.30
Avail Cap(c_a), veh/h	480	1334	1194	1338	1404	1194	531	487	508	649	997	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	19.1	19.4	20.7	17.9	19.1	21.9	16.6	16.6	16.0	8.8	8.8
Incr Delay (d2), s/veh	4.1	0.0	1.0	0.3	0.0	3.7	5.4	1.2	1.1	4.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.3	0.1	0.0	1.4	0.3	1.8	1.9	5.0	1.8	1.9
LnGrp Delay(d),s/veh	25.5	19.2	20.4	21.0	18.0	22.9	27.3	17.8	17.8	20.9	9.1	9.1
LnGrp LOS	C	B	C	C	B	C	C	B	B	C	A	A
Approach Vol, veh/h		75			107			340			820	
Approach Delay, s/veh		23.5			22.7			18.3			14.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	12.7	7.9	9.6	4.4	23.2	6.6	10.9
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	16.5	12.4	34.0	* 34	13.5	25.4	12.2	34.0
Max Q Clear Time (g_c+I1), s	11.2	5.6	2.1	2.7	2.5	5.7	3.2	4.7
Green Ext Time (p_c), s	0.3	2.5	0.4	0.1	0.0	4.5	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	100	14	11	77	0	37	20	18	2	40	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	109	15	12	84	0	40	22	20	2	43	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	84			124			254	254	62	223	262	42
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	84			124			254	254	62	223	262	42
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			94	97	98	100	93	98
cM capacity (veh/h)	1511			1461			622	636	990	672	630	1020

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	15	72	51	12	56	28	40	41	65
Volume Left	15	0	0	12	0	0	40	0	2
Volume Right	0	0	15	0	0	0	0	20	20
cSH	1511	1700	1700	1461	1700	1700	622	766	713
Volume to Capacity	0.01	0.04	0.03	0.01	0.03	0.02	0.06	0.05	0.09
Queue Length 95th (ft)	1	0	0	1	0	0	5	4	8
Control Delay (s)	7.4	0.0	0.0	7.5	0.0	0.0	11.2	10.0	10.6
Lane LOS	A			A			B	A	B
Approach Delay (s)	0.8			0.9			10.6		10.6
Approach LOS							B		B

Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	22.8%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	47	73	50	0	1	63	49	0	15	69	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	51	79	54	0	1	68	53	0	16	75	2
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.3	9.8	9.9
HCM LOS	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	30%	0%	56%	0%	100%	0%	0%	16%	0%
Vol Thru, %	70%	95%	44%	42%	0%	100%	30%	84%	0%
Vol Right, %	0%	5%	0%	58%	0%	0%	70%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	37	84	87	1	42	70	292	88
LT Vol	35	35	37	37	0	42	21	244	0
Through Vol	0	2	0	50	0	0	49	0	88
RT Vol	15	0	47	0	1	0	0	48	0
Lane Flow Rate	54	40	91	94	1	46	76	317	96
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.099	0.071	0.169	0.157	0.002	0.083	0.129	0.519	0.135
Departure Headway (Hd)	6.648	6.456	6.716	6.02	7.089	6.582	6.085	5.882	5.097
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	539	554	534	595	505	544	588	613	703
Service Time	4.395	4.203	4.459	3.763	4.835	4.328	3.831	3.614	2.828
HCM Lane V/C Ratio	0.1	0.072	0.17	0.158	0.002	0.085	0.129	0.517	0.137
HCM Control Delay	10.1	9.7	10.8	9.9	9.8	9.9	9.7	14.8	8.6
HCM Lane LOS	B	A	B	A	A	A	A	B	A
HCM 95th-tile Q	0.3	0.2	0.6	0.6	0	0.3	0.4	3	0.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	48	244	88
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	52	265	96
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	13.4
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	261	84	67	55	33	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	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)	1802		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1802		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	284	91	73	60	36	379
RTOR Reduction (vph)	12	0	0	0	0	314
Lane Group Flow (vph)	363	0	73	60	36	65
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	15.8		3.9	24.5	7.6	7.6
Effective Green, g (s)	15.8		3.9	24.5	7.6	7.6
Actuated g/C Ratio	0.36		0.09	0.56	0.17	0.17
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	645		156	1035	305	272
v/s Ratio Prot	c0.20		c0.04	0.03		
v/s Ratio Perm					0.02	c0.04
v/c Ratio	0.56		0.47	0.06	0.12	0.24
Uniform Delay, d1	11.4		19.1	4.5	15.4	15.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2		0.8	0.0	0.1	0.2
Delay (s)	12.6		19.9	4.5	15.5	15.9
Level of Service	B		B	A	B	B
Approach Delay (s)	12.6			13.0	15.9	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	44.1	Sum of lost time (s)	16.8
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	264	453	4	91	127	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.91		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3204		1770	1863	3434	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3204		1770	1863	3434	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	492	4	99	138	3
RTOR Reduction (vph)	310	0	0	0	3	0
Lane Group Flow (vph)	469	0	4	99	138	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	13.4		0.5	19.2	5.7	
Effective Green, g (s)	13.4		0.5	19.2	5.7	
Actuated g/C Ratio	0.37		0.01	0.53	0.16	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1186		24	988	540	
v/s Ratio Prot	c0.15		0.00	c0.05	c0.04	
v/s Ratio Perm						
v/c Ratio	0.40		0.17	0.10	0.26	
Uniform Delay, d1	8.4		17.6	4.2	13.4	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.3		1.2	0.1	0.1	
Delay (s)	8.7		18.8	4.3	13.5	
Level of Service	A		B	A	B	
Approach Delay (s)	8.7			4.8	13.5	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	36.2	Sum of lost time (s)	16.6
Intersection Capacity Utilization	35.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	132	663	190	89	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.98	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4717	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4717	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	721	207	97	0	0
RTOR Reduction (vph)	0	0	9	21	0	0
Lane Group Flow (vph)	143	721	227	47	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	6.7	60.0	41.4	41.4		
Effective Green, g (s)	6.7	60.0	41.4	41.4		
Actuated g/C Ratio	0.11	1.00	0.69	0.69		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	383	3539	3254	939		
v/s Ratio Prot	c0.04		0.05			
v/s Ratio Perm		c0.20		0.03		
v/c Ratio	0.37	0.20	0.07	0.05		
Uniform Delay, d1	24.7	0.0	3.0	3.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.6	0.1	0.0	0.1		
Delay (s)	25.3	0.1	3.1	3.1		
Level of Service	C	A	A	A		
Approach Delay (s)		4.3	3.1		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	445	184	0	344	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	484	200	0	374	420
RTOR Reduction (vph)	0	0	0	0	0	295
Lane Group Flow (vph)	0	484	200	0	374	125
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		c0.10	0.04		c0.11	
v/s Ratio Perm						0.08
v/c Ratio		0.19	0.08		0.37	0.27
Uniform Delay, d1		8.5	8.0		18.0	17.4
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2	0.1		1.0	1.4
Delay (s)		8.7	8.1		19.0	18.7
Level of Service		A	A		B	B
Approach Delay (s)		8.7	8.1		18.8	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	418	424	101	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	454	461	110	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					791	
pX, platoon unblocked						
vC, conflicting volume	1507	138	165			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1507	138	165			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	68			
cM capacity (veh/h)	90	911	1413			

Direction, Lane #	NB 1	SB 1
Volume Total	915	165
Volume Left	454	0
Volume Right	0	55
cSH	1413	1700
Volume to Capacity	0.32	0.10
Queue Length 95th (ft)	35	0
Control Delay (s)	6.3	0.0
Lane LOS	A	
Approach Delay (s)	6.3	0.0
Approach LOS		

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	318	671	0	405	101	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	346	729	0	440	110	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1318		
pX, platoon unblocked	0.91					
vC, conflicting volume	550	110	110			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	455	110	110			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	32	23	100			
cM capacity (veh/h)	512	944	1480			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	346	729	440	110
Volume Left	346	0	0	0
Volume Right	0	729	0	0
cSH	512	944	1700	1700
Volume to Capacity	0.68	0.77	0.26	0.06
Queue Length 95th (ft)	126	197	0	0
Control Delay (s)	25.4	20.5	0.0	0.0
Lane LOS	D	C		
Approach Delay (s)	22.1		0.0	0.0
Approach LOS	C			

Intersection Summary			
Average Delay	14.6		
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												
Volume (vph)	383	734	351	10	184	43	88	19	10	86	77	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.95		1.00	0.97			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.97	1.00
Satd. Flow (prot)	1770	3367		1770	3438			1775			1815	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.64			0.81	1.00
Satd. Flow (perm)	1770	3367		1770	3438			1179			1501	1583
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)	416	798	382	11	200	47	96	21	11	93	84	104
RTOR Reduction (vph)	0	73	0	0	26	0	0	4	0	0	0	82
Lane Group Flow (vph)	416	1107	0	11	221	0	0	124	0	0	177	22
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	18.2	32.0		0.6	14.4			12.1			12.1	12.1
Effective Green, g (s)	18.2	32.0		0.6	14.4			12.1			12.1	12.1
Actuated g/C Ratio	0.31	0.55		0.01	0.25			0.21			0.21	0.21
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	553	1851		18	850			245			312	329
v/s Ratio Prot	c0.24	c0.33		0.01	0.06							
v/s Ratio Perm								0.11			c0.12	0.01
v/c Ratio	0.75	0.60		0.61	0.26			0.51			0.57	0.07
Uniform Delay, d1	18.0	8.8		28.7	17.6			20.4			20.7	18.5
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	5.7	0.5		48.7	0.2			1.6			2.4	0.1
Delay (s)	23.7	9.3		77.4	17.8			22.1			23.1	18.6
Level of Service	C	A		E	B			C			C	B
Approach Delay (s)		13.1			20.3			22.1			21.4	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	36	24	302	144	96	309
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	26	328	157	104	336
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			616			
pX, platoon unblocked						
vC, conflicting volume	951	407			485	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	951	407			485	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	96			90	
cM capacity (veh/h)	260	644			1078	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	65	485	440
Volume Left	39	0	104
Volume Right	26	157	0
cSH	342	1700	1078
Volume to Capacity	0.19	0.29	0.10
Queue Length 95th (ft)	17	0	8
Control Delay (s)	18.0	0.0	2.9
Lane LOS	C		A
Approach Delay (s)	18.0	0.0	2.9
Approach LOS	C		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	191	96	257	10	24	10	64	10	10	10	10	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	208	104	279	11	26	11	70	11	11	11	11	52

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	208	384	48	70	22	22	52
Volume Left (vph)	208	0	11	70	0	11	0
Volume Right (vph)	0	279	11	0	11	0	52
Hadj (s)	0.53	-0.48	-0.06	0.53	-0.32	0.28	-0.67
Departure Headway (s)	5.6	4.6	5.5	6.6	5.7	6.4	5.4
Degree Utilization, x	0.32	0.49	0.07	0.13	0.03	0.04	0.08
Capacity (veh/h)	625	772	622	509	577	519	606
Control Delay (s)	10.0	10.6	8.9	9.4	7.8	8.5	7.7
Approach Delay (s)	10.4		8.9	9.0		7.9	
Approach LOS	B		A	A		A	

