Transportation Impact Analysis

Dublin Boulevard – North Canyons Parkway Extension

Dublin, California

Final

August 2018

Transportation Impact Analysis

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Dublin, California

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Project No. 20342

August 2018

TABLE OF CONTENTS

Introduction 1

Purpose of Report 1

Project Description 1

Report Organization 1

Data Collection and Analysis Methodology 2

Study Area 2

Data Collection 5

Analysis Methodology and Level of Service Definitions 5

Existing Conditions 7

Roadway System 7

Bicycle Facilities 9

Pedestrian Facilities 9

Transit Services 9

Traffic Operations 10

Traffic Forecasts 14

Model Background 14

Model Validation 16

Forecast Development 16

Four Lanes Versus Six Lanes 17

Dedicated transit lane 18

Transportation Impact Analysis 19

Significance Criteria 19

Existing Plus Project Conditions 22

2025 Near-Term Conditions 33

2040 Design Year 45

Multimodal Analysis 57

Pedestrian Facilities 57

Bicycle Facilities 57

Transit Services 58

Transportation Operations Summary 60

LIST OF EXHIBITS

Exhibit 1: Site Vicinity Map 3
Exhibit 2: Existing Traffic Volumes and Lane Configurations 4
Exhibit 3: Level of Service Definition for Intersections 6
Exhibit 4: Existing Condition Intersection Level of Service 11
Exhibit 5: 95th Percentile Queue Length in Feet for Existing AM Conditions 12
Exhibit 6: 95th Percentile Queue Length in Feet for Existing PM Conditions 13
Exhibit 7: Aggregate Model Validation 16
Exhibit 8: Four-Lane Versus Six-Lane Demand for the Project 17
Exhibit 9: Existing Plus Project Traffic Volumes and Lane Configurations 23
Exhibit 10: Existing AM Peak Hour Intersection Operation Findings 27
Exhibit 11: Existing PM Peak Hour Intersection Operation Findings 28
Exhibit 12: Existing 95th Percentile Queue Lengths in Feet during the AM Peak Hour 29
Exhibit 13: Existing 95th Percentile Queue Lengths in Feet during the PM Peak Hour 31
Exhibit 14: 2025 Near-Term No Project Traffic Volumes and Lane Configurations 34
Exhibit 15: 2025 Near-Term Plus Project Traffic Volumes and Lane Configurations 35
Exhibit 16: 2025 Near-Term AM Peak Hour Intersection Operation Findings 39
Exhibit 17: 2025 Near-Term PM Peak Hour Intersection Operation Findings 40
Exhibit 18: 2025 Near-Term 95th Percentile Queue Lengths in Feet during the AM Peak Hour 41
Exhibit 19: 2025 Near-Term 95th Percentile Queue Lengths in Feet during the PM Peak Hour 43
Exhibit 20: 2040 Cumulative No Project Traffic Volumes and Lane Configurations 46
Exhibit 21: 2040 Cumulative Plus Project Traffic Volumes and Lane Configurations 47
Exhibit 22: 2040 Cumulative AM Peak Hour Intersection Operation Findings 51
Exhibit 23: 2040 Cumulative PM Peak Hour Intersection Operation Findings 52
Exhibit 24: 2040 Cumulative 95th Percentile Queue Lengths in Feet during the AM Peak Hour 53
Exhibit 25: 2040 Cumulative 95th Percentile Queue Lengths in Feet during the PM Peak Hour 55
Exhibit 26: Four-Lane Versus Six-Lane Transit Travel Speeds for the Project 58

APPENDICES

Appendix 1	Traffic Count Data
Appendix 2	Existing Level of Service Worksheets
Appendix 3	Existing 95th Percentile Queue Length
Appendix 4	2025 Near-Term Level of Service Worksheets
Appendix 5	2025 Near-Term 95th Percentile Queue Lengths
Appendix 6	2040 Cumulative Level of Service Worksheets
Appendix 7	2040 Cumulative 95th Percentile Queue Lengths
Appendix 8	Existing LOS Worksheets (Mitigated)
Appendix 9	Existing Queue Worksheets (Mitigated)
Appendix 10	2025 Near-Term LOS Worksheets (Mitigated)
Appendix 11	2025 Near-Term Queue Worksheets (Mitigated)
Appendix 12	2040 Cumulative LOS Worksheets (Mitigated)
Appendix 13	2040 Cumulative Queue Worksheets (Mitigated)
Appendix 14	Model Validation/Land Use
Appendix 15	Model Forecasts

INTRODUCTION

PURPOSE OF REPORT

This study identifies the transportation impacts for the construction of the Dublin Boulevard-North Canyons Parkway Extension between Fallon Road in Dublin and Doolan Road in Livermore.

PROJECT DESCRIPTION

The City of Dublin, in coordination with the City of Livermore and County of Alameda, is seeking to obtain a Preliminary Engineering Study (Study) for the extension of Dublin Boulevard-North Canyons Parkway between Fallon Road in Dublin and Doolan Road in Livermore. The purpose of the study is to determine the needed number of lanes and surrounding roadway connectivity at the full build-out of the region, produce the roadway's Precise Alignment with street cross-sections, generate a right-of-way base map, conduct an appropriate level environmental review, provide planning level cost estimates, and produce a final package that could be used by staff for processing of a Precise Alignment Ordinance and to update General Plans of respective jurisdictions as per the new alignment and number of lanes.

REPORT ORGANIZATION

To address the transportation impacts of the proposed project, the report is organized based on the following sections:

- **Data Collection and Analysis Methodology** – Details the sources of the data used to perform the operations analysis and provides an overview of the analysis methodology used.
- **Existing Conditions** – Documents the existing transportation infrastructure for vehicles, pedestrians, bicyclists, and transit passengers. It also details the existing traffic operations at the study intersections.
- **Traffic Forecasts** – Provides a discussion on how traffic demand was estimated for the existing, near-term and 2040 conditions with and without the project
- **Transportation Impact Analysis** – Documents the project's impacts on traffic operations at the study locations in 2025 and 2040.
- **Multimodal Analysis** – Documents the project's impacts on pedestrians, bicyclists, and transit passengers qualitatively.
- **Transportation Operations Summary** – summarizes the findings of the report.