Intersection Summary			
Delay	9.9		
Level of Service	A		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	10	75	11	10	300	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	82	12	11	326	47

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	11	82	23	326	47
Volume Left (vph)	11	0	0	326	0
Volume Right (vph)	0	82	11	0	0
Hadj (s)	0.53	-0.67	-0.25	0.53	0.03
Departure Headway (s)	6.1	4.9	4.7	5.3	4.8
Degree Utilization, x	0.02	0.11	0.03	0.48	0.06
Capacity (veh/h)	556	690	731	666	732
Control Delay (s)	8.0	7.3	7.9	11.9	6.9
Approach Delay (s)	7.3		7.9	11.3	
Approach LOS	A		A	B	

Intersection Summary			
Delay	10.4		
Level of Service	B		
Intersection Capacity Utilization	33.3%	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)	58	257	8	136	1023	348	69	193	32	84	27	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.96		1.00	0.98		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3523		1770	3405		1770	3463		1770	3178	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3523		1770	3405		1770	3463		1770	3178	
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)	63	279	9	148	1112	378	75	210	35	91	29	62
RTOR Reduction (vph)	0	2	0	0	19	0	0	10	0	0	54	0
Lane Group Flow (vph)	63	286	0	148	1471	0	75	235	0	91	37	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.3	53.2		13.7	58.1		8.8	14.1		7.7	13.0	
Effective Green, g (s)	8.3	53.2		13.7	58.1		8.8	14.1		7.7	13.0	
Actuated g/C Ratio	0.08	0.50		0.13	0.54		0.08	0.13		0.07	0.12	
Clearance Time (s)	4.9	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.2		2.0	5.4		2.0	2.5		2.0	2.5	
Lane Grp Cap (vph)	136	1746		225	1843		145	455		127	385	
v/s Ratio Prot	0.04	0.08		c0.08	c0.43		0.04	c0.07		c0.05	0.01	
v/s Ratio Perm												
v/c Ratio	0.46	0.16		0.66	0.80		0.52	0.52		0.72	0.09	
Uniform Delay, d1	47.4	14.8		44.6	19.9		47.2	43.4		48.7	41.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		5.2	3.7		1.3	0.7		14.8	0.1	
Delay (s)	48.3	15.0		49.8	23.6		48.5	44.2		63.5	42.0	
Level of Service	D	B		D	C		D	D		E	D	
Approach Delay (s)		21.0			25.9			45.2			52.7	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	107.3	Sum of lost time (s)	19.1
Intersection Capacity Utilization	76.6%	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												
Volume (veh/h)	45	322	24	14	1117	23	22	28	36	5	17	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	350	26	15	1214	25	24	30	39	5	18	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked	0.73			1.00			0.73	0.73	1.00	0.73	0.73	0.73
vC, conflicting volume	1239			376			1129	1730	188	1584	1731	620
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	586			363			414	1235	174	1035	1236	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			99			92	74	95	94	84	97
cM capacity (veh/h)	718			1186			308	118	835	98	118	791

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	49	233	143	15	809	430	93	15	31
Volume Left	49	0	0	15	0	0	24	5	0
Volume Right	0	0	26	0	0	25	39	0	22
cSH	718	1700	1700	1186	1700	1700	244	109	292
Volume to Capacity	0.07	0.14	0.08	0.01	0.48	0.25	0.38	0.13	0.11
Queue Length 95th (ft)	5	0	0	1	0	0	43	11	9
Control Delay (s)	10.4	0.0	0.0	8.1	0.0	0.0	28.6	42.9	18.8
Lane LOS	B			A			D	E	C
Approach Delay (s)	1.2			0.1			28.6	26.5	
Approach LOS							D	D	

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	55.6%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	338	89	12	1195	105	294	124	0	30	65	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5763	1583	1770	5024		1770	3539		1770	3182	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5024		1770	3539		1770	3182	
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)	117	367	97	13	1299	114	320	135	0	33	71	146
RTOR Reduction (vph)	0	0	54	0	8	0	0	0	0	0	97	0
Lane Group Flow (vph)	117	367	43	13	1405	0	320	135	0	33	120	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	8.7	46.7	46.7	0.7	38.7		22.2	35.9		3.7	17.4	
Effective Green, g (s)	8.7	46.7	46.7	0.7	38.7		22.2	35.9		3.7	17.4	
Actuated g/C Ratio	0.08	0.44	0.44	0.01	0.37		0.21	0.34		0.04	0.16	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	145	2548	700	11	1841		372	1203		62	524	
v/s Ratio Prot	c0.07	0.06		0.01	c0.28		c0.18	0.04		0.02	c0.04	
v/s Ratio Perm			0.03									
v/c Ratio	0.81	0.14	0.06	1.18	0.76		0.86	0.11		0.53	0.23	
Uniform Delay, d1	47.6	17.5	16.9	52.4	29.4		40.2	23.9		50.1	38.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.6	0.1	0.2	338.7	3.1		17.4	0.1		4.3	0.7	
Delay (s)	73.3	17.7	17.1	391.2	32.5		57.6	24.0		54.4	39.0	
Level of Service	E	B	B	F	C		E	C		D	D	
Approach Delay (s)		28.8			35.8			47.7			41.0	
Approach LOS		C			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	105.6	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	71.5%	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)	243	587	0	0	705	829	100	1	306	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.94	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4539	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4539	1362		1775	2787			
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)	264	638	0	0	766	901	109	1	333	0	0	0
RTOR Reduction (vph)	0	0	0	0	65	180	0	0	292	0	0	0
Lane Group Flow (vph)	264	638	0	0	1152	270	0	110	41	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Effective Green, g (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Actuated g/C Ratio	0.13	0.78			0.60	0.60		0.12	0.12			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	458	3960			2728	818		220	346			
v/s Ratio Prot	c0.08	0.13			c0.25							
v/s Ratio Perm						0.20		0.06	0.01			
v/c Ratio	0.58	0.16			0.42	0.33		0.50	0.12			
Uniform Delay, d1	38.6	2.7			10.1	9.4		38.8	37.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.8	0.1			0.5	1.1		1.8	0.2			
Delay (s)	40.4	2.7			10.6	10.5		40.6	37.1			
Level of Service	D	A			B	B		D	D			
Approach Delay (s)		13.8			10.6			38.0			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	512	251	359	433	0	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.95		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4834		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4834		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	557	273	390	471	0	375
RTOR Reduction (vph)	89	0	0	0	0	296
Lane Group Flow (vph)	741	0	390	471	0	79
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	38.1		12.7	60.0		12.7
Effective Green, g (s)	38.1		12.7	60.0		12.7
Actuated g/C Ratio	0.64		0.21	1.00		0.21
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3069		726	5085		589
v/s Ratio Prot	c0.15		c0.11			
v/s Ratio Perm				0.09		0.03
v/c Ratio	0.24		0.54	0.09		0.13
Uniform Delay, d1	4.7		21.0	0.0		19.2
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.2		0.8	0.0		0.1
Delay (s)	4.9		21.8	0.0		19.3
Level of Service	A		C	A		B
Approach Delay (s)	4.9			9.9	19.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	35.2%	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												
Volume (veh/h)	33	12	7	6	1	350	52	516	1	125	128	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	13	8	7	1	380	57	561	1	136	139	18
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	170	95	398	548	466	77	753	1	176	834	106
Arrive On Green	0.03	0.08	0.08	0.22	0.29	0.29	0.04	0.21	0.21	0.10	0.26	0.26
Sat Flow, veh/h	1774	2190	1226	1774	1863	1583	1774	3625	6	1774	3158	403
Grp Volume(v), veh/h	36	10	11	7	1	380	57	274	288	136	77	80
Grp Sat Flow(s),veh/h/ln	1774	1770	1646	1774	1863	1583	1774	1770	1862	1774	1770	1792
Q Serve(g_s), s	1.0	0.3	0.3	0.2	0.0	11.5	1.6	7.5	7.5	3.8	1.7	1.8
Cycle Q Clear(g_c), s	1.0	0.3	0.3	0.2	0.0	11.5	1.6	7.5	7.5	3.8	1.7	1.8
Prop In Lane	1.00		0.74	1.00		1.00	1.00		0.00	1.00		0.22
Lane Grp Cap(c), veh/h	55	137	128	398	548	466	77	368	387	176	467	473
V/C Ratio(X)	0.65	0.07	0.08	0.02	0.00	0.82	0.74	0.74	0.74	0.77	0.16	0.17
Avail Cap(c_a), veh/h	421	1169	1088	1172	1231	1046	465	426	449	569	874	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	22.0	22.0	15.5	12.8	16.9	24.3	19.1	19.1	22.6	14.6	14.6
Incr Delay (d2), s/veh	4.7	0.3	0.3	0.0	0.0	4.2	5.2	6.0	5.7	2.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	0.2	0.1	0.0	5.5	0.9	4.3	4.5	2.0	0.9	0.9
LnGrp Delay(d),s/veh	29.3	22.3	22.4	15.6	12.8	21.1	29.5	25.0	24.8	25.3	14.7	14.8
LnGrp LOS	C	C	C	B	B	C	C	C	C	C	B	B
Approach Vol, veh/h		57			388			619			293	
Approach Delay, s/veh		26.7			21.0			25.3			19.6	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	15.3	17.6	10.0	5.7	18.2	6.4	21.1
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	16.5	12.4	34.0	* 34	13.5	25.4	12.2	34.0
Max Q Clear Time (g_c+I1), s	5.8	9.5	2.2	2.3	3.6	3.8	3.0	13.5
Green Ext Time (p_c), s	0.1	1.2	1.9	0.1	0.0	4.4	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	22.9
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	49	22	22	132	5	76	10	8	0	16	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	53	24	24	143	5	83	11	9	0	17	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	149			77			245	310	39	283	319	74
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	149			77			245	310	39	283	319	74
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			87	98	99	100	97	100
cM capacity (veh/h)	1430			1519			654	584	1025	617	577	972

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	24	36	42	24	96	53	83	20	21
Volume Left	24	0	0	24	0	0	83	0	0
Volume Right	0	0	24	0	0	5	0	9	3
cSH	1430	1700	1700	1519	1700	1700	654	722	617
Volume to Capacity	0.02	0.02	0.02	0.02	0.06	0.03	0.13	0.03	0.03
Queue Length 95th (ft)	1	0	0	1	0	0	11	2	3
Control Delay (s)	7.6	0.0	0.0	7.4	0.0	0.0	11.3	10.1	11.0
Lane LOS	A			A			B	B	B
Approach Delay (s)	1.8			1.0			11.1		11.0
Approach LOS							B		B

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	50	46	29	0	8	105	91	0	46	194	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	50	32	0	9	114	99	0	50	211	4
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.5	10.3	11.1
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	32%	0%	68%	0%	100%	0%	0%	24%	0%
Vol Thru, %	68%	96%	32%	44%	0%	100%	28%	76%	0%
Vol Right, %	0%	4%	0%	56%	0%	0%	72%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	143	101	73	52	8	70	126	140	50
LT Vol	97	97	23	23	0	70	35	107	0
Through Vol	0	4	0	29	0	0	91	0	50
RT Vol	46	0	50	0	8	0	0	33	0
Lane Flow Rate	155	110	79	57	9	76	137	152	54
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.276	0.189	0.154	0.098	0.017	0.136	0.226	0.274	0.085
Departure Headway (Hd)	6.391	6.201	6.985	6.24	6.956	6.45	5.938	6.488	5.663
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	561	577	513	573	514	555	603	552	630
Service Time	4.142	3.952	4.743	3.998	4.709	4.202	3.69	4.243	3.417
HCM Lane V/C Ratio	0.276	0.191	0.154	0.099	0.018	0.137	0.227	0.275	0.086
HCM Control Delay	11.6	10.4	11	9.7	9.8	10.2	10.4	11.7	8.9
HCM Lane LOS	B	B	B	A	A	B	B	B	A
HCM 95th-tile Q	1.1	0.7	0.5	0.3	0.1	0.5	0.9	1.1	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	33	107	50
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	36	116	54
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	11
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	33	33	225	283	76	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.93		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1737		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1737		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	36	245	308	83	89
RTOR Reduction (vph)	28	0	0	0	0	76
Lane Group Flow (vph)	44	0	245	308	83	13
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	9.8		10.7	25.3	6.3	6.3
Effective Green, g (s)	9.8		10.7	25.3	6.3	6.3
Actuated g/C Ratio	0.22		0.25	0.58	0.14	0.14
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	390		434	1081	255	228
v/s Ratio Prot	0.03		c0.14	c0.17		
v/s Ratio Perm					c0.05	0.01
v/c Ratio	0.11		0.56	0.28	0.33	0.06
Uniform Delay, d1	13.4		14.4	4.6	16.7	16.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		1.0	0.2	0.3	0.0
Delay (s)	13.6		15.4	4.8	17.0	16.1
Level of Service	B		B	A	B	B
Approach Delay (s)	13.6			9.5	16.6	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	43.6	Sum of lost time (s)	16.8
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	54	155	5	349	389	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.89		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3146		1770	1863	3441	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3146		1770	1863	3441	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	168	5	379	423	1
RTOR Reduction (vph)	112	0	0	0	0	0
Lane Group Flow (vph)	115	0	5	379	424	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	13.6		0.7	19.6	10.0	
Effective Green, g (s)	13.6		0.7	19.6	10.0	
Actuated g/C Ratio	0.33		0.02	0.48	0.24	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1046		30	892	841	
v/s Ratio Prot	0.04		0.00	c0.20	c0.12	
v/s Ratio Perm						
v/c Ratio	0.11		0.17	0.42	0.50	
Uniform Delay, d1	9.5		19.8	7.0	13.3	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		1.0	0.4	0.2	
Delay (s)	9.5		20.8	7.4	13.5	
Level of Service	A		C	A	B	
Approach Delay (s)	9.5			7.5	13.5	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	40.9	Sum of lost time (s)	16.6
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	282	196	588	364	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.97	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4660	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4660	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	213	639	396	0	0
RTOR Reduction (vph)	0	0	56	80	0	0
Lane Group Flow (vph)	307	213	746	154	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	10.6	60.0	37.5	37.5		
Effective Green, g (s)	10.6	60.0	37.5	37.5		
Actuated g/C Ratio	0.18	1.00	0.62	0.62		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	606	3539	2912	851		
v/s Ratio Prot	c0.09		c0.16			
v/s Ratio Perm		0.06		0.11		
v/c Ratio	0.51	0.06	0.26	0.18		
Uniform Delay, d1	22.3	0.0	5.0	4.8		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.7	0.0	0.2	0.5		
Delay (s)	23.0	0.0	5.2	5.2		
Level of Service	C	A	A	A		
Approach Delay (s)		13.6	5.2		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	410	580	0	64	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	446	630	0	70	196
RTOR Reduction (vph)	0	0	0	0	0	138
Lane Group Flow (vph)	0	446	630	0	70	58
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		0.09	c0.12		0.02	
v/s Ratio Perm						c0.04
v/c Ratio		0.17	0.24		0.07	0.12
Uniform Delay, d1		8.5	8.8		16.3	16.6
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.2		0.1	0.5
Delay (s)		8.6	9.0		16.5	17.1
Level of Service		A	A		B	B
Approach Delay (s)		8.6	9.0		17.0	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	878	106	38	195
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	954	115	41	212
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					791	
pX, platoon unblocked						
vC, conflicting volume	2171	147	253			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2171	147	253			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	27			
cM capacity (veh/h)	14	900	1312			

Direction, Lane #	NB 1	SB 1
Volume Total	1070	253
Volume Left	954	0
Volume Right	0	212
cSH	1312	1700
Volume to Capacity	0.73	0.15
Queue Length 95th (ft)	173	0
Control Delay (s)	14.3	0.0
Lane LOS	B	
Approach Delay (s)	14.3	0.0
Approach LOS		

Intersection Summary			
Average Delay	11.6		
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	41	173	0	831	38	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	188	0	903	41	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1318		
pX, platoon unblocked	0.76					
vC, conflicting volume	945	41	41			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	773	41	41			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	82	100			
cM capacity (veh/h)	281	1030	1568			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	45	188	903	41
Volume Left	45	0	0	0
Volume Right	0	188	0	0
cSH	281	1030	1700	1700
Volume to Capacity	0.16	0.18	0.53	0.02
Queue Length 95th (ft)	14	17	0	0
Control Delay (s)	20.2	9.3	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	11.4		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	53.7%	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)	96	184	88	10	734	172	351	77	10	21	19	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	0.95		1.00	0.97			1.00			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.97	1.00
Satd. Flow (prot)	1770	3367		1770	3438			1785			1815	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.74			0.84	1.00
Satd. Flow (perm)	1770	3367		1770	3438			1372			1564	1583
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)	104	200	96	11	798	187	382	84	11	23	21	416
RTOR Reduction (vph)	0	51	0	0	22	0	0	1	0	0	0	293
Lane Group Flow (vph)	104	245	0	11	963	0	0	476	0	0	44	123
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	7.3	29.1		0.7	22.5			18.2			18.2	18.2
Effective Green, g (s)	7.3	29.1		0.7	22.5			18.2			18.2	18.2
Actuated g/C Ratio	0.12	0.47		0.01	0.37			0.30			0.30	0.30
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	210	1593		20	1257			406			462	468
v/s Ratio Prot	c0.06	0.07		0.01	c0.28							
v/s Ratio Perm								c0.35			0.03	0.08
v/c Ratio	0.50	0.15		0.55	0.77			1.17			0.10	0.26
Uniform Delay, d1	25.4	9.2		30.2	17.2			21.6			15.7	16.5
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.8	0.0		28.9	2.9			101.1			0.1	0.3
Delay (s)	27.2	9.3		59.1	20.0			122.7			15.8	16.8
Level of Service	C	A		E	C			F			B	B
Approach Delay (s)		13.9			20.5			122.7			16.7	
Approach LOS		B			C			F			B	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	144	96	309	36	24	302
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	157	104	336	39	26	328
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			616			
pX, platoon unblocked						
vC, conflicting volume	736	355			375	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	736	355			375	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	59	85			98	
cM capacity (veh/h)	378	689			1183	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	261	375	354
Volume Left	157	0	26
Volume Right	104	39	0
cSH	461	1700	1183
Volume to Capacity	0.57	0.22	0.02
Queue Length 95th (ft)	86	0	2
Control Delay (s)	22.5	0.0	0.8
Lane LOS	C		A
Approach Delay (s)	22.5	0.0	0.8
Approach LOS	C		

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	48	24	64	10	96	10	257	10	10	10	10	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	26	70	11	104	11	279	11	11	11	11	208

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	52	96	126	279	22	22	208
Volume Left (vph)	52	0	11	279	0	11	0
Volume Right (vph)	0	70	11	0	11	0	208
Hadj (s)	0.53	-0.48	0.00	0.53	-0.32	0.28	-0.67
Departure Headway (s)	6.7	5.7	6.1	6.1	5.3	6.0	5.1
Degree Utilization, x	0.10	0.15	0.22	0.48	0.03	0.04	0.29
Capacity (veh/h)	495	580	538	569	648	563	671
Control Delay (s)	9.2	8.5	10.8	13.4	7.3	8.1	9.0
Approach Delay (s)	8.7		10.8	12.9		8.9	
Approach LOS	A		B	B		A	

Intersection Summary				
Delay	10.7			
Level of Service	B			
Intersection Capacity Utilization	42.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	10	300	43	10	75	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	326	47	11	82	12

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	11	326	58	82	12
Volume Left (vph)	11	0	0	82	0
Volume Right (vph)	0	326	11	0	0
Hadj (s)	0.53	-0.67	-0.08	0.53	0.03
Departure Headway (s)	5.5	4.3	5.1	5.9	5.4
Degree Utilization, x	0.02	0.39	0.08	0.13	0.02
Capacity (veh/h)	644	822	655	577	628
Control Delay (s)	7.3	8.7	8.6	8.6	7.3
Approach Delay (s)	8.7		8.6	8.4	
Approach LOS	A		A	A	

Intersection Summary			
Delay	8.6		
Level of Service	A		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX E