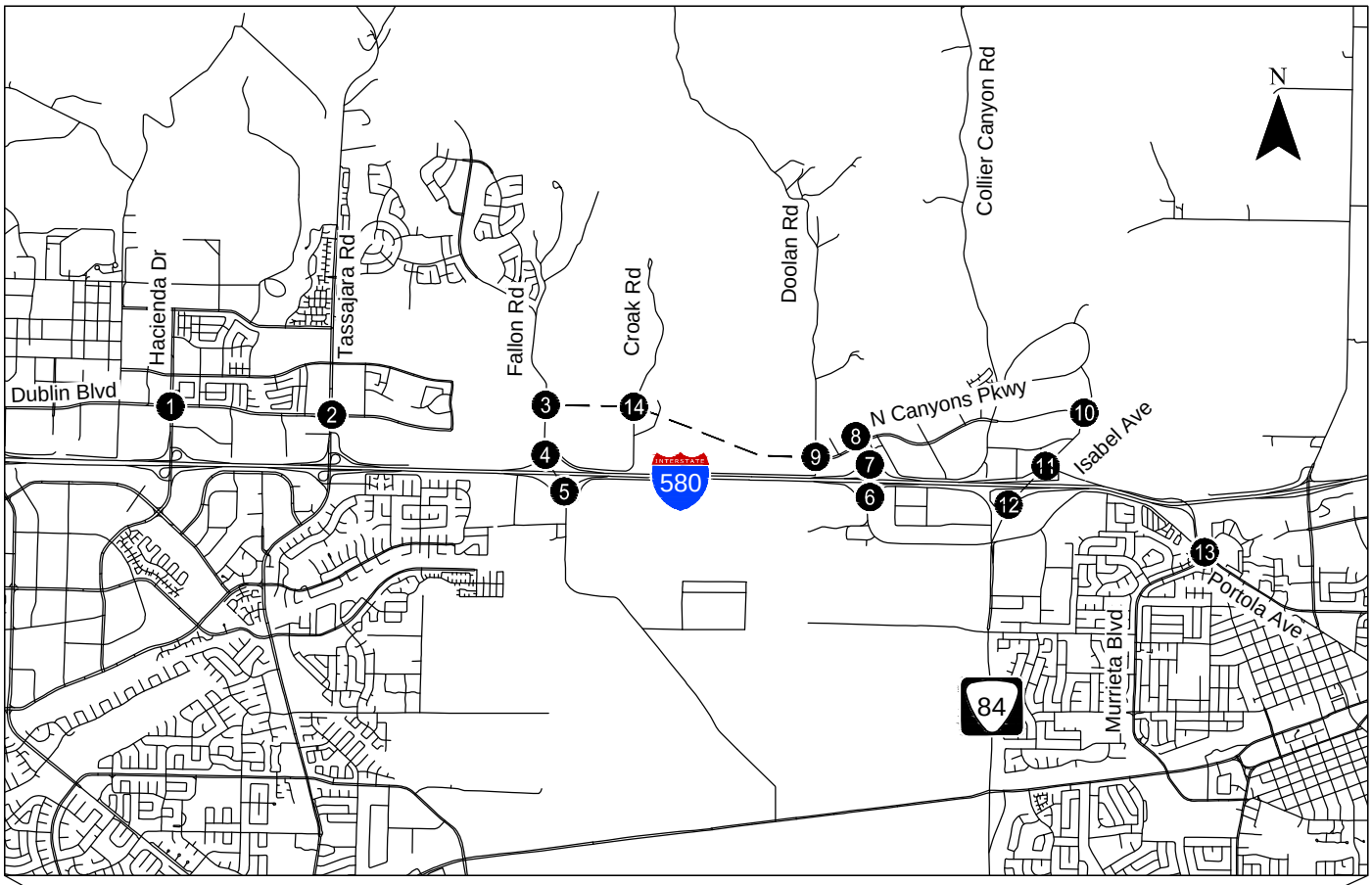
DATA COLLECTION AND ANALYSIS METHODOLOGY

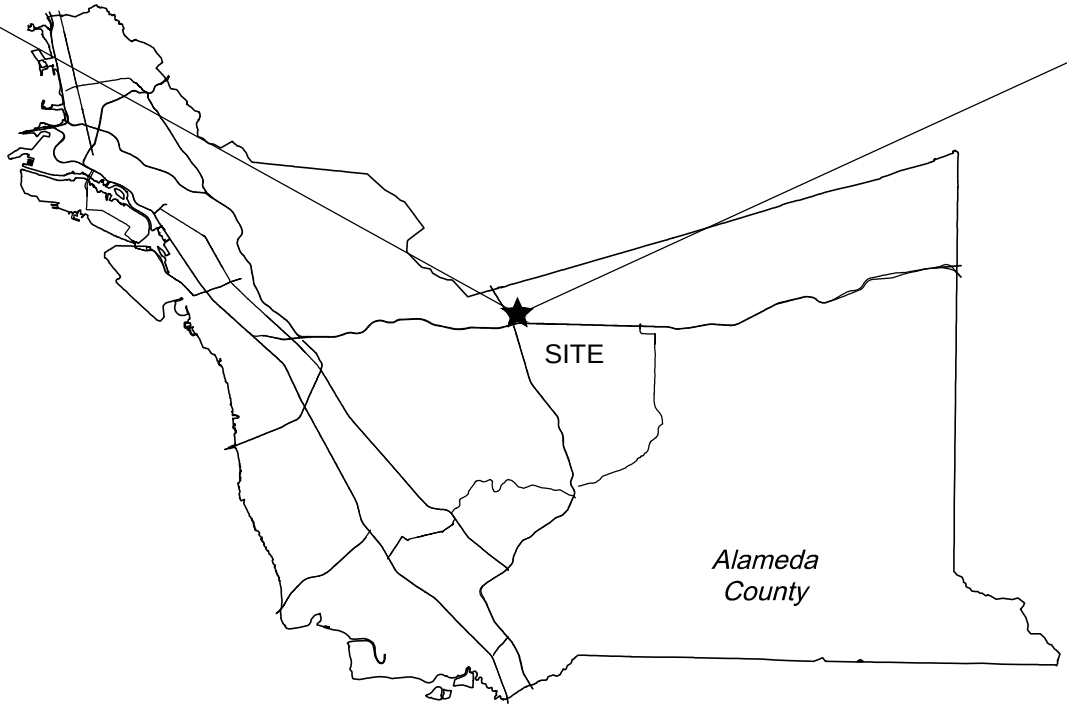
STUDY AREA

The study area for this project was determined in consultation with the City of Dublin, City of Livermore and Alameda County and includes analysis at 13 intersections that exist today and one intersection that would exist once the project is implemented. The study does not include any freeway analyses since the project is a transportation improvement for arterial streets to accommodate planned land uses in the area rather than a change in land uses which may attract new trips. Similarly, this study does not include the analysis of any CMP facilities since the project would not generate more than 100 PM new peak hour trips. The fourteen intersections selected for the study area and the City in which they reside are listed below. Intersections noted with an asterisk (*) are within the Caltrans right-of-way.

1. Hacienda Drive and Dublin Boulevard (Dublin, CA)
2. Tassajara Road & Dublin Boulevard (Dublin, CA)
3. Fallon Road & Dublin Boulevard (Dublin, CA)
4. Fallon Road and I-580 WB Ramps* (Dublin, CA)
5. El Charro Road & I-580 EB Ramps* (Pleasanton, CA)
6. Airway Boulevard & I-580 EB Ramps* (Livermore, CA)
7. Airway Boulevard and I-580 WB Ramps* (Livermore, CA)
8. Airway Boulevard & N. Canyons Parkway (Livermore, CA)
9. Doolan Road & N. Canyons Parkway (Livermore, CA)
10. Isabel Avenue & Portola Avenue (Livermore, CA)
11. Isabel Avenue & I-580 WB Ramps* (Livermore, CA)
12. Isabel Avenue & I-580 EB Ramps* (Livermore, CA)
13. Murrieta Boulevard & Portola Avenue (Livermore, CA)
14. Croak Road & Dublin Boulevard Extension (Future) (Dublin, CA)

Exhibit 1 provides the location of these study intersections while Exhibit 2 shows the existing lane configurations and volumes.





- Study Intersections
- Proposed Project

Site Vicinity Map
Livermore, California

Exhibit
1

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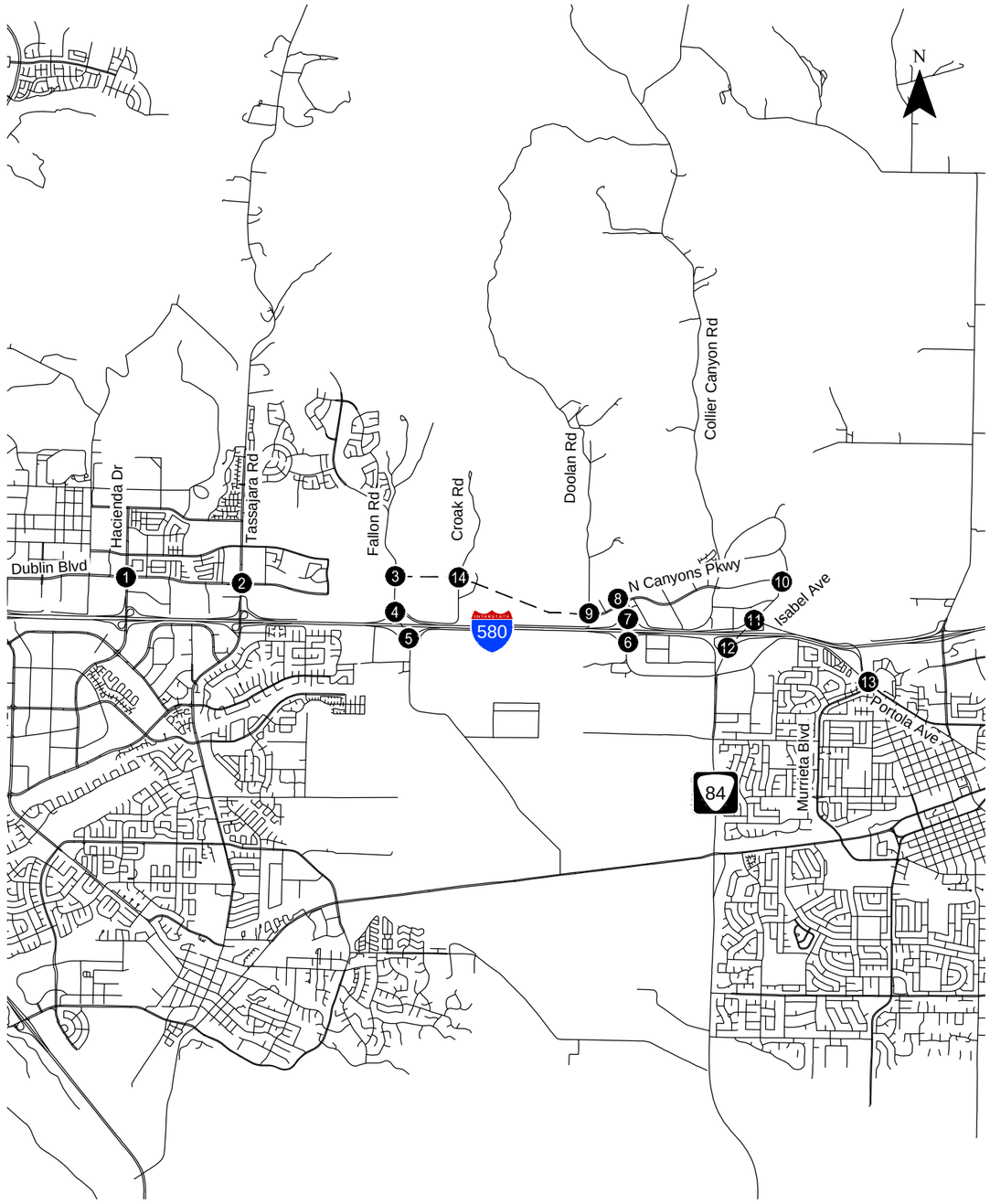
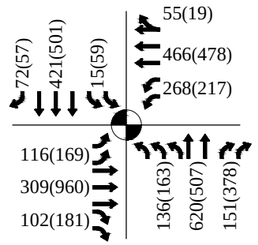
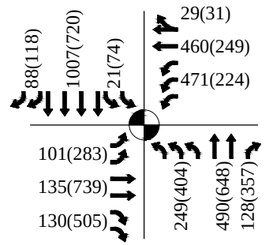