- 2015 Plus Phases 1-3 - Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	1365	21	48	351	135	43	122	172	436	50	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9	4.9	4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3531		1770	3539	1583	1770	3539	1583	1770	3391	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3531		1770	3539	1583	1770	3539	1583	1770	3391	
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)	90	1484	23	52	382	147	47	133	187	474	54	21
RTOR Reduction (vph)	0	1	0	0	0	84	0	0	165	0	18	0
Lane Group Flow (vph)	90	1506	0	52	382	63	47	133	22	474	57	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	11.4	53.6		8.3	50.5	50.5	18.0	13.9	13.9	22.7	18.6	
Effective Green, g (s)	11.4	53.6		8.3	50.5	50.5	18.0	13.9	13.9	22.7	18.6	
Actuated g/C Ratio	0.10	0.46		0.07	0.43	0.43	0.15	0.12	0.12	0.19	0.16	
Clearance Time (s)	4.4	4.9		4.4	4.9	4.9	4.4	4.9	4.9	4.4	4.9	
Vehicle Extension (s)	2.0	6.2		2.0	5.4	5.4	2.0	2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)	172	1616		125	1526	682	272	420	187	343	538	
v/s Ratio Prot	c0.05	c0.43		0.03	0.11		c0.03	c0.04		c0.27	0.02	
v/s Ratio Perm						0.04			0.01			
v/c Ratio	0.52	0.93		0.42	0.25	0.09	0.17	0.32	0.12	1.38	0.11	
Uniform Delay, d1	50.3	30.0		52.1	21.2	19.7	43.1	47.3	46.1	47.2	42.1	
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	1.3	11.2		0.8	0.4	0.3	0.1	0.3	0.2	189.1	0.1	
Delay (s)	51.6	41.2		52.9	21.6	20.0	43.2	47.6	46.3	236.3	42.2	
Level of Service	D	D		D	C	C	D	D	D	F	D	
Approach Delay (s)		41.8			24.0			46.4			209.8	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	68.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	117.1	Sum of lost time (s)	18.6
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 (veh/h)	41	1461	22	14	390	6	8	10	15	25	11	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	1588	24	15	424	7	9	11	16	27	12	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked	0.99			0.70			0.71	0.71	0.70	0.71	0.71	0.99
vC, conflicting volume	430			1612			1947	2150	806	1362	2159	215
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	393			1012			1417	1704	0	587	1716	175
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			97			84	82	98	88	80	99
cM capacity (veh/h)	1145			475			54	59	757	221	58	826

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	45	1059	553	15	283	148	36	33	16
Volume Left	45	0	0	15	0	0	9	27	0
Volume Right	0	0	24	0	0	7	16	0	10
cSH	1145	1700	1700	475	1700	1700	98	147	138
Volume to Capacity	0.04	0.62	0.33	0.03	0.17	0.09	0.36	0.23	0.11
Queue Length 95th (ft)	3	0	0	2	0	0	36	21	9
Control Delay (s)	8.3	0.0	0.0	12.8	0.0	0.0	61.3	36.4	34.4
Lane LOS	A			B			F	E	D
Approach Delay (s)	0.2			0.4			61.3	35.8	
Approach LOS							F	E	

Intersection Summary				
Average Delay	2.1			
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												
Volume (vph)	191	1372	150	6	446	38	101	39	1	130	108	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1770	5763	1583	1770	5026		1770	3527		1770	3316	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5026		1770	3527		1770	3316	
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)	208	1491	163	7	485	41	110	42	1	141	117	85
RTOR Reduction (vph)	0	0	60	0	8	0	0	1	0	0	68	0
Lane Group Flow (vph)	208	1491	103	7	518	0	110	42	0	141	134	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	10.7	41.9	41.9	0.7	31.9		7.2	9.8		14.8	17.4	
Effective Green, g (s)	10.7	41.9	41.9	0.7	31.9		7.2	9.8		14.8	17.4	
Actuated g/C Ratio	0.12	0.49	0.49	0.01	0.37		0.08	0.11		0.17	0.20	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	220	2814	773	14	1868		148	402		305	672	
v/s Ratio Prot	c0.12	c0.26		0.00	0.10		c0.06	0.01		c0.08	c0.04	
v/s Ratio Perm			0.07									
v/c Ratio	0.95	0.53	0.13	0.50	0.28		0.74	0.10		0.46	0.20	
Uniform Delay, d1	37.3	15.2	12.0	42.4	18.9		38.4	34.1		31.9	28.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	44.8	0.7	0.4	9.9	0.4		16.1	0.2		0.4	0.5	
Delay (s)	82.0	15.9	12.4	52.2	19.2		54.5	34.2		32.3	28.9	
Level of Service	F	B	B	D	B		D	C		C	C	
Approach Delay (s)		23.0			19.7			48.8			30.3	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	85.8	Sum of lost time (s)	18.6
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	1268	0	0	350	403	150	1	423	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.95	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4542	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4542	1362		1775	2787			
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)	96	1378	0	0	380	438	163	1	460	0	0	0
RTOR Reduction (vph)	0	0	0	0	70	95	0	0	63	0	0	0
Lane Group Flow (vph)	96	1378	0	0	529	124	0	164	397	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	8.0	65.9			53.7	53.7		19.9	19.9			
Effective Green, g (s)	8.0	65.9			53.7	53.7		19.9	19.9			
Actuated g/C Ratio	0.08	0.69			0.57	0.57		0.21	0.21			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	289	3527			2567	769		371	583			
v/s Ratio Prot	0.03	c0.27			0.12							
v/s Ratio Perm						0.09		0.09	c0.14			
v/c Ratio	0.33	0.39			0.21	0.16		0.44	0.68			
Uniform Delay, d1	41.0	6.1			10.2	9.9		32.7	34.6			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.7	0.3			0.2	0.4		0.8	3.3			
Delay (s)	41.7	6.4			10.3	10.3		33.6	37.9			
Level of Service	D	A			B	B		C	D			
Approach Delay (s)		8.7			10.3			36.7			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	305	61	145	335	0	1064
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.98		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4959		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4959		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	332	66	158	364	0	1157
RTOR Reduction (vph)	27	0	0	0	0	611
Lane Group Flow (vph)	371	0	158	364	0	546
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	35.1		15.7	60.0		15.7
Effective Green, g (s)	35.1		15.7	60.0		15.7
Actuated g/C Ratio	0.59		0.26	1.00		0.26
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	2901		898	5085		729
v/s Ratio Prot	c0.07		0.05			
v/s Ratio Perm				0.07		c0.20
v/c Ratio	0.13		0.18	0.07		0.75
Uniform Delay, d1	5.6		17.1	0.0		20.3
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1		0.1	0.0		4.2
Delay (s)	5.7		17.2	0.0		24.6
Level of Service	A		B	A		C
Approach Delay (s)	5.7			5.2	24.6	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
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 (veh/h)	43	2	30	4	3	121	20	315	6	465	499	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	47	2	33	4	3	132	22	342	7	505	542	16
Adj No. of Lanes	1	2	0	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	129	116	106	220	187	37	576	12	569	1623	48
Arrive On Green	0.04	0.07	0.07	0.06	0.12	0.12	0.02	0.16	0.16	0.32	0.46	0.46
Sat Flow, veh/h	1774	1770	1583	1774	1863	1583	1774	3547	72	1774	3511	104
Grp Volume(v), veh/h	47	2	33	4	3	132	22	170	179	505	273	285
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1850	1774	1770	1844
Q Serve(g_s), s	1.4	0.1	1.0	0.1	0.1	4.2	0.6	4.7	4.7	14.2	5.1	5.1
Cycle Q Clear(g_c), s	1.4	0.1	1.0	0.1	0.1	4.2	0.6	4.7	4.7	14.2	5.1	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.06
Lane Grp Cap(c), veh/h	67	129	116	106	220	187	37	287	300	569	818	853
V/C Ratio(X)	0.70	0.02	0.29	0.04	0.01	0.71	0.59	0.59	0.59	0.89	0.33	0.33
Avail Cap(c_a), veh/h	135	946	846	163	1067	907	135	348	364	908	1118	1165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	22.5	23.0	23.2	20.4	22.2	25.4	20.3	20.3	16.9	9.0	9.0
Incr Delay (d2), s/veh	4.9	0.1	1.6	0.1	0.0	5.8	5.5	2.0	1.9	4.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	0.1	0.0	2.1	0.4	2.4	2.5	7.5	2.6	2.7
LnGrp Delay(d),s/veh	29.8	22.6	24.6	23.3	20.4	28.0	30.9	22.3	22.2	21.1	9.2	9.2
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	A	A
Approach Vol, veh/h		82			139			371			1063	
Approach Delay, s/veh		27.5			27.7			22.8			14.8	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.3	13.1	9.1	9.8	4.6	28.8	6.8	12.2
Change Period (Y+Rc), s	3.5	4.6	6.0	* 6	3.5	4.6	4.8	6.0
Max Green Setting (Gmax), s	26.8	10.3	4.8	* 28	4.0	33.1	4.0	30.0
Max Q Clear Time (g_c+I1), s	16.2	6.7	2.1	3.0	2.6	7.1	3.4	6.2
Green Ext Time (p_c), s	0.7	1.8	0.1	0.1	0.0	6.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	112	14	11	79	0	37	20	18	2	40	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	122	15	12	86	0	40	22	20	2	43	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	86			137			268	270	68	232	277	43
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	86			137			268	270	68	232	277	43
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			93	97	98	100	93	98
cM capacity (veh/h)	1508			1445			607	624	981	662	618	1018

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	15	81	56	12	57	29	40	41	65
Volume Left	15	0	0	12	0	0	40	0	2
Volume Right	0	0	15	0	0	0	0	20	20
cSH	1508	1700	1700	1445	1700	1700	607	754	702
Volume to Capacity	0.01	0.05	0.03	0.01	0.03	0.02	0.07	0.05	0.09
Queue Length 95th (ft)	1	0	0	1	0	0	5	4	8
Control Delay (s)	7.4	0.0	0.0	7.5	0.0	0.0	11.4	10.1	10.7
Lane LOS	A			A			B	B	B
Approach Delay (s)	0.7			0.9			10.7		10.7
Approach LOS							B		B

Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	24.5%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	47	79	50	0	1	65	49	0	15	75	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	51	86	54	0	1	71	53	0	16	82	2
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.6	10	10.1
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	29%	0%	54%	0%	100%	0%	0%	15%	0%
Vol Thru, %	71%	95%	46%	44%	0%	100%	31%	85%	0%
Vol Right, %	0%	5%	0%	56%	0%	0%	69%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	40	87	90	1	43	71	316	88
LT Vol	38	38	40	40	0	43	22	268	0
Through Vol	0	2	0	50	0	0	49	0	88
RT Vol	15	0	47	0	1	0	0	48	0
Lane Flow Rate	57	43	94	97	1	47	77	343	96
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.107	0.078	0.178	0.166	0.002	0.088	0.133	0.567	0.137
Departure Headway (Hd)	6.754	6.574	6.832	6.159	7.228	6.721	6.228	5.942	5.162
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	530	544	525	581	494	532	575	608	694
Service Time	4.509	4.329	4.583	3.909	4.982	4.475	3.982	3.678	2.898
HCM Lane V/C Ratio	0.108	0.079	0.179	0.167	0.002	0.088	0.134	0.564	0.138
HCM Control Delay	10.3	9.9	11.1	10.1	10	10.1	9.9	16.2	8.7
HCM Lane LOS	B	A	B	B	A	B	A	C	A
HCM 95th-tile Q	0.4	0.3	0.6	0.6	0	0.3	0.5	3.5	0.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	48	268	88
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	52	291	96
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	14.6
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	261	96	73	55	36	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	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)	1795		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1795		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	284	104	79	60	39	382
RTOR Reduction (vph)	14	0	0	0	0	317
Lane Group Flow (vph)	374	0	79	60	39	65
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	16.2		4.0	25.0	7.6	7.6
Effective Green, g (s)	16.2		4.0	25.0	7.6	7.6
Actuated g/C Ratio	0.36		0.09	0.56	0.17	0.17
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	651		158	1044	301	269
v/s Ratio Prot	c0.21		c0.04	0.03		
v/s Ratio Perm					0.02	c0.04
v/c Ratio	0.57		0.50	0.06	0.13	0.24
Uniform Delay, d1	11.4		19.3	4.5	15.7	16.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3		0.9	0.0	0.1	0.2
Delay (s)	12.8		20.3	4.5	15.8	16.2
Level of Service	B		C	A	B	B
Approach Delay (s)	12.8			13.4	16.1	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	44.6	Sum of lost time (s)	16.8
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	276	471	4	94	132	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.91		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3204		1770	1863	3434	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3204		1770	1863	3434	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	300	512	4	102	143	3
RTOR Reduction (vph)	309	0	0	0	2	0
Lane Group Flow (vph)	503	0	4	102	144	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	14.5		0.6	20.4	5.7	
Effective Green, g (s)	14.5		0.6	20.4	5.7	
Actuated g/C Ratio	0.39		0.02	0.55	0.15	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1242		28	1016	523	
v/s Ratio Prot	c0.16		0.00	c0.05	c0.04	
v/s Ratio Perm						
v/c Ratio	0.41		0.14	0.10	0.28	
Uniform Delay, d1	8.3		18.1	4.1	14.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.3		0.9	0.1	0.1	
Delay (s)	8.6		19.0	4.1	14.1	
Level of Service	A		B	A	B	
Approach Delay (s)	8.6			4.7	14.1	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	37.4	Sum of lost time (s)	16.6
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	132	681	195	92	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.98	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4717	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4717	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	740	212	100	0	0
RTOR Reduction (vph)	0	0	9	22	0	0
Lane Group Flow (vph)	143	740	233	48	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	6.7	60.0	41.4	41.4		
Effective Green, g (s)	6.7	60.0	41.4	41.4		
Actuated g/C Ratio	0.11	1.00	0.69	0.69		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	383	3539	3254	939		
v/s Ratio Prot	c0.04		0.05			
v/s Ratio Perm		c0.21		0.04		
v/c Ratio	0.37	0.21	0.07	0.05		
Uniform Delay, d1	24.7	0.0	3.0	3.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.6	0.1	0.0	0.1		
Delay (s)	25.3	0.1	3.1	3.1		
Level of Service	C	A	A	A		
Approach Delay (s)		4.2	3.1		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Volume (vph)	0	451	189	0	356	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	490	205	0	387	420
RTOR Reduction (vph)	0	0	0	0	0	295
Lane Group Flow (vph)	0	490	205	0	387	125
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		c0.10	0.04		c0.11	
v/s Ratio Perm						0.08
v/c Ratio		0.19	0.08		0.38	0.27
Uniform Delay, d1		8.6	8.1		18.0	17.4
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2	0.1		1.1	1.4
Delay (s)		8.7	8.1		19.1	18.7
Level of Service		A	A		B	B
Approach Delay (s)		8.7	8.1		18.9	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	461	428	116	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	501	465	126	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					791	
pX, platoon unblocked						
vC, conflicting volume	1621	154	182			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1621	154	182			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	64			
cM capacity (veh/h)	73	892	1394			

Direction, Lane #	NB 1	SB 1
Volume Total	966	182
Volume Left	501	0
Volume Right	0	55
cSH	1394	1700
Volume to Capacity	0.36	0.11
Queue Length 95th (ft)	41	0
Control Delay (s)	6.8	0.0
Lane LOS	A	
Approach Delay (s)	6.8	0.0
Approach LOS		

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	318	843	0	435	116	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	346	916	0	473	126	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1318		
pX, platoon unblocked	0.89					
vC, conflicting volume	599	126	126			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	485	126	126			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	28	1	100			
cM capacity (veh/h)	480	924	1460			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	346	916	473	126
Volume Left	346	0	0	0
Volume Right	0	916	0	0
cSH	480	924	1700	1700
Volume to Capacity	0.72	0.99	0.28	0.07
Queue Length 95th (ft)	144	451	0	0
Control Delay (s)	29.5	48.7	0.0	0.0
Lane LOS	D	E		
Approach Delay (s)	43.4		0.0	0.0
Approach LOS	E			

Intersection Summary			
Average Delay	29.4		
Intersection Capacity Utilization	65.0%	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)	383	1128	448	10	283	58	112	33	10	147	132	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1797		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1797		1770	1863	1583
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)	416	1226	487	11	308	63	122	36	11	160	143	104
RTOR Reduction (vph)	0	0	252	0	0	50	0	10	0	0	0	55
Lane Group Flow (vph)	416	1226	235	11	308	13	122	37	0	160	143	49
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	21.6	37.1	37.1	0.6	16.1	16.1	7.1	8.5		13.1	14.5	36.1
Effective Green, g (s)	21.6	37.1	37.1	0.6	16.1	16.1	7.1	8.5		13.1	14.5	36.1
Actuated g/C Ratio	0.28	0.48	0.48	0.01	0.21	0.21	0.09	0.11		0.17	0.19	0.47
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	494	1698	759	13	737	329	162	197		299	349	831
v/s Ratio Prot	c0.24	c0.35		0.01	0.09		c0.07	0.02		c0.09	0.08	0.02
v/s Ratio Perm			0.15			0.01						0.01
v/c Ratio	0.84	0.72	0.31	0.85	0.42	0.04	0.75	0.19		0.54	0.41	0.06
Uniform Delay, d1	26.2	16.0	12.3	38.3	26.5	24.4	34.2	31.3		29.3	27.6	11.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.3	1.5	0.2	166.4	0.4	0.0	17.8	0.5		1.8	0.8	0.0
Delay (s)	38.6	17.5	12.5	204.7	26.9	24.5	52.1	31.7		31.2	28.4	11.3
Level of Service	D	B	B	F	C	C	D	C		C	C	B
Approach Delay (s)		20.5			31.6			46.4			25.1	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	77.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	36	24	331	144	96	424
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	26	360	157	104	461
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			616			
pX, platoon unblocked						
vC, conflicting volume	1108	438			516	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1108	438			516	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	96			90	
cM capacity (veh/h)	209	619			1049	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	65	516	565
Volume Left	39	0	104
Volume Right	26	157	0
cSH	285	1700	1049
Volume to Capacity	0.23	0.30	0.10
Queue Length 95th (ft)	22	0	8
Control Delay (s)	21.4	0.0	2.6
Lane LOS	C		A
Approach Delay (s)	21.4	0.0	2.6
Approach LOS	C		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	157	651	10	39	10	163	10	10	10	10	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	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	0.93			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)	1770	1863	1583		1804		1770	1723			1817	1583
Flt Permitted	0.72	1.00	1.00		0.95		0.74	1.00			0.89	1.00
Satd. Flow (perm)	1332	1863	1583		1731		1384	1723			1663	1583
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)	208	171	708	11	42	11	177	11	11	11	11	52
RTOR Reduction (vph)	0	0	395	0	6	0	0	8	0	0	0	37
Lane Group Flow (vph)	208	171	313	0	58	0	177	14	0	0	22	15
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		4
Actuated Green, G (s)	15.1	15.1	15.1		15.1		10.1	10.1			10.1	10.1
Effective Green, g (s)	15.1	15.1	15.1		15.1		10.1	10.1			10.1	10.1
Actuated g/C Ratio	0.44	0.44	0.44		0.44		0.30	0.30			0.30	0.30
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	588	822	698		764		408	508			491	467
v/s Ratio Prot		0.09						0.01				
v/s Ratio Perm	0.16		c0.20		0.03		c0.13				0.01	0.01
v/c Ratio	0.35	0.21	0.45		0.08		0.43	0.03			0.04	0.03
Uniform Delay, d1	6.3	5.9	6.6		5.5		9.7	8.6			8.6	8.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.4	0.1	0.5		0.0		0.7	0.0			0.0	0.0
Delay (s)	6.7	6.0	7.1		5.6		10.5	8.6			8.6	8.6
Level of Service	A	A	A		A		B	A			A	A
Approach Delay (s)		6.9			5.6			10.3			8.6	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	34.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	10	113	11	10	452	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	123	12	11	491	47

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	11	123	23	491	47
Volume Left (vph)	11	0	0	491	0
Volume Right (vph)	0	123	11	0	0
Hadj (s)	0.53	-0.67	-0.25	0.53	0.03
Departure Headway (s)	6.5	5.3	5.1	5.4	4.9
Degree Utilization, x	0.02	0.18	0.03	0.74	0.06
Capacity (veh/h)	511	624	670	653	710
Control Delay (s)	8.4	8.3	8.3	21.2	7.1
Approach Delay (s)	8.3		8.3	19.9	
Approach LOS	A		A	C	

Intersection Summary			
Delay	17.3		
Level of Service	C		
Intersection Capacity Utilization	41.7%	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)	58	342	8	178	1362	457	69	193	43	111	27	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.4	4.9	4.9	4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3527		1770	3539	1583	1770	3539	1583	1770	3178	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3527		1770	3539	1583	1770	3539	1583	1770	3178	
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)	63	372	9	193	1480	497	75	210	47	121	29	62
RTOR Reduction (vph)	0	1	0	0	0	107	0	0	42	0	55	0
Lane Group Flow (vph)	63	380	0	193	1480	390	75	210	5	121	36	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	8.5	59.8		17.4	68.2	68.2	11.8	14.1	14.1	10.7	13.0	
Effective Green, g (s)	8.5	59.8		17.4	68.2	68.2	11.8	14.1	14.1	10.7	13.0	
Actuated g/C Ratio	0.07	0.50		0.14	0.57	0.57	0.10	0.12	0.12	0.09	0.11	
Clearance Time (s)	4.9	4.9		4.4	4.9	4.9	4.4	4.9	4.9	4.4	4.9	
Vehicle Extension (s)	2.0	6.2		2.0	5.4	5.4	2.0	2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)	124	1748		255	2001	895	173	413	185	157	342	
v/s Ratio Prot	0.04	0.11		c0.11	c0.42		0.04	c0.06		c0.07	0.01	
v/s Ratio Perm						0.25			0.00			
v/c Ratio	0.51	0.22		0.76	0.74	0.44	0.43	0.51	0.03	0.77	0.10	
Uniform Delay, d1	54.0	17.2		49.6	19.6	15.1	51.3	50.0	47.2	53.8	48.5	
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	1.2	0.3		10.8	2.5	1.5	0.6	0.7	0.0	18.9	0.1	
Delay (s)	55.2	17.5		60.4	22.1	16.6	51.9	50.7	47.2	72.6	48.6	
Level of Service	E	B		E	C	B	D	D	D	E	D	
Approach Delay (s)		22.8			24.2			50.5			62.3	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.6	Sum of lost time (s)	19.1
Intersection Capacity Utilization	76.4%	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												
Volume (veh/h)	45	406	24	14	1450	29	22	28	36	7	17	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	441	26	15	1576	32	24	30	39	8	18	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1218			1272							
pX, platoon unblocked	0.66			0.97			0.67	0.67	0.97	0.67	0.67	0.66
vC, conflicting volume	1608			467			1402	2190	234	1995	2188	804
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	877			381			403	1575	140	1285	1571	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			99			90	53	95	83	72	97
cM capacity (veh/h)	502			1135			250	65	854	46	65	711