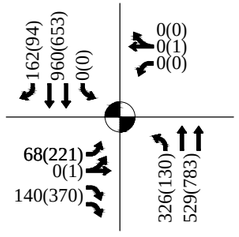
1 Hacienda Dr / Dublin Blvd



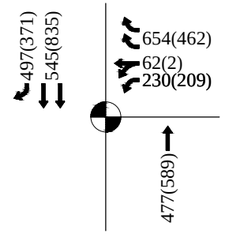
2 Tassajarra Rd / Dublin Blvd



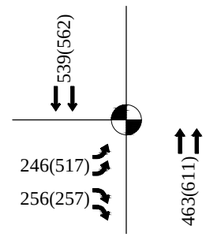
3 Fallon Rd / Dublin Blvd



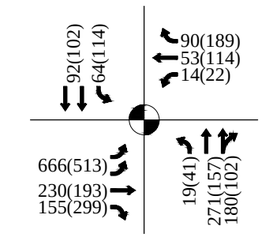
4 Fallon Rd / I-580 WB Ramps



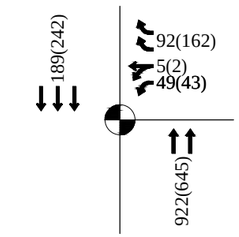
5 El Charro Rd / I-580 EB Ramps



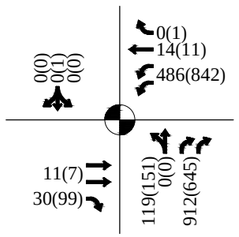
6 Airway Blvd / I-580 EB Ramps



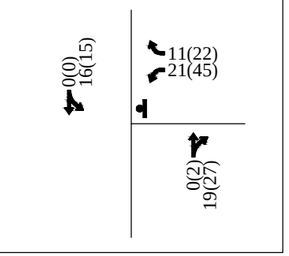
7 Airway Blvd / I-580 WB Ramps



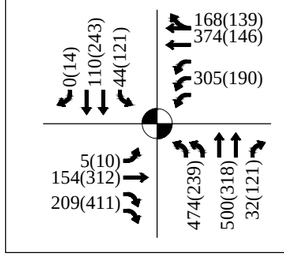
8 Airway Blvd / N Canyons Pkwy



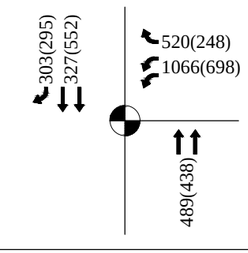
9 Doolan Rd / N Canyons Pkwy



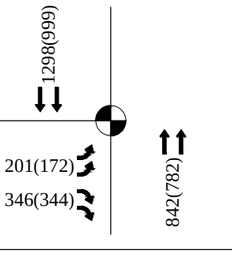
10 Isabel Ave / Portola Ave



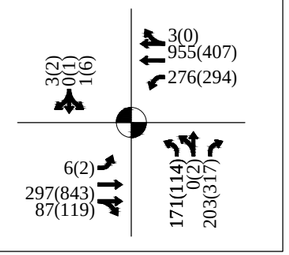
11 Isabel Ave / I-580 WB Ramps



12 Isabel Ave / I-580 EB Ramps



13 Murrieta Blvd / Portola Ave



14 Croak Rd / Dublin Blvd

PROPOSED INTERSECTION

AM(PM) - Traffic Volume

- Traffic Signal

- - - Proposed Project

Existing Volumes & Lane Configurations
Livermore, California

Exhibit 2

KITTELSON & ASSOCIATES

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DATA COLLECTION

Intersection turn movement counts for the study intersections were collected for a typical weekday during the AM (7:00 – 9:00 AM) and PM (4:00 – 6:00 PM) peak periods. The two dates used to collect data included Thursday, January 26, 2017 and Tuesday, February 14, 2017. The collected data is attached to this report as Appendix 1.

ANALYSIS METHODOLOGY AND LEVEL OF SERVICE DEFINITIONS

"Level of service" describes the operating conditions experienced by users of a facility. Level of service is a qualitative measure of the effect of many factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort and convenience. Levels of service are designated A through F from best to worst, which cover the entire range of traffic operations that might occur. Level of Service (LOS) A through E generally represents traffic volumes at less than roadway capacity, while LOS F represents over capacity and/or forced flow conditions.

Intersection analyses were conducted using the operational methodology outlined in the 2000 Highway Capacity Manual (HCM) (Transportation Research Board, Washington, D.C., 2000) as implemented by the Synchro software analysis tool. The following are the HCM methodologies for signalized and unsignalized intersections, respectively.

Signalized intersection. The HCM procedure calculates a weighted average control delay in seconds per vehicle at a signalized intersection and assigns a level of service designation based upon the delay.

Unsignalized intersection. The HCM methodology calculates a weighted average control delay in seconds per vehicle for each controlled intersection leg and for the intersection. A level of service designation for all-way stop-controlled intersections is based upon the weighted average control delay for all intersection legs, like the level of service designation for signalized intersections. For two-way stop-controlled intersections, the LOS for the worst approach is used as the LOS performance measure. Exhibit 3 presents the relationship of average delay to level of service for both signalized and unsignalized intersections.

Exhibit 3: Level of Service Definition for Intersections

Signalized Intersection			Unsignalized Intersection
Average Delay Per Vehicle (Seconds)	**LOS**	**Description of Traffic Conditions**	**Average Delay Per Vehicle (Seconds)**
≤10.0	A	Free flowing. Most vehicles do not have to stop.	≤10.0
>10.0 and ≤20.0	B	Minimal delays. Some vehicles must stop, although waits are not bothersome.	>10.0 and ≤15.0
>20.0 and ≤35.0	C	Acceptable delays. Significant numbers of vehicles must stop because of steady, high traffic volumes. Still, many pass without stopping.	>15.0 and ≤25.0
>35.0 and ≤55.0	D	Tolerable delays. Many vehicles must stop. Drivers are aware of heavier traffic. Cars may have to wait through more than one red light. Queues begin to form, often on more than one approach.	>25.0 and ≤35.0
>55.0 and ≤80.0	E	Significant delays. Cars may have to wait through more than one red light. Long queues form, sometimes on several approaches.	>35.0 and ≤50.0
>80.0	F	Excessive delays. Intersection is jammed. Many cars must wait through more than one red light, or more than 60 seconds. Traffic may back up into “up-stream” intersections.	>50.0

Source: HCM 2000

The City of Pleasanton and the City of Dublin general plans establish LOS D (delay <=55 seconds) as the LOS standard the cities endeavor to maintain. The City of Livermore has established a mid-level D (delay <= 45 seconds) threshold except in the Downtown Area or near freeway interchanges where the standard is LOS E (delay <=80 seconds).

EXISTING CONDITIONS

ROADWAY SYSTEM

The project area is located north of Interstate 580 (I-580) between Fallon Road and Airway Boulevard. The project would connect to the intersection of Dublin Boulevard and Fallon Road to the west and N. Canyons Parkway and Doolan Road to the east. Other roadway facilities of note in the area include:

I-580 is part of the interstate freeway system and extends in an east/west direction from San Rafael in the west to Tracy in the east. In Dublin, I-580 forms the southern city boundary with four to five lanes in each direction. Express Lanes are available in the project vicinity Monday through Friday 5:00 AM to 8:00 PM in both the eastbound and westbound directions. There are two eastbound express lanes and one westbound express lane between the I-580/I-680 interchange and Greenville Road. Carpools of two or more can use the lanes for free while solo-drivers are able to use them by paying a toll. All drivers, even carpools, motorcycles, and clean-air vehicles, must use a FasTrak Flex toll tag. I-580 is most directly accessible to the project via the Fallon Road and Airway Boulevard interchanges.

I-680 is a north/south designated scenic highway that is part of the interstate freeway system connecting San José to I-80 near Fairfield. This facility traverses the City of Dublin with an interchange at I-580 in western Dublin, as well as on- and off-ramps near Dublin Boulevard. South of I-580 it is a six-lane freeway, and north of I-580 it generally provides eight lanes, including Express Lanes which were completed in Fall 2017 (prior to Express Lane completion the lanes operated as carpool lanes), which adhere to the same hours and rules as those on I-580. The northbound express lane begins at Alcosta Boulevard and ends at Livorna Road near the SR-24 interchange. The southbound lane begins at Rudgear Road and ends at Alcosta Boulevard.

Dublin Boulevard is an east-west arterial roadway that extends from west of San Ramon Road to its current terminus at Fallon Road. The *City of Dublin General Plan* identifies the proposed project by extending Dublin Boulevard to North Canyons Parkway in Livermore. It is generally a four to six lane facility with a landscaped median. The posted speed limit near the project area is 45 mph. No on-street parking is permitted on this facility. Shared bicycle facilities (bike route), bicycle lanes and sidewalks are provided on portions of Dublin Boulevard.

Fallon Road/El Charro Road is a north-south arterial roadway that connects I-580 to Tassajara Road. It currently provides two travel lanes in each direction between I-580 and Central Parkway; this segment is ultimately planned to provide three and four lanes in each direction north and south of Dublin Boulevard, respectively. The posted speed limit near the project area is 45 mph. This roadway is being upgraded as development occurs on parcels fronting the roadway to enhance sidewalks and bicycle facilities along its length.

North Canyons Parkway is an east-west major street north of I-580. This arterial is primarily a four-lane divided roadway with left-turn pockets where applicable. The posted speed limit near the project area is

45 mph. The street currently terminates at Doolan Road to the west and becomes Portola Avenue to the east at Collier Canyon Road.

Portola Avenue is a major east-west street, located in northern Livermore that operates north of downtown. South of I-580, this arterial is primarily a four-lane divided roadway with left-turn pockets where applicable; north of I-580, this arterial varies from two lanes to six lanes. The roadway connects several neighborhoods and businesses and provides direct connection to other major arterials throughout northern Livermore. Portola Avenue previously terminated at ramps to/from I-580; in 2012, as the final component of the SR 84 (Isabel Avenue)/I-580 Interchange project, Portola Avenue was extended over I-580 to connect with North Canyons Parkway, near Las Positas College. The speed limit is 35 mph along the roadway.

Isabel Avenue is a north-south major street, a portion of which is also designated as State Route 84. Isabel Avenue typically carries heavy commuter traffic along western Livermore. The arterial traverses the entire length of the City of Livermore, provides direct access to I-580, and connects several neighborhoods and commercial areas in western Livermore. Isabel Avenue provides two travel lanes in each direction near I-580, three travel lanes in each direction between Airway Boulevard and Stanley Boulevard and reduces to one travel lane in each direction south of Stanley Boulevard, with left-turn pockets at key locations. However, at major intersection locations, the roadway is two lanes with a painted median. The State Route 84 Expressway Widening project, currently under construction and due for completion in 2018, will upgrade Isabel Avenue to expressway standards. The speed limit is primarily 50 mph along the entire roadway. Isabel Avenue would provide access to the proposed Isabel BART Station (Isabel Station) facilities north and south of I-580.