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	49	294	173	15	1051	557	93	17	31
Volume Left	49	0	0	15	0	0	24	8	0
Volume Right	0	0	26	0	0	32	39	0	22
cSH	502	1700	1700	1135	1700	1700	154	55	180
Volume to Capacity	0.10	0.17	0.10	0.01	0.62	0.33	0.61	0.31	0.17
Queue Length 95th (ft)	8	0	0	1	0	0	81	27	15
Control Delay (s)	12.9	0.0	0.0	8.2	0.0	0.0	59.5	97.6	29.0
Lane LOS	B			A			F	F	D
Approach Delay (s)	1.2			0.1			59.5	53.2	
Approach LOS							F	F	

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	414	89	12	1498	135	294	124	0	38	65	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5763	1583	1770	5022		1770	3539		1770	3182	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5763	1583	1770	5022		1770	3539		1770	3182	
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)	117	450	97	13	1628	147	320	135	0	41	71	146
RTOR Reduction (vph)	0	0	49	0	7	0	0	0	0	0	128	0
Lane Group Flow (vph)	117	450	48	13	1768	0	320	135	0	41	89	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	13.0	60.7	60.7	2.0	49.7		26.6	36.1		5.9	15.4	
Effective Green, g (s)	13.0	60.7	60.7	2.0	49.7		26.6	36.1		5.9	15.4	
Actuated g/C Ratio	0.11	0.49	0.49	0.02	0.40		0.22	0.29		0.05	0.12	
Clearance Time (s)	4.4	4.9	4.9	4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.3	6.3	2.0	5.6		2.0	4.0		2.0	6.4	
Lane Grp Cap (vph)	186	2837	779	28	2024		381	1036		84	397	
v/s Ratio Prot	c0.07	0.08		0.01	c0.35		c0.18	0.04		c0.02	c0.03	
v/s Ratio Perm			0.03									
v/c Ratio	0.63	0.16	0.06	0.46	0.87		0.84	0.13		0.49	0.22	
Uniform Delay, d1	52.8	17.2	16.4	60.1	33.9		46.3	32.1		57.2	48.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.1	0.2	4.4	5.6		14.3	0.1		1.6	0.9	
Delay (s)	57.6	17.4	16.5	64.5	39.5		60.7	32.1		58.9	49.5	
Level of Service	E	B	B	E	D		E	C		E	D	
Approach Delay (s)		24.3			39.7			52.2			51.0	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	123.3	Sum of lost time (s)	18.6
Intersection Capacity Utilization	78.1%	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												
Volume (vph)	243	630	0	0	790	884	100	1	314	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.86	0.86		1.00	0.88			
Frt	1.00	1.00			0.95	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	5085			4547	1362		1775	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			4547	1362		1775	2787			
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)	264	685	0	0	859	961	109	1	341	0	0	0
RTOR Reduction (vph)	0	0	0	0	63	191	0	0	299	0	0	0
Lane Group Flow (vph)	264	685	0	0	1277	289	0	110	42	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Effective Green, g (s)	12.7	74.0			57.1	57.1		11.8	11.8			
Actuated g/C Ratio	0.13	0.78			0.60	0.60		0.12	0.12			
Clearance Time (s)	4.2	4.6			4.6	4.6		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	458	3960			2732	818		220	346			
v/s Ratio Prot	c0.08	0.13			c0.28							
v/s Ratio Perm						0.21		0.06	0.02			
v/c Ratio	0.58	0.17			0.47	0.35		0.50	0.12			
Uniform Delay, d1	38.6	2.7			10.5	9.6		38.8	37.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.8	0.1			0.6	1.2		1.8	0.2			
Delay (s)	40.4	2.8			11.1	10.8		40.6	37.2			
Level of Service	D	A			B	B		D	D			
Approach Delay (s)		13.2			11.0			38.0			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	518	251	420	457	0	381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6		4.6	4.0		4.6
Lane Util. Factor	0.91		0.97	0.91		0.88
Frt	0.95		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4836		3433	5085		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4836		3433	5085		2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	563	273	457	497	0	414
RTOR Reduction (vph)	73	0	0	0	0	316
Lane Group Flow (vph)	763	0	457	497	0	98
Turn Type	NA		Prot	NA		Perm
Protected Phases	2		1			
Permitted Phases				6		1
Actuated Green, G (s)	36.6		14.2	60.0		14.2
Effective Green, g (s)	36.6		14.2	60.0		14.2
Actuated g/C Ratio	0.61		0.24	1.00		0.24
Clearance Time (s)	4.6		4.6	4.0		4.6
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	2949		812	5085		659
v/s Ratio Prot	c0.16		c0.13			
v/s Ratio Perm				0.10		0.04
v/c Ratio	0.26		0.56	0.10		0.15
Uniform Delay, d1	5.4		20.2	0.0		18.1
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.2		0.9	0.0		0.1
Delay (s)	5.6		21.1	0.0		18.2
Level of Service	A		C	A		B
Approach Delay (s)	5.6			10.1	18.2	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	36.6%	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												
Volume (vph)	33	12	9	6	1	465	58	625	1	154	155	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8	6.0		4.8	6.0	6.0	3.5	4.6		3.5	4.6	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3308		1770	1863	1583	1770	3538		1770	3488	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3308		1770	1863	1583	1770	3538		1770	3488	
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)	36	13	10	7	1	505	63	679	1	167	168	18
RTOR Reduction (vph)	0	7	0	0	0	229	0	0	0	0	9	0
Lane Group Flow (vph)	36	16	0	7	1	276	63	680	0	167	177	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	2.0	19.2		1.5	18.7	18.7	3.4	20.5		10.5	27.6	
Effective Green, g (s)	2.0	19.2		1.5	18.7	18.7	3.4	20.5		10.5	27.6	
Actuated g/C Ratio	0.03	0.27		0.02	0.26	0.26	0.05	0.29		0.15	0.39	
Clearance Time (s)	4.8	6.0		4.8	6.0	6.0	3.5	4.6		3.5	4.6	
Vehicle Extension (s)	2.0	3.5		3.0	3.5	3.5	2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	50	899		37	493	419	85	1027		263	1363	
v/s Ratio Prot	c0.02	0.00		0.00	0.00		0.04	c0.19		c0.09	0.05	
v/s Ratio Perm						c0.17						
v/c Ratio	0.72	0.02		0.19	0.00	0.66	0.74	0.66		0.63	0.13	
Uniform Delay, d1	34.0	18.8		34.0	19.1	23.1	33.2	22.0		28.2	13.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	33.6	0.0		2.5	0.0	3.9	25.8	1.6		3.7	0.0	
Delay (s)	67.6	18.8		36.4	19.1	27.0	59.0	23.6		31.9	13.8	
Level of Service	E	B		D	B	C	E	C		C	B	
Approach Delay (s)		48.6			27.1			26.6			22.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	70.6	Sum of lost time (s)	18.9
Intersection Capacity Utilization	62.3%	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 (veh/h)	22	52	22	22	138	5	76	10	8	0	16	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	57	24	24	150	5	83	11	9	0	17	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					1209							
pX, platoon unblocked												
vC, conflicting volume	155			80			251	320	40	291	329	78
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	155			80			251	320	40	291	329	78
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			87	98	99	100	97	100
cM capacity (veh/h)	1422			1515			647	577	1022	609	570	967

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	24	38	43	24	100	55	83	20	21
Volume Left	24	0	0	24	0	0	83	0	0
Volume Right	0	0	24	0	0	5	0	9	3
cSH	1422	1700	1700	1515	1700	1700	647	715	609
Volume to Capacity	0.02	0.02	0.03	0.02	0.06	0.03	0.13	0.03	0.03
Queue Length 95th (ft)	1	0	0	1	0	0	11	2	3
Control Delay (s)	7.6	0.0	0.0	7.4	0.0	0.0	11.4	10.2	11.1
Lane LOS	A			A			B	B	B
Approach Delay (s)	1.7			1.0			11.1		11.1
Approach LOS							B		B

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	28.2%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	50	48	29	0	8	111	91	0	46	218	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	52	32	0	9	121	99	0	50	237	4
Number of Lanes	0	0	2	0	0	1	2	0	0	0	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	10.7	10.6	11.5
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	30%	0%	68%	0%	100%	0%	0%	23%	0%
Vol Thru, %	70%	96%	32%	45%	0%	100%	29%	77%	0%
Vol Right, %	0%	4%	0%	55%	0%	0%	71%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	113	74	53	8	74	128	146	50
LT Vol	109	109	24	24	0	74	37	113	0
Through Vol	0	4	0	29	0	0	91	0	50
RT Vol	46	0	50	0	8	0	0	33	0
Lane Flow Rate	168	123	80	58	9	80	139	159	54
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.302	0.214	0.159	0.102	0.017	0.147	0.235	0.291	0.087
Departure Headway (Hd)	6.452	6.277	7.12	6.387	7.08	6.573	6.068	6.597	5.776
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	556	570	502	558	504	544	590	543	617
Service Time	4.209	4.034	4.89	4.156	4.844	4.336	3.831	4.36	3.539
HCM Lane V/C Ratio	0.302	0.216	0.159	0.104	0.018	0.147	0.236	0.293	0.088
HCM Control Delay	12	10.8	11.2	9.9	10	10.5	10.7	12.1	9.1
HCM Lane LOS	B	B	B	A	A	B	B	B	A
HCM 95th-tile Q	1.3	0.8	0.6	0.3	0.1	0.5	0.9	1.2	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	33	113	50
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	36	123	54
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	11.3
HCM LOS	B

Lane

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	33	36	227	283	88	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		4.8	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.93		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1732		1770	1863	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1732		1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	39	247	308	96	96
RTOR Reduction (vph)	31	0	0	0	0	82
Lane Group Flow (vph)	44	0	247	308	96	14
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases					8	8
Actuated Green, G (s)	9.3		10.8	24.9	6.5	6.5
Effective Green, g (s)	9.3		10.8	24.9	6.5	6.5
Actuated g/C Ratio	0.21		0.25	0.57	0.15	0.15
Clearance Time (s)	6.0		4.8	6.0	6.0	6.0
Vehicle Extension (s)	3.5		2.0	3.5	2.0	2.0
Lane Grp Cap (vph)	371		440	1068	265	237
v/s Ratio Prot	0.03		c0.14	c0.17		
v/s Ratio Perm					c0.05	0.01
v/c Ratio	0.12		0.56	0.29	0.36	0.06
Uniform Delay, d1	13.7		14.2	4.7	16.6	15.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		1.0	0.2	0.3	0.0
Delay (s)	13.9		15.2	4.9	16.9	15.9
Level of Service	B		B	A	B	B
Approach Delay (s)	13.9			9.5	16.4	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	43.4	Sum of lost time (s)	16.8
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	57	160	5	361	407	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.3	6.0	5.3	
Lane Util. Factor	0.95		1.00	1.00	0.97	
Frt	0.89		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3148		1770	1863	3441	
Flt Permitted	1.00		0.95	1.00	0.95	
Satd. Flow (perm)	3148		1770	1863	3441	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	174	5	392	442	1
RTOR Reduction (vph)	116	0	0	0	0	0
Lane Group Flow (vph)	120	0	5	392	443	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	13.9		0.7	19.9	10.2	
Effective Green, g (s)	13.9		0.7	19.9	10.2	
Actuated g/C Ratio	0.34		0.02	0.48	0.25	
Clearance Time (s)	6.0		5.3	6.0	5.3	
Vehicle Extension (s)	3.5		2.0	3.5	2.0	
Lane Grp Cap (vph)	1056		29	895	847	
v/s Ratio Prot	0.04		0.00	c0.21	c0.13	
v/s Ratio Perm						
v/c Ratio	0.11		0.17	0.44	0.52	
Uniform Delay, d1	9.5		20.1	7.1	13.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		1.0	0.4	0.3	
Delay (s)	9.6		21.1	7.5	13.8	
Level of Service	A		C	A	B	
Approach Delay (s)	9.6			7.6	13.8	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	41.4	Sum of lost time (s)	16.6
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	282	201	606	376	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	3.0	6.7	6.7		
Lane Util. Factor	0.97	0.95	0.86	0.86		
Frt	1.00	1.00	0.97	0.85		
Flt Protected	0.95	1.00	1.00	1.00		
Satd. Flow (prot)	3433	3539	4659	1362		
Flt Permitted	0.95	1.00	1.00	1.00		
Satd. Flow (perm)	3433	3539	4659	1362		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	218	659	409	0	0
RTOR Reduction (vph)	0	0	56	80	0	0
Lane Group Flow (vph)	307	218	772	161	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	5		6			
Permitted Phases		2		6		
Actuated Green, G (s)	10.6	60.0	37.5	37.5		
Effective Green, g (s)	10.6	60.0	37.5	37.5		
Actuated g/C Ratio	0.18	1.00	0.62	0.62		
Clearance Time (s)	5.2	3.0	6.7	6.7		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	606	3539	2911	851		
v/s Ratio Prot	c0.09		c0.17			
v/s Ratio Perm		0.06		0.12		
v/c Ratio	0.51	0.06	0.27	0.19		
Uniform Delay, d1	22.3	0.0	5.1	4.8		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.7	0.0	0.2	0.5		
Delay (s)	23.0	0.0	5.3	5.3		
Level of Service	C	A	A	A		
Approach Delay (s)		13.5	5.3		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↑	↱
Volume (vph)	0	412	598	0	67	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	6.7		5.6	5.6
Lane Util. Factor		0.91	0.91		0.97	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		5085	5085		3433	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		5085	5085		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	448	650	0	73	196
RTOR Reduction (vph)	0	0	0	0	0	138
Lane Group Flow (vph)	0	448	650	0	73	58
Turn Type		NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases						4
Actuated Green, G (s)		33.3	33.3		19.4	19.4
Effective Green, g (s)		33.3	33.3		19.4	19.4
Actuated g/C Ratio		0.51	0.51		0.30	0.30
Clearance Time (s)		6.7	6.7		5.6	5.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		2605	2605		1024	472
v/s Ratio Prot		0.09	c0.13		0.02	
v/s Ratio Perm						c0.04
v/c Ratio		0.17	0.25		0.07	0.12
Uniform Delay, d1		8.5	8.9		16.3	16.6
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.2		0.1	0.5
Delay (s)		8.6	9.1		16.5	17.1
Level of Service		A	A		B	B
Approach Delay (s)		8.6	9.1		17.0	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	1050	121	42	195
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1141	132	46	212
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					791	
pX, platoon unblocked						
vC, conflicting volume	2566	152	258			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2566	152	258			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	13			
cM capacity (veh/h)	4	895	1307			

Direction, Lane #	NB 1	SB 1
Volume Total	1273	258
Volume Left	1141	0
Volume Right	0	212
cSH	1307	1700
Volume to Capacity	0.87	0.15
Queue Length 95th (ft)	319	0
Control Delay (s)	22.6	0.0
Lane LOS	C	
Approach Delay (s)	22.6	0.0
Approach LOS		

Intersection Summary			
Average Delay	18.8		
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	41	216	0	952	42	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	235	0	1035	46	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1318		
pX, platoon unblocked	0.74					
vC, conflicting volume	1080	46	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	931	46	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	77	100			
cM capacity (veh/h)	218	1024	1562			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	45	235	1035	46
Volume Left	45	0	0	0
Volume Right	0	235	0	0
cSH	218	1024	1700	1700
Volume to Capacity	0.20	0.23	0.61	0.03
Queue Length 95th (ft)	19	22	0	0
Control Delay (s)	25.7	9.6	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	12.1		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	283	112	10	1128	233	448	132	10	36	33	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1843		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1843		1770	1863	1583
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)	104	308	122	11	1226	253	487	143	11	39	36	416
RTOR Reduction (vph)	0	0	63	0	0	99	0	2	0	0	0	72
Lane Group Flow (vph)	104	308	59	11	1226	154	487	152	0	39	36	344
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	11.8	60.9	60.9	0.7	49.8	49.8	35.6	42.4		4.2	11.0	22.8
Effective Green, g (s)	11.8	60.9	60.9	0.7	49.8	49.8	35.6	42.4		4.2	11.0	22.8
Actuated g/C Ratio	0.09	0.48	0.48	0.01	0.39	0.39	0.28	0.34		0.03	0.09	0.18
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	165	1707	763	9	1396	624	499	619		58	162	342
v/s Ratio Prot	0.06	0.09		0.01	c0.35		c0.28	0.08		0.02	0.02	c0.09
v/s Ratio Perm			0.04			0.10						0.12
v/c Ratio	0.63	0.18	0.08	1.22	0.88	0.25	0.98	0.25		0.67	0.22	1.01
Uniform Delay, d1	55.1	18.5	17.5	62.8	35.4	25.6	44.9	30.3		60.3	53.6	51.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.6	0.1	0.0	385.4	6.6	0.2	33.8	0.2		26.6	0.7	50.1
Delay (s)	62.7	18.6	17.6	448.2	42.0	25.8	78.7	30.5		86.9	54.3	101.8
Level of Service	E	B	B	F	D	C	E	C		F	D	F
Approach Delay (s)		26.9			42.2			67.1			97.1	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	53.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	126.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	144	96	424	36	24	331
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	157	104	461	39	26	360
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			616			
pX, platoon unblocked	0.96	0.96			0.96	
vC, conflicting volume	892	480			500	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	865	435			455	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	48	82			98	
cM capacity (veh/h)	303	595			1058	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	261	500	386
Volume Left	157	0	26
Volume Right	104	39	0
cSH	377	1700	1058
Volume to Capacity	0.69	0.29	0.02
Queue Length 95th (ft)	126	0	2
Control Delay (s)	33.5	0.0	0.8
Lane LOS	D		A
Approach Delay (s)	33.5	0.0	0.8
Approach LOS	D		

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	39	163	10	157	10	651	10	10	10	10	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Lane Util. Factor	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		1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1863	1583		1843		1770	1723			1817	1583
Flt Permitted	0.59	1.00	1.00		0.98		0.74	1.00			0.94	1.00
Satd. Flow (perm)	1098	1863	1583		1819		1384	1723			1744	1583
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)	52	42	177	11	171	11	708	11	11	11	11	208
RTOR Reduction (vph)	0	0	141	0	4	0	0	4	0	0	0	78
Lane Group Flow (vph)	52	42	36	0	189	0	708	18	0	0	22	130
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		4
Actuated Green, G (s)	10.8	10.8	10.8		10.8		32.8	32.8			32.8	32.8
Effective Green, g (s)	10.8	10.8	10.8		10.8		32.8	32.8			32.8	32.8
Actuated g/C Ratio	0.21	0.21	0.21		0.21		0.62	0.62			0.62	0.62
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	225	382	325		373		863	1074			1087	987
v/s Ratio Prot		0.02						0.01				
v/s Ratio Perm	0.05		0.02		c0.10		c0.51				0.01	0.08
v/c Ratio	0.23	0.11	0.11		0.51		0.82	0.02			0.02	0.13
Uniform Delay, d1	17.4	17.0	17.0		18.5		7.6	3.8			3.8	4.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.1	0.2		1.1		6.3	0.0			0.0	0.1
Delay (s)	18.0	17.1	17.2		19.6		13.9	3.8			3.8	4.1
Level of Service	B	B	B		B		B	A			A	A
Approach Delay (s)		17.3			19.6			13.6			4.1	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	10	452	43	10	113	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	491	47	11	123	12

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	11	491	58	123	12
Volume Left (vph)	11	0	0	123	0
Volume Right (vph)	0	491	11	0	0
Hadj (s)	0.53	-0.67	-0.08	0.53	0.03
Departure Headway (s)	5.6	4.4	5.6	6.3	5.8
Degree Utilization, x	0.02	0.60	0.09	0.21	0.02
Capacity (veh/h)	625	797	581	532	573
Control Delay (s)	7.5	12.7	9.2	9.8	7.7
Approach Delay (s)	12.6		9.2	9.6	
Approach LOS	B		A	A	

Intersection Summary			
Delay	11.7		
Level of Service	B		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX F