Murrieta Boulevard a north-south major street located in western Livermore. The arterial includes two lanes in each direction, with a raised median and left-turn pockets at most intersections. The street connects to Portola Avenue in the north and Fourth Street in the south. The speed limit is 35 mph along the entire roadway.

Airway Boulevard is a major street located in western Livermore that connects Isabel Avenue and E. Airway Boulevard to North Canyons Parkway through the I-580 interchange. Between Isabel Avenue and the I-580 Eastbound Ramps, Airway Boulevard is one lane in each direction with a two-lane center left turn lane. Through the I-580 Interchange to North Canyons Parkway, this roadway widens to three lanes in each direction. Bicycle lanes are provided south of the I-580 interchange to Isabel Boulevard. No bicycle facilities are provided through the I-580 interchange. Pedestrian facilities are sporadic along the facility mainly in areas with new development. Across the interchange, sidewalks are provided only on the east side.

Tassajara Road is a north-south arterial roadway that extends north from I-580 into San Ramon. South of I-580, Tassajara Road continues as ***Santa Rita Road***, a four- to six-lane arterial in Pleasanton that connects I-580 with Downtown Pleasanton. Tassajara Road is a four to six lane facility through Dublin with added capacity at intersections. Bicycle lanes are provided from Dublin Boulevard to north of N. Dublin Ranch Drive, where the roadway transitions to provide two travel lanes. Sidewalks are provided

adjacent to the developed areas along Tassajara Road. On-street parking is not permitted. Both Tassajara Road and Santa Rita Road are routes of regional significance.

BICYCLE FACILITIES

Bicycle facilities in Dublin include the following general types:

- Class I: Shared Use Path - These facilities provide a separate right-of-way and are designated for the exclusive use of bicycles and pedestrians with vehicle cross-flow minimized.
- Class II: Bicycle Lane - Bicycle lanes provide a restricted right-of-way and are designated for the use of bicycles for one-way travel with a striped lane on a street or highway. Bicycle lanes are generally a minimum of five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.
- Class III: Bicycle Route with Sharrows - These bikeways provide right-of-way designated by signs or pavement markings for shared use with motor vehicles. These include sharrows or "shared-lane markings" to highlight the presence of bicyclists.

Near the project, bicycle facilities are generally not designated (signage and striping) on Fallon Road, Dublin Boulevard, or N. Canyons Parkway/Portola Avenue.

PEDESTRIAN FACILITIES

Pedestrian facilities include sidewalks, pathways, crosswalks, and pedestrian signals. Sidewalks are provided along most roadways in Dublin where land uses have been developed adjacent to the roadway. Since land use is not yet developed on many parcels near the Project, there are few sidewalks in the vicinity.

TRANSIT SERVICES

Transit service in the area is provided by Wheels (LAVTA), The County Connection, Bay Area Rapid Transit (BART), and Altamont Commuter Express (ACE).

Wheels (LAVTA) provides fixed-route and paratransit service throughout the Cities of Dublin, Pleasanton, and Livermore, and provides connections to other transit service providers. Wheels buses connect major destinations within the Cities of Dublin, Pleasanton and Livermore, including Downtown areas, employment centers and transit hubs, including BART and ACE stations. Wheels bus schedules are also coordinated with ACE and BART trains during peak commute hours. The Wheels Rapid system has one route (30R) that currently runs on I-580 between Airway Boulevard and Fallon Road. Upon construction of the proposed Project, this route is planned to be moved to the new Dublin Boulevard-North Canyons Parkway extension.

The County Connection provides transit service connecting destinations in Contra Costa County to the Tri-Valley area, including service from the Dublin/Pleasanton BART station to the San Ramon Transit Center and Bishop Ranch Business Park. There is also a route that connects the Walnut Creek BART station to the Downtown Pleasanton ACE station.

Bay Area Rapid Transit (BART) provides regional transportation connections to much of the Bay Area and the Dublin/Pleasanton line provides direct access to San Francisco, with several stops in Oakland where connections may be made to other lines. The closest BART station is the Dublin/Pleasanton Station located approximately 3.5 miles west of the intersection of Fallon Road and Dublin Boulevard. The West Dublin/Pleasanton BART station. BART train frequency ranges between 15-20 minutes from approximately 5:00 AM to 12:00 AM. Based on 2015 data from BART, approximately 8,000 passengers per day enter/exit the BART system at the Dublin/Pleasanton station.

BART recently released the Draft Environmental Impact Report for a proposed extension of the Dublin/Pleasanton BART line. The project would extend BART by 5.5 miles along I-580 from the existing Dublin/Pleasanton Station to a new facility near the Isabel Avenue interchange.

The ***Altamont Commuter Express*** (ACE) operates weekday train service between Stockton and San José with Tri-Valley stops in Downtown Pleasanton and Livermore. During the morning commute period, only westbound service from San Joaquin County to San José is provided, while only eastbound service is provided in the afternoon/evening commute period. There are four morning trains through Pleasanton between 5:33 AM and 8:18 AM, and four evening trains between 4:28 PM and 7:31 PM. Travel time from Stockton to Pleasanton is approximately one hour and fifteen minutes, while travel time from Pleasanton to San José is approximately one hour. Wheels provides shuttle services between the ACE stations and major employment/residential areas in Pleasanton and Livermore. ACE trains carry approximately 4,000 passengers on a typical weekday, with approximately 600 passengers boarding the ACE system at the downtown Pleasanton Station on a typical weekday.

TRAFFIC OPERATIONS

Intersection turning movement volumes (2017), lane configurations, and traffic control were used to calculate the levels of service at the study intersections for the AM and PM peak hours. Exhibit 4 shows a list of study intersections and the LOS results for existing conditions. As shown, none of the intersections were found to operate below the intersection LOS standard for the City in which the intersection is located. Detailed calculation worksheets for these findings are included in Appendix 2.

Exhibit 4: Existing Condition (2017) Intersection Level of Service

#	Location	LOS Standard	Existing AM			Existing PM		
			V/C	Delay	LOS	V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	D	0.52	24.3	C	0.58	29.0	C
2	Tassajara Road & Dublin Boulevard	D	0.58	28.7	C	0.68	32.5	C
3	Fallon Road & Dublin Boulevard	D	0.65	34.4	C	0.49	20.4	C
4	Fallon Road & I-580 WB Ramps	D	0.54	10.8	B	0.57	10.2	B
5	El Charro Road & I-580 EB Ramps	D	0.37	5.6	A	0.49	6.8	A
6	Airway Boulevard & I-580 EB Ramps	E	0.5	32.1	C	0.42	32.9	C
7	Airway Boulevard & I-580 WB Ramps	E	0.37	5.7	A	0.25	9.4	A
8	Airway Boulevard & N. Canyons Parkway	E	0.37	45.7	D	0.47	59.2	E
9	Doolan Road & N. Canyons Parkway	Mid-D*	0.03	8.8	A	0.06	9.0	A
10	Isabel Avenue & Portola Avenue	E	0.68	29.4	C	0.51	25.7	C
11	Isabel Avenue & I-580 WB Ramps	E	0.81	18.3	B	0.61	11.9	B
12	Isabel Avenue & I-580 EB Ramps	E	0.72	16.2	B	0.60	11.7	B
13	Murrieta Boulevard & Portola Avenue	Mid-D	0.53	23.0	C	0.58	30.2	C

Source: Kittelson & Associates, Inc. 2018
Intersections analyzed using HCM 2000 methodologies
LOS findings in grey represent intersections operating below the applicable LOS standard
*Mid-D is delay <= 45 seconds per vehicle

In addition to assessing the delay, volume to capacity (v/c) ratio, and LOS, Kittelson analyzed the 95th percentile queue for each movement of the study intersections. The findings of this analysis are shown in Exhibit 5 and Exhibit 6 for the AM and PM peak hours, respectively. Detailed queue worksheets for these findings are included in Appendix 3. As shown, queues were generally contained within the available storage except at the following locations:

- Fallon Road and Dublin Boulevard – the estimated 95th percentile queue for the northbound left-turn is anticipated to exceed the available storage by about 39 feet or approximately two vehicles.
- Murrieta Boulevard and Portola Avenue – the 95th percentile queue for the eastbound through movement is expected to exceed the available storage between Murrieta Boulevard and E. Airway Boulevard on Portola Avenue by 197 feet or about eight vehicles.

Exhibit 5: 95th Percentile Queue Length in Feet for Existing AM Conditions (2017)

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Hacienda Drive and Dublin Boulevard	Storage	270	515	240	260	670		250	460	240	280	720	215
		No Project	85	100	23	165	148		65	308	27	19	140	25
2	Tassajara Road & Dublin Boulevard	Storage	250	565	300	380	830		355	930	930	280	635	250
		No Project	70	74	27	168	217		99	213	43	22	244	18
3	Fallon Road & Dublin Boulevard	Storage	340	640	640	55	500		380	580	0	0	1,250	215
		No Project	44	44	15	0	0		#419	111	0	0	386	22
4	Fallon Road and I-580 WB Ramps	Storage				140	1,500	140		1,000			650	220
		No Project				107	109	80		247			78	32
5	El Charro Road & I-580 EB Ramps	Storage	275		275					825			1,050	
		No Project	28		13					34			40	
6	Airway Boulevard & I-580 EB Ramps	Storage	575	380	380	250	1,000	250	360	1,000	1,000	815	815	
		No Project	302	222	49	30	76	39	38	145	0	93	53	
7	Airway Boulevard and I-580 WB Ramps	Storage				115	1,350	475		780			530	
		No Project				49	50	23		27			0	
8	Airway Boulevard & N. Canyons Parkway	Storage		500	500	510	510	190		540	540		100	
		No Project		11	0	195	12	0		149	194		0	
9	Doolan Road & N. Canyons Parkway	Storage					650			250			250	
		No Project					2			0			1	
10	Isabel Avenue & Portola Avenue	Storage	850	850	350	420	1,000		300	1,850	300	195	400	
		No Project	17	146	12	115	197		#298	256	0	72	67	
11	Isabel Avenue & I-580 WB Ramps	Storage				1,500		460		1,315			1,830	320
		No Project				343		225		167			85	31
12	Isabel Avenue & I-580 EB Ramps	Storage	255		255					1,050			1,322	
		No Project	104		142					96			462	
13	Murrieta Boulevard & Portola Avenue	Storage	75	300		360	825		175	1,000	1,000		100	
		No Project	20	164		290	319		111	111	63		0	

Grey highlights indicate queue exceeds the turn pocket storage for turn movements or extends into an upstream signalized intersection for through movements
95th percentile volume exceeds capacity, queue may be longer.
Source: Kittelson & Associates, Inc. 2018

Exhibit 6: 95th Percentile Queue Length in Feet for Existing PM Conditions (2017)

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Hacienda Drive and Dublin Boulevard	Storage	270	515	240	260	670		250	460	240	280	720	215
		No Project	108	293	28	132	140		72	248	40	48	165	13
2	Tassajara Road & Dublin Boulevard	Storage	250	565	300	380	830		355	930	930	280	635	250
		No Project	168	342	40	95	131		155	322	73	58	194	27
3	Fallon Road & Dublin Boulevard	Storage	340	640	640	55	500		380	580	0	0	1,250	215
		No Project	134	136	24	0	6		146	181	0	0	244	0
4	Fallon Road and I-580 WB Ramps	Storage				1,500	1,500	1,500		1,000			650	220
		No Project				82	83	65		322			131	29
5	El Charro Road & I-580 EB Ramps	Storage	275		275					825			1,050	
		No Project	71		15					66			62	
6	Airway Boulevard & I-580 EB Ramps	Storage	575	380	380	250	1,000	250	360	1,000	1,000	815	815	
		No Project	221	182	66	37	133	51	62	75	0	147	68	
7	Airway Boulevard and I-580 WB Ramps	Storage				115	1,350	475		780			530	
		No Project				44	45	32		51			1	
8	Airway Boulevard & N. Canyons Parkway	Storage		500	500	510	510	190		540	540		100	
		No Project		8	38	#489	12	0		179	175		7	
9	Doolan Road & N. Canyons Parkway	Storage					650			250			250	
		No Project					5			0			1	
10	Isabel Avenue & Portola Avenue	Storage	850	850	350	420	1,000		300	1,850	300	195	400	
		No Project	24	261	35	69	66		121	151	49	138	114	
11	Isabel Avenue & I-580 WB Ramps	Storage				1,500		460		1,315			1,830	320
		No Project				147		44		102			93	34
12	Isabel Avenue & I-580 EB Ramps	Storage	255		255					1,050			1,322	
		No Project	59		82					73			225	
13	Murrieta Boulevard & Portola Avenue	Storage	75	1,500		360	825		175	1,000	1,000		100	
		No Project	11	497		334	117		90	90	86		25	

Grey highlights indicate queue exceeds the turn pocket storage for turn movements or extends into an upstream signalized intersection for through movements

95th percentile volume exceeds capacity, queue may be longer.

Source: Kittelson & Associates, Inc. 2018

TRAFFIC FORECASTS

MODEL BACKGROUND

As the project is anticipated to have regional significance, the Alameda County Transportation Commission (CTC) Countywide model was used instead of the Dublin Citywide model, after accounting for specific updates within the study area from the East Dublin Specific Plan. The most recent version of the countywide model is based on land use assumptions from ABAG Projections 2013 (Plan Bay Area) with a base year of 2013, an interim year of 2025 and a long-range year of 2040.

Demand Model

As described above, the model chosen to prepare forecasts for the Dublin Extension project was the Alameda CTC Countywide model. The specific version used was the one adapted for the recent BART to Livermore Extension (BLVX) EIR Study. This provided a reasonable model validation in the study area and conformed to any network and zone enhancements by the BART team. And based on the traffic forecasts from the BLVX Study, the most conservative volumes for the Dublin Boulevard Extension are for the No-BART extension scenario. Since BART is not an approved project and does not have funding for construction, to be conservative, the No-BART extension scenario was proposed for the Dublin Boulevard Extension Project. Also, the various BART scenarios analyzed under the BLVX EIR have different impacts and circulation associated with the BART stations and related park and ride vehicle trips, which are adequately addressed under their EIR.

Model Scenarios

The 2017[1], 2025 and 2040 cumulative no-project forecasts would need to address inclusion of assumptions for BLVX in the model. At a minimum, the team has proposed to include the most conservative assumption which is a no-BART extension scenario. Year 2017 represents the existing year for the land uses in the travel demand model and was derived by interpolating the land use projections between the 2013 base year model and the interim 2025 model. Interpolating the land use to 2017 makes the land use consistent with the existing conditions counts collected in 2017. Year 2025 represents opening year for the Dublin Boulevard extension, and 2040 represents the design year or cumulative year.

Network assumptions

Future networks assumptions were based on the Alameda Countywide Transportation Plan and MTC Plan Bay Area RTP as reflected in the Alameda CTC Countywide Model (BLVX version – No BART Scenario).

[1] 2017 forecasts were interpolated between the 2013 base year model and the 2025 model

Network assumptions were adjusted based on local general plan information provided by the Project team.

Local access to Dublin Boulevard extension was based on assumptions from the Dublin General Plan, County General Plan and Livermore General Plan. Primary access would be at the cross street of Croak Road to the Dublin Boulevard extension. Key network assumptions include:

- I-580 Express Lanes (opened in 2016)
- Phase 2 interchange improvements at Isabel Avenue Interchange (by 2040)
- Phase 2 interchange improvements at Fallon Road/El Charro Road Interchange (by 2040)
- Widening of Portola Avenue overpass (by 2040)

Land Use Assumptions

Regional land use assumptions were obtained from the Alameda CTC Countywide model, which are based on ABAG Plan Bay Area 2013. In addition, local land use assumptions for the study area were supplemented with information from the City of Dublin General Plan and City of Livermore General Plan. The City of Dublin general plan assumptions were obtained from the City of Dublin Citywide model and included land uses from prior studies, including the recently approved Kaiser Medical Center EIR and the East Dublin Specific Plan and Fallon Village Specific Plan. The City of Livermore general plan assumptions were assumed for the Isabel Neighborhood area. These differ from the land uses proposed in the Isabel Neighborhood Plan (the Draft EIR is currently in circulation). Alameda County General Plan assumptions were based directly on ABAG Plan Bay Area 2013 as reflected in the Alameda CTC Countywide model.

2017

Land uses for 2017 are based on an interpolation of the land uses found in the 2013 model representing ABAG Plan Bay Area and the 2025 interim year model land uses described below. There is minimal land uses in the immediate study corridor, reflective of existing rural conditions.

2025

Land uses for the 2025 modeling include ABAG Plan Bay Area up to 2025 for all regional areas. City of Dublin planned development for 2025 was confirmed with the City of Dublin and is consistent with ABAG Plan Bay Area in the study corridor. In addition, Phase 1 of the recently approved Kaiser Medical Center adjacent to Dublin Boulevard was assumed to be developed by 2025. City of Livermore assumptions were consistent with General Plan land uses for the Isabel Neighborhood area (phased to 2025 level) and ABAG assumptions elsewhere in Livermore. Alameda County land uses were consistent with ABAG Plan Bay Area 2013 for 2025 and assumed no growth in the immediate study area by 2025.

2040

Land uses for the 2040 modeling include ABAG Plan Bay Area for all regional areas. City of Dublin planned development for 2040 was confirmed with the City of Dublin. City of Dublin General Plan buildout

development was assumed for the immediate study corridor and ABAG Plan Bay Area elsewhere in the city. For the recently approved Kaiser Medical Center, full buildout of all phases was assumed to be developed by 2040. City of Livermore General Plan buildout land uses were assumed for the Isabel Neighborhood area. Alameda County land uses were consistent with ABAG Plan Bay Area 2013 for 2040 and assumed no growth in the immediate study area by 2040.

Land use assumptions by study area traffic analysis zones are shown in Appendix 14.

MODEL VALIDATION

The Alameda CTC model was validated using recent 2017 counts at the key study intersections for AM and PM peak hours. Exhibit 7 summarizes the aggregate model validation for the AM and PM peak hours. In both AM and PM peaks, the model was lower than the counts in aggregate. This is partly due to the difference between the model base year of 2013 and the count year of 2017. Some of this difference was removed using the industry standard method of interpolating the model volumes up to 2017. Further correlation to remove the remaining model differences was achieved using the incremental intersection adjustment method based on NCHRP-255 (methodology relies on adding the model growth to the counts and resolving any negative volumes). Detailed model validation results for all intersections is provided in Appendix 14.

Exhibit 7: Aggregate Model Validation

Peak Hour	Count	Model	Difference	Percent Difference
AM Peak	29,342	27,023	-2,319	-8%
PM Peak	32,367	25,707	-6,660	-21%

Source: Alameda CTC Model and Kittelson and Associates, Inc., 2017

FORECAST DEVELOPMENT

Traffic forecasts were developed using the Alameda CTC model. Forecasts were prepared for the following scenarios:

- 2017 No-Project - base year
- 2017 Plus Project
- 2025 No-Project – near term
- 2025 Plus Project
- 2040 No-Project – cumulative
- 2040 Plus Project

No-Project model runs were consistent with the Alameda CTC model. The Plus Project runs included the addition of the Extension project coded as a 4 or 6 lane residential arterial with posted speeds of 45mph.