MITIGATED SYNCHRO WORKSHEETS

- 2015 Plus Phase 1 - Synchro Analysis
- 2015 Plus Phases 1-3 - Synchro Analysis

- 2015 Plus Phase 1 - Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	490	21	20	132	105	43	122	63	318	50	19
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	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.93		1.00	0.95		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)	1770	3517		1770	3304		1770	3360		1770	3391	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3517		1770	3304		1770	3360		1770	3391	
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)	90	533	23	22	143	114	47	133	68	346	54	21
RTOR Reduction (vph)	0	2	0	0	74	0	0	52	0	0	14	0
Lane Group Flow (vph)	90	554	0	22	183	0	47	149	0	346	61	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.6	41.2		3.6	36.2		5.7	14.2		25.3	33.8	
Effective Green, g (s)	8.6	41.2		3.6	36.2		5.7	14.2		25.3	33.8	
Actuated g/C Ratio	0.08	0.40		0.03	0.35		0.06	0.14		0.24	0.33	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.2		2.0	5.4		2.0	2.5		2.0	5.9	
Lane Grp Cap (vph)	147	1401		61	1156		97	461		433	1108	
v/s Ratio Prot	c0.05	c0.16		0.01	0.06		0.03	c0.04		c0.20	0.02	
v/s Ratio Perm												
v/c Ratio	0.61	0.40		0.36	0.16		0.48	0.32		0.80	0.05	
Uniform Delay, d1	45.8	22.2		48.8	23.1		47.4	40.3		36.7	23.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.2	0.8		1.3	0.3		1.4	0.3		9.3	0.1	
Delay (s)	51.0	23.0		50.1	23.4		48.8	40.6		46.0	23.9	
Level of Service	D	C		D	C		D	D		D	C	
Approach Delay (s)		26.9			25.5			42.1			42.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	103.4	Sum of lost time (s)	19.1
Intersection Capacity Utilization	64.4%	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												
Volume (vph)	58	123	8	69	487	339	69	193	15	81	27	57
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	4.9		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.94		1.00	0.99		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3506		1770	3321		1770	3502		1770	3178	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3506		1770	3321		1770	3502		1770	3178	
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)	63	134	9	75	529	368	75	210	16	88	29	62
RTOR Reduction (vph)	0	4	0	0	91	0	0	5	0	0	50	0
Lane Group Flow (vph)	63	139	0	75	806	0	75	221	0	88	41	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.8	34.8		8.0	35.0		5.1	14.4		7.3	16.6	
Effective Green, g (s)	7.8	34.8		8.0	35.0		5.1	14.4		7.3	16.6	
Actuated g/C Ratio	0.09	0.42		0.10	0.42		0.06	0.17		0.09	0.20	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.2		2.0	5.4		2.0	2.5		2.0	5.9	
Lane Grp Cap (vph)	165	1459		169	1390		107	603		154	631	
v/s Ratio Prot	0.04	0.04		c0.04	c0.24		0.04	c0.06		c0.05	0.01	
v/s Ratio Perm												
v/c Ratio	0.38	0.10		0.44	0.58		0.70	0.37		0.57	0.07	
Uniform Delay, d1	35.6	14.8		35.7	18.7		38.5	30.6		36.6	27.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.7	1.8		15.6	0.3		3.2	0.1	
Delay (s)	36.2	15.0		36.4	20.4		54.1	30.8		39.8	27.3	
Level of Service	D	B		D	C		D	C		D	C	
Approach Delay (s)		21.4			21.7			36.6			33.5	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	83.6	Sum of lost time (s)	19.1
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

- 2015 Plus Phases 1-3 - Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	1365	21	48	351	135	43	122	172	436	50	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9	4.9	4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3531		1770	3539	1583	1770	3539	1583	3433	3391	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3531		1770	3539	1583	1770	3539	1583	3433	3391	
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)	90	1484	23	52	382	147	47	133	187	474	54	21
RTOR Reduction (vph)	0	0	0	0	0	75	0	0	165	0	18	0
Lane Group Flow (vph)	90	1507	0	52	382	72	47	133	22	474	57	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	11.4	60.6		8.3	57.5	57.5	12.4	13.9	13.9	15.7	17.2	
Effective Green, g (s)	11.4	60.6		8.3	57.5	57.5	12.4	13.9	13.9	15.7	17.2	
Actuated g/C Ratio	0.10	0.52		0.07	0.49	0.49	0.11	0.12	0.12	0.13	0.15	
Clearance Time (s)	4.4	4.9		4.4	4.9	4.9	4.4	4.9	4.9	4.4	4.9	
Vehicle Extension (s)	2.0	6.2		2.0	5.4	5.4	2.0	2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)	172	1827		125	1737	777	187	420	187	460	498	
v/s Ratio Prot	c0.05	c0.43		0.03	0.11		0.03	c0.04		c0.14	0.02	
v/s Ratio Perm						0.05			0.01			
v/c Ratio	0.52	0.82		0.42	0.22	0.09	0.25	0.32	0.12	1.03	0.11	
Uniform Delay, d1	50.3	23.8		52.1	17.0	15.9	48.1	47.3	46.1	50.7	43.3	
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	1.3	4.4		0.8	0.3	0.2	0.3	0.3	0.2	50.0	0.1	
Delay (s)	51.6	28.2		52.9	17.3	16.1	48.3	47.6	46.3	100.7	43.4	
Level of Service	D	C		D	B	B	D	D	D	F	D	
Approach Delay (s)		29.5			20.2			47.0			92.9	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	117.1	Sum of lost time (s)	18.6
Intersection Capacity Utilization	83.0%	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)	41	1461	22	14	390	6	8	10	15	25	11	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			0.95	
Frt	1.00	1.00		1.00	1.00			0.94			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	3531		1770	3531			1729			3339	
Flt Permitted	0.95	1.00		0.95	1.00			0.90			0.81	
Satd. Flow (perm)	1770	3531		1770	3531			1582			2778	
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)	45	1588	24	15	424	7	9	11	16	27	12	10
RTOR Reduction (vph)	0	1	0	0	1	0	0	14	0	0	9	0
Lane Group Flow (vph)	45	1611	0	15	430	0	0	22	0	0	40	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	7.0	46.7		0.6	40.3			6.4			6.4	
Effective Green, g (s)	7.0	46.7		0.6	40.3			6.4			6.4	
Actuated g/C Ratio	0.10	0.69		0.01	0.60			0.10			0.10	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	184	2453		15	2117			150			264	
v/s Ratio Prot	c0.03	c0.46		0.01	0.12							
v/s Ratio Perm								0.01			c0.01	
v/c Ratio	0.24	0.66		1.00	0.20			0.14			0.15	
Uniform Delay, d1	27.7	5.8		33.3	6.1			27.9			27.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.1	1.4		232.4	0.0			0.4			0.3	
Delay (s)	30.8	7.1		265.7	6.2			28.3			28.2	
Level of Service	C	A		F	A			C			C	
Approach Delay (s)		7.8			14.9			28.3			28.2	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	67.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	318	0	0	435	116	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	346	0	0	473	126	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1318		
pX, platoon unblocked	0.89					
vC, conflicting volume	599	126	126			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	485	126	126			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	28	100	100			
cM capacity (veh/h)	480	924	1460			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	346	0	473	126
Volume Left	346	0	0	0
Volume Right	0	0	0	0
cSH	480	1700	1700	1700
Volume to Capacity	0.72	0.99	0.28	0.07
Queue Length 95th (ft)	144	0	0	0
Control Delay (s)	29.5	0.0	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	29.5		0.0	0.0
Approach LOS	D			

Intersection Summary			
Average Delay	10.8		
Intersection Capacity Utilization	47.2%	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)	58	342	8	178	1362	457	69	193	43	111	27	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.4	4.9	4.9	4.4	4.9	4.9	4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3527		1770	3539	1583	1770	3539	1583	3433	3178	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3527		1770	3539	1583	1770	3539	1583	3433	3178	
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)	63	372	9	193	1480	497	75	210	47	121	29	62
RTOR Reduction (vph)	0	1	0	0	0	113	0	0	41	0	55	0
Lane Group Flow (vph)	63	380	0	193	1480	384	75	210	6	121	36	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	8.4	54.2		16.1	61.4	61.4	7.0	14.0	14.0	5.9	12.9	
Effective Green, g (s)	8.4	54.2		16.1	61.4	61.4	7.0	14.0	14.0	5.9	12.9	
Actuated g/C Ratio	0.08	0.50		0.15	0.56	0.56	0.06	0.13	0.13	0.05	0.12	
Clearance Time (s)	4.9	4.9		4.4	4.9	4.9	4.4	4.9	4.9	4.4	4.9	
Vehicle Extension (s)	2.0	6.2		2.0	5.4	5.4	2.0	2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)	136	1757		261	1997	893	113	455	203	186	376	
v/s Ratio Prot	0.04	0.11		c0.11	c0.42		c0.04	c0.06		c0.04	0.01	
v/s Ratio Perm						0.24			0.00			
v/c Ratio	0.46	0.22		0.74	0.74	0.43	0.66	0.46	0.03	0.65	0.10	
Uniform Delay, d1	48.0	15.4		44.3	17.7	13.6	49.7	43.9	41.5	50.4	42.8	
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	0.9	0.3		9.1	2.5	1.5	10.8	0.5	0.0	6.1	0.1	
Delay (s)	49.0	15.6		53.4	20.3	15.1	60.5	44.4	41.5	56.5	42.8	
Level of Service	D	B		D	C	B	E	D	D	E	D	
Approach Delay (s)		20.4			22.0			47.7			50.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	108.8	Sum of lost time (s)	19.1
Intersection Capacity Utilization	74.1%	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												
Volume (vph)	45	406	24	14	1450	29	22	28	36	7	17	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			0.95	
Frt	1.00	0.99		1.00	1.00			0.94			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3510		1770	3529			1735			3269	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.91	
Satd. Flow (perm)	1770	3510		1770	3529			1602			3003	
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)	49	441	26	15	1576	32	24	30	39	8	18	22
RTOR Reduction (vph)	0	3	0	0	1	0	0	33	0	0	19	0
Lane Group Flow (vph)	49	464	0	15	1607	0	0	60	0	0	29	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	2.3	43.9		0.6	42.2			10.3			10.3	
Effective Green, g (s)	2.3	43.9		0.6	42.2			10.3			10.3	
Actuated g/C Ratio	0.03	0.64		0.01	0.62			0.15			0.15	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	59	2256		15	2180			241			452	
v/s Ratio Prot	c0.03	0.13		0.01	c0.46							
v/s Ratio Perm								c0.04			0.01	
v/c Ratio	0.83	0.21		1.00	0.74			0.25			0.06	
Uniform Delay, d1	32.8	5.0		33.9	9.2			25.6			24.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	60.6	0.0		232.4	1.3			0.5			0.1	
Delay (s)	93.4	5.1		266.2	10.5			26.1			24.9	
Level of Service	F	A		F	B			C			C	
Approach Delay (s)		13.5			12.9			26.1			24.9	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	68.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	41	0	0	952	42	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	0	0	1035	46	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1318		
pX, platoon unblocked	0.74					
vC, conflicting volume	1080	46	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	931	46	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	100	100			
cM capacity (veh/h)	218	1024	1562			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	45	0	1035	46
Volume Left	45	0	0	0
Volume Right	0	0	0	0
cSH	218	1700	1700	1700
Volume to Capacity	0.20	0.23	0.61	0.03
Queue Length 95th (ft)	19	0	0	0
Control Delay (s)	25.7	0.0	0.0	0.0
Lane LOS	D	A		
Approach Delay (s)	25.7		0.0	0.0
Approach LOS	D			

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		