Model runs were conducted for all analysis scenarios and results were extracted at roadway segments and intersections. Year 2017 results were interpolated between the 2013 base year model and 2025 interim year model to match the count year. The forecast results were compared between no-project and plus project conditions to check for reasonableness. Given that travel demand models are not sufficiently detailed enough to accurately forecast turn volumes at intersections, therefore only the growth from the forecasts (2025 minus 2017 and 2040 minus 2017) was applied to the counts to develop more accurate adjusted forecast intersection turn volumes necessary for design and operational analysis. High demand locations associated with diversion off the freeway were identified during the operational analysis using model select link and difference plots and further adjustments were applied to minimize excessive diversion.

Given that the I-580 Express lanes that opened in 2016 were not represented in the year 2013 model, the year 2013 plus project forecasts were derived from applying the project increment from the 2025 scenarios and adding that to the 2017 counts.

Detailed 2017, 2025 and 2040 traffic forecasts for no-project and plus project conditions are provided in the Appendix 15.

FOUR LANES VERSUS SIX LANES

As part of the early forecasting tasks, Kittelson explored whether the Dublin Boulevard extension should be four lanes or six. To determine the number of lanes that would be required in 2040, Kittelson used the model with updated land uses from local general plans to estimate the traffic demand during the AM and PM peak 1-hour periods for the Project. Demand in vehicles-per-hour (vph) was estimated using the travel demand model for both a four and six-lane facility. The comparison of the four-lane versus six-lane demand is shown in Exhibit 8. As shown, the six-lane facility is similar to the four-lane facility indicating that a four-lane facility would not significantly constrain the number of vehicles using the Project. Average travel speeds along the corridor also showed little change as discussed in the transit section of this report and shown tabularly in Exhibit 26.

Exhibit 8: Four-Lane Versus Six-Lane Demand for the Project

Traffic Volumes (vph)	AM Peak Hour	PM Peak Hour
Four-Lane Extension	2,057 vph	1,433 vph
Six-Lane Extension	2,224 vph	1,463 vph
Difference	167 vph (8%)	30 vph (2%)

Source: Alameda CTC Model and Kittelson and Associates, Inc., 2017

Note: vph = vehicles per hour

The final comparison Kittelson used for determining whether the new facility should be four or six lanes is comparing the estimated demand with the planning level capacity estimates found in the Highway Capacity Manual (HCM). Exhibit 16-16 in the HCM 6th Edition shows generalized service volume tables based on the HCM methodologies and default inputs for arterials. Assuming a 45-mph posted speed limit and typical values for K-Factor (0.10) and D-Factor (0.60), the estimated capacity of a four–lane arterial versus a six-lane arterial is 3,030 vph and 4,560 vph, respectively. As shown in Exhibit 8, demand is less than 2,250 vph indicating a four-lane arterial is operating at about 74% of capacity indicating little congestion during peak periods.

DEDICATED TRANSIT LANE

Given that the proposed extension could be utilized to provide new transit route access north of I-580, the potential for including a dedicated transit lane was explored. Travel demand forecasts for cumulative conditions found that travel speeds remain at close to free flow for the proposed cross section with four lanes east of Croak Road and six lanes west of Croak Road. Since the corridor is forecasted to operate at close to free flow conditions in the future, a dedicated transit lane would not provide substantial additional benefit since the transit vehicle would be traveling at approximately the same speed as regular vehicles.

While transit vehicles will travel at similar speeds with or without the dedicated transit lane, there is some advantage to providing queue jump lanes at the intersections where most of the delay due to congestion usually occurs. To allow for this possibility, the project design has incorporated long right turn lanes at the signalized intersections that can function as queue jump lanes in the future. With transit vehicles able to run at free flow speeds in the general purpose lanes between intersections and access to queue jump lanes at the intersections, transit travel times are anticipated to improve as routes shift from I-580 onto the project corridor.

TRANSPORTATION IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

The determination of significance for project impacts is based on applicable policies, regulations, goals, and guidelines defined by the City of Dublin, City of Pleasanton, City of Livermore, and Caltrans. The impacts of the project were evaluated by comparing the findings of the delay and level of service under Near-term with Project, and Cumulative with Project conditions to the no project conditions (base year). The following criteria were used to identify significant off-site intersection impacts of the proposed project under the various criteria. The impact criteria used at each location depended on the location in which the facility resides.

City of Dublin

Impacts to intersections residing within the City of Dublin were considered significant if the project would result in the following:

- If a signalized intersection is projected to operate within motor vehicle delay ranges associated with LOS D or better (average control delay equal to or less than 55 seconds per vehicle) without the project and the project is expected to cause the facility to operate at a LOS E or F;
- If at a study, signalized intersection where the motor vehicle level of service is E, the project would cause an increase in the average delay for any of the critical movements of six (6) seconds or more.
- If at a study, signalized intersection where the motor vehicle level of service is LOS F, the project would cause (a) the overall volume-to-capacity ("V/C") ratio to increase 0.03 or more or (b) the critical movement V/C ratio to increase 0.05 or more.
- If the operations of an unsignalized study intersection is projected to decline with the addition of project traffic, and if the installation of a traffic signal based on the Manual on Uniform Traffic Control Devices (MUTCD) Peak Hour Signal Warrant (Warrant 3) would be warranted.

- A queuing impact would be identified if:

    - project traffic causes the 95th percentile queue in a turn pocket to extend beyond the turn pocket by more than 25 feet (i.e., the length of one vehicle) into adjacent traffic lanes that operate (i.e., move) separately from the turn lane; or

    - If the 95th percentile queue already exceeds that turn pocket length under no project conditions, the project traffic lengthens the queue by more than 25 feet.

City of Pleasanton

Impacts to intersections residing within the City of Pleasanton were considered significant if the project would result in the following:

- An impact would be assessed if the addition of project traffic results in the deterioration of a signalized intersection from LOS D (or better) to LOS E or LOS F. There are a few exceptions to the LOS standard that includes the City of Pleasanton Gateway intersections. Gateway intersections include all ramp terminal intersections on I-580. For the Gateway intersections, the LOS standard could be below LOS D when no reasonable mitigation exists, or the necessary mitigation is contrary to other goals and policies of the City.
- For signalized intersections located in Pleasanton, an impact would be assessed at an intersection projected to operate at LOS E or F prior to the addition of project traffic, if the project adds 10 or more peak hour trips.

- A queuing impact would be identified if:

    - project traffic causes the 95th percentile queue in a turn pocket to extend beyond the turn pocket by more than 25 feet (i.e., the length of one vehicle) into adjacent traffic lanes that operate (i.e., move) separately from the turn lane; or

    - If the 95th percentile queue already exceeds that turn pocket length under no project conditions, the project traffic lengthens the queue by more than 25 feet.

City of Livermore

Impacts to intersections residing within the City of Livermore were considered significant if the project would result in the following:

- If a signalized intersection is projected to operate within motor vehicle delay ranges associated with a mid-level LOS D or better (average control delay equal to or less than or equal to 45 seconds per vehicle) without the project and the project is expected to increase the delay for intersections outside of the Downtown Area or near freeway interchanges.
- If a signalized intersection located in the Downtown Area or near freeway interchanges is projected to operate within auto vehicle delay ranges associated with a LOS E or better (average control delay equal to or less than or equal to 80 seconds per vehicle) without the project and the project is expected to cause the facility to operate at LOS F. For this project, the following City of Livermore intersections have a LOS E standard while the other City of Livermore locations are the mid-level LOS D standard:
    - Airway Boulevard & I-580 EB Ramps
    - Airway Boulevard & I-580 WB Ramps
    - Airway Boulevard & N. Canyons Parkway
    - Isabel Avenue & Portola Avenue
    - Isabel Avenue & I-580 WB Ramps

  - Isabel Avenue & I-580 EB Ramps
- If a signalized intersection is operating below the LOS standard under the No Project Conditions, the Project would increase the average vehicle delay by more than 5 seconds per vehicle.

- A queuing impact would be identified if:

  - project traffic causes the 95th percentile queue in a turn pocket to extend beyond the turn pocket by more than 25 feet (i.e., the length of one vehicle) into adjacent traffic lanes that operate (i.e., move) separately from the turn lane; or

  - If the 95th percentile queue already exceeds that turn pocket length under no project conditions, the project traffic lengthens the queue by more than 25 feet.

Caltrans

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway facilities (Guide for the Preparation of Traffic Studies, Caltrans, December 2002); however, Caltrans recognizes that achieving LOS C/LOS D may not always be feasible. Therefore, the ramp terminal intersections operated by Caltrans will be assessed for significant impacts based on the criteria for the City in which they reside.

There are no significance criteria related to freeway mainline segment performance. Since the Project is the construction of an arterial route that provides a parallel route, the Project would either only maintain or improve freeway performance. Therefore, freeway mainline segments were not studied after a discussion with Caltrans.

Transit

The primary policy goals of the transit agencies in the study area emphasize increasing ridership, improving access to BART, and reducing system inefficiencies. A significant impact would result if the proposed Plan were to directly impede any of the relevant transit agencies from implementing planned improvements and/or their ability to meet these goals. Therefore, a significant impact would occur if the proposed Plan resulted in the following:

- Impeded connecting transit services from increasing ridership
- Impeded connecting transit services from improving their access to BART
- Impeded connecting transit services from reducing system inefficiencies

Bicyclists

There are no established qualitative criteria for the assessment of bicycle impacts. For this transportation analysis, an impact on bicycles would occur if the proposed Project substantially impedes bicycle circulation, access, and safety or conflicts with a bicycle plan.

Pedestrians

There are no established qualitative criteria for the assessment of pedestrian impacts. For this transportation analysis, an impact on pedestrians would occur if the proposed Project substantially impedes pedestrian circulation, access, and safety or conflicts with a pedestrian plan.

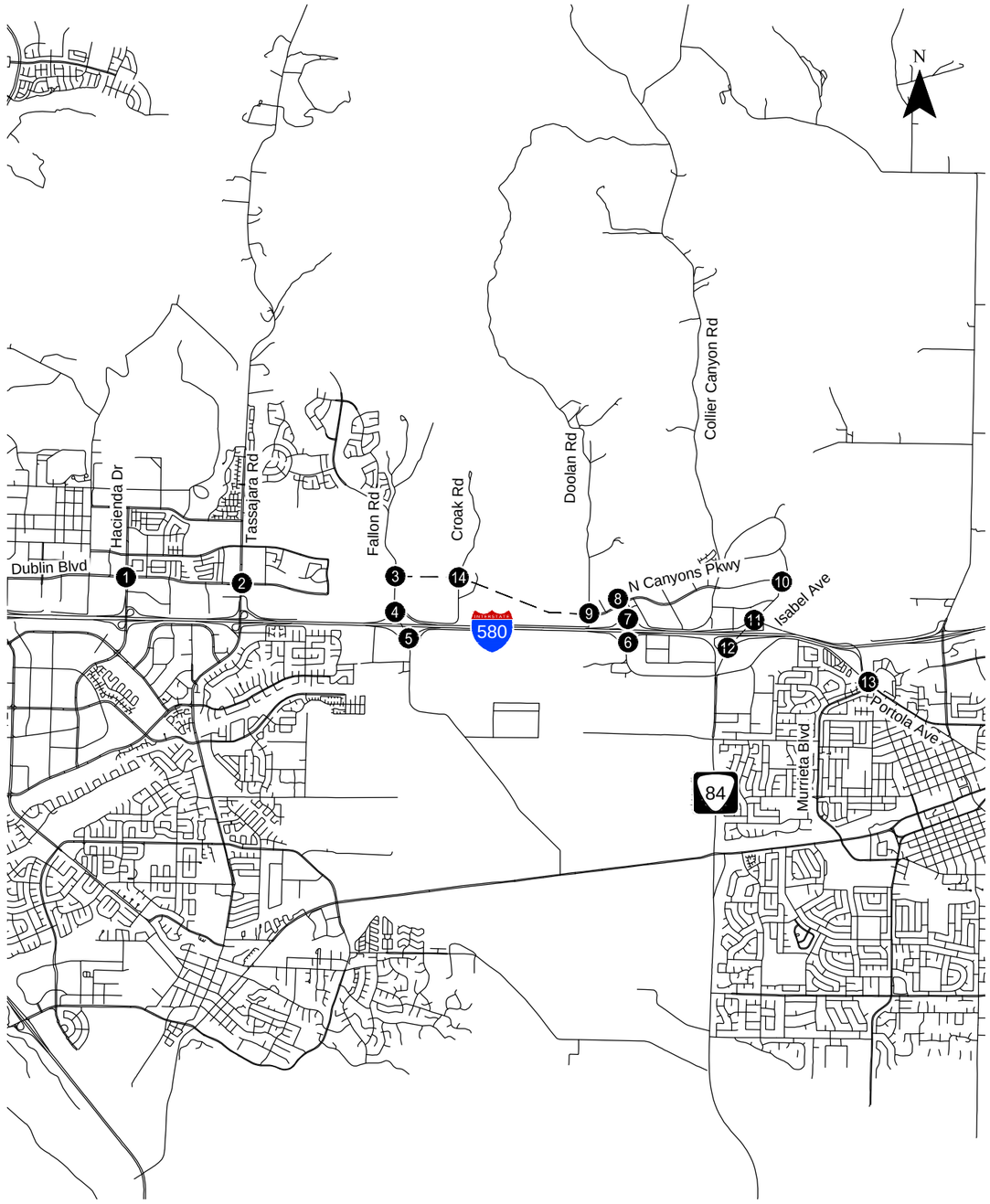
EXISTING PLUS PROJECT CONDITIONS

Existing plus project conditions were analyzed to provide an estimation of transportation conditions if the Project were opened at the time of the existing counts (2017). Traffic volumes for Existing with Project conditions were developed by applying the traffic diversion experienced with and without the project in the 2025 near-term condition to the existing traffic counts.

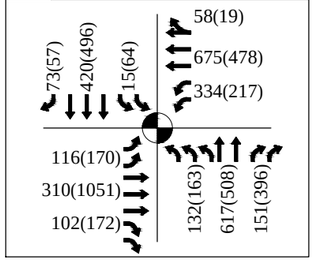
Network Assumptions

Heavy vehicle percentages, peak hour factors, traffic signal timings, and pedestrian and bicycle activity at the study intersections were left unchanged from existing conditions.

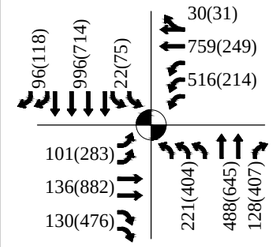
Exhibit 9 shows the estimated existing plus project traffic volumes and lane configurations. Traffic volumes for the existing without project conditions were shown in Exhibit 2



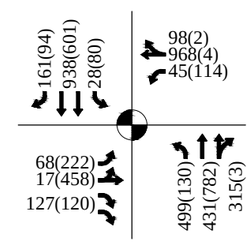
1 Hacienda Dr / Dublin Blvd



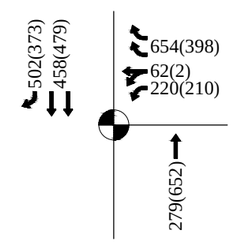
2 Tassajarra Rd / Dublin Blvd



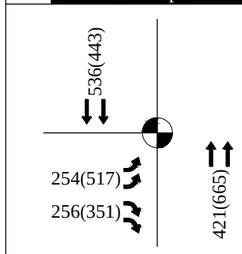
3 Fallon Rd / Dublin Blvd



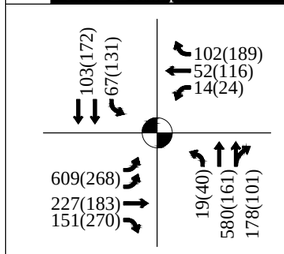
4 Fallon Rd / I-580 WB Ramps



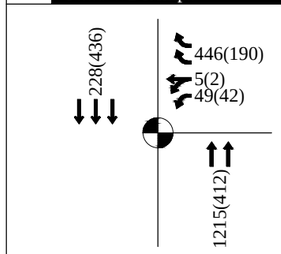
5 El Charro Rd / I-580 EB Ramps



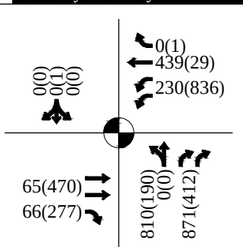
6 Airway Blvd / I-580 EB Ramps



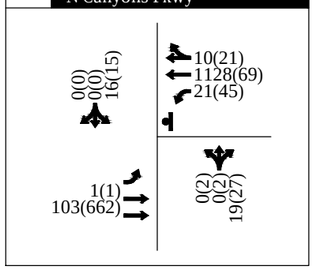
7 Airway Blvd / I-580 WB Ramps



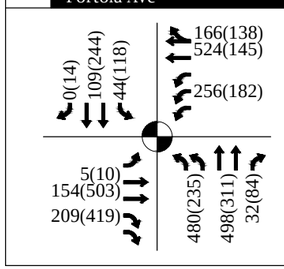
8 Airway Blvd / N Canyons Pkwy



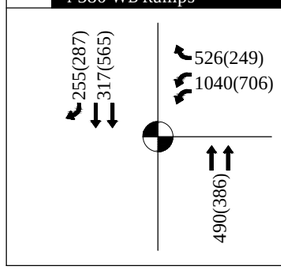
9 Doolan Rd / N Canyons Pkwy



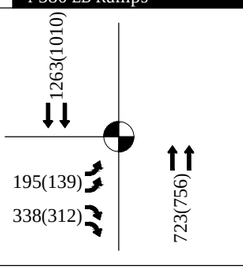
10 Isabel Ave / Portola Ave



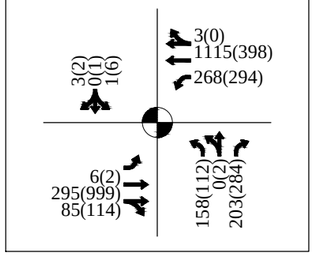
11 Isabel Ave / I-580 WB Ramps



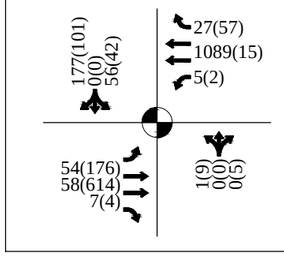
12 Isabel Ave / I-580 EB Ramps



13 Murrieta Blvd / Portola Ave



14 Croak Rd / Dublin Blvd



AM(PM) - Traffic Volume

- Traffic Signal

- - - Proposed Project

Existing Plus Project Volumes and Lane Configurations Livermore, California

Exhibit 9

KITTELSON & ASSOCIATES

H:\20\20342 - Dublin Boulevard Extension Prelim Eng\dwgs\figs\20342 Figures.dwg Apr 13, 2018 - 10:21am - bcullimore Layout Tab: Exst Plus Proj

Existing Conditions Intersection Levels of Service

Levels of service calculations were conducted to evaluate intersection operations under existing conditions with the project. The corresponding LOS calculation sheets are included in Appendix 2. The delay, LOS, and V/C ratio findings from this analysis are summarized in Exhibit 10 and Exhibit 11 for the AM and PM peak hours, respectively. The findings of the analysis indicate that the following intersections would degrade below the LOS standard for the intersection because of the Project:

- **Fallon Road & Dublin Boulevard (#3)** – The Project causes the intersection to degrade from LOS C to LOS F in the AM peak hour. This is the result of increases in the number of vehicles using the eastern leg of the intersection to access the Project.
- **Airway Boulevard & N. Canyons Parkway (#8)** – The Project causes the LOS to degrade from LOS D to LOS F in the AM peak hour which is below the LOS E standard for this intersection. This degradation is caused by the increase in the northbound left turn traffic volumes as vehicles access the Project.

Existing Conditions 95th Percentile Queue Lengths

In addition to determining intersection delay, Kittelson also estimated 95th percentile queue lengths to determine if the Project causes queueing impacts. The findings for the 95th percentile queue length in the AM and PM peak hours are shown in Exhibit 12 and Exhibit 13, respectively. Detailed queue worksheets for these findings are included in Appendix 3. Intersection movements where the Project causes a turn pocket to exceed its available storage by more than 25 feet or increase a queue already exceeding the available turn pocket storage by more than 25 feet include:

- Fallon Road and Dublin Boulevard (#3) - During the AM peak hour, the Project causes the queue for the northbound left turn movement to increase from 419 feet to 808 feet resulting in the queue exceeding the available storage of 380 feet.

Impacts and Mitigation Measures

This section documents the intersections impacted by the project under existing conditions and proposes mitigation measures. The analysis files for the mitigation measures are in Appendix 8 and Appendix 9 for the LOS and queue worksheets, respectively.

Impact TRAF-1: The change in travel patterns resulting from the proposed Project would result in unacceptable operations at the intersection of Fallon Road and Dublin Boulevard (#3) during the AM peak hour for existing conditions.

As one of the primary intersections to access the Project, this intersection experiences significant growth in vehicles coming from and going to the eastern leg of the intersection. The existing lane configurations do not provide enough capacity to handle the increased demand.

Mitigation Measure TRAF-1: The City of Dublin is to implement the following geometric and signal timing improvements at the intersection of Fallon Road and Dublin Boulevard prior to the opening of the Dublin Boulevard Extension in the near-term scenario:

- Implement the mitigation measures described in the Kaiser Environmental Impact Report (EIR) which includes the construction of an additional left turn lane for both the northbound and eastbound approaches. This improvement is the obligation of Kaiser and the City shall build and seek reimbursement from Kaiser if not built by the time the Dublin Boulevard – North Canyons Parkway Extension project is built.
- In addition to the mitigations proposed for the Kaiser EIR:
  - Northbound – construct at least one northbound right turn lane resulting in the following final lane configuration: 2 left turns, 2 through, and one right turn lane.
  - Eastbound – construct at least one more through lane resulting in the following final lane configuration: 2 left turns, 2 through, and 2 rights.
  - Westbound – construct at least two additional through lanes resulting in the following lane configuration: 1 left turn, 2 through, and a shared through/right.
  - Optimize the signal timing

Implementation of Mitigation Measure TRAF-1 would improve the operation of this intersection to LOS D during the AM peak hour and lessen the Project's impact to less than significant.

Significance After Mitigation: Less than significant.

Impact TRAF-2: The change in travel patterns resulting from the proposed Project would result in unacceptable operations at the intersection of Airway Boulevard and N. Canyons Parkway (#8) during the AM peak hour for existing conditions.

As one of the primary intersections to access the Project, this intersection experiences significant growth to the northbound left turn with the demand exceeding 800 vehicles per hour during the AM peak hour. The existing lane configuration of a single shared left and through lane for both left and through movements for the northbound approach is insufficient to handle this demand.

Mitigation Measure TRAF-2: The City of Livermore is to implement the following geometric and signal timing improvements at the intersection of Airway Boulevard and N. Canyons Parkway prior to the completion of the Project:

- Shift the median of Airway Boulevard one lane to the west reducing the southbound lanes from three to two and increasing the northbound lanes from three to four.
- With the extra northbound lane, convert the northbound approach to Airway Boulevard and N. Canyons Parkway to have an exclusive left, shared left/through, and two right turn lanes.
- Add an additional westbound through lane resulting in two left turns, one exclusive through, and a shared through/right.

- Optimize the signal timing

Implementation of Mitigation Measure TRAF-2 would improve the operation of this intersection to LOS D during the AM peak hour and lessen the Project impacts to less than significant. However, because the City of Dublin as the lead agency for this project cannot guarantee the implementation and timing of the mitigation measure as it is outside the control and jurisdiction of the City, this impact remains significant and unavoidable. The City of Livermore, City of Dublin, and Alameda County are coordinating on this project to meet their General Plan's objectives including the planned extension of this roadway. Dublin and Livermore currently have a funding agreement Memorandum of Understanding (MOU) and are exploring a separate 2 or 3-way MOU with Alameda County to continue to work together to identify the funding and timing for this mitigation.

Significance After Mitigation: Significant and unavoidable.

Impact TRAF-3: The change in travel patterns resulting from the proposed Project would result in the northbound left turn queue at the intersection of Fallon Road and Dublin Boulevard (#3) during the AM peak hour, which already exceeds the available turn lane storage, to increase in length by more than 25 feet (389 feet) for existing conditions.

As one of the primary intersections to access the Project, the vehicle demand for all approaches increases as a result of the Project. The existing lane configurations and signal timing do not provide enough capacity to serve the increased vehicle demand increasing the 95th percentile queue lengths for high demand movements.

Mitigation Measure TRAF-3: The City of Dublin is to implement mitigation measure TRAF-1 prior to the completion of the Project.

Implementation of Mitigation Measure TRAF-3 would reduce the queue to 330 feet during the AM peak hour allowing it to be contained within the available storage (380 feet) and reducing the Project's impact to less than significant.

Significance After Mitigation: Less than significant.

Exhibit 10: Existing AM Peak Hour Intersection Operation Findings

#	Location	LOS Standard	Existing AM			Existing AM + Project			Exist AM + Project Mitigated		
			V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	D	0.52	24.3	C	0.59	26.0	C			
2	Tassajara Road & Dublin Boulevard	D	0.58	28.7	C	0.67	33.1	C			
3	Fallon Road & Dublin Boulevard	D	0.65	34.4	C	***1.49***	***261.5***	***F***	0.81	38.2	D
4	Fallon Road & I-580 WB Ramps	D	0.54	10.8	B	0.42	7.3	A			
5	El Charro Road & I-580 EB Ramps	D	0.37	5.6	A	0.37	5.6	A			
6	Airway Boulevard & I-580 EB Ramps	E	0.5	32.1	C	0.63	34.1	C			
7	Airway Boulevard & I-580 WB Ramps	E	0.37	5.7	A	0.64	19.0	B			
8	Airway Boulevard & N. Canyons Parkway	E	0.37	45.7	D	***1.01***	***88.9***	***F***	0.69	45.1	D
9	Doolan Road & N. Canyons Parkway	Mid-D	0.03	8.8	A	0.48	12.5	B			
10	Isabel Avenue & Portola Avenue	E	0.68	29.4	C	0.73	29.5	C			
11	Isabel Avenue & I-580 WB Ramps	E	0.81	18.3	B	0.80	18.3	B			
12	Isabel Avenue & I-580 EB Ramps	E	0.72	16.2	B	0.71	16.2	B			
13	Murrieta Boulevard & Portola Avenue	Mid-D	0.53	23.0	C	0.57	21.8	C			
14	Dublin Boulevard Extension & Croak Road	D				0.52	11.4	B			

Grey highlights indicate LOS below the LOS standard
Bold Italic text indicates a significant impact
Source: Kittelson & Associates, Inc. 2018

Exhibit 11: Existing PM Peak Hour Intersection Operation Findings

#	Location	LOS Standard	Existing PM			Existing PM + Project			Exist PM + Project Mitigated		
			V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	D	0.58	29.0	C	0.60	29.6	C			
2	Tassajara Road & Dublin Boulevard	D	0.68	32.5	C	0.72	34.1	C			
3	Fallon Road & Dublin Boulevard	D	0.49	20.4	C	0.74	33.5	C	0.65	31.1	C
4	Fallon Road & I-580 WB Ramps	D	0.57	10.2	B	0.63	11.8	B			
5	El Charro Road & I-580 EB Ramps	D	0.49	6.8	A	0.50	7.0	A			
6	Airway Boulevard & I-580 EB Ramps	E	0.42	32.9	C	0.37	32.8	C			
7	Airway Boulevard & I-580 WB Ramps	E	0.25	9.4	A	0.17	9.8	A			
8	Airway Boulevard & N. Canyons Parkway	E	0.47	59.2	E	0.68	35.7	D	0.61	33.1	C
9	Doolan Road & N. Canyons Parkway	Mid-D	0.06	9.0	A	0.34	14.9	B			
10	Isabel Avenue & Portola Avenue	E	0.51	25.7	C	0.47	24.7	C			
11	Isabel Avenue & I-580 WB Ramps	E	0.61	11.9	B	0.61	11.9	B			
12	Isabel Avenue & I-580 EB Ramps	E	0.60	11.7	B	0.59	11.2	B			
13	Murrieta Boulevard & Portola Avenue	Mid-D	0.58	30.2	C	0.63	29.9	C			
14	Dublin Boulevard Extension & Croak Road	D				0.37	7.1	A			

Grey highlights indicate LOS below the LOS standard
Bold Italic text indicates a significant impact
Source: Kittelson & Associates, Inc. 2018

Exhibit 12: Existing 95th Percentile Queue Lengths in Feet during the AM Peak Hour

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Hacienda Drive and Dublin Boulevard	Storage	270	515	240	260	670		250	460	240	280	720	215
		No Project	85	100	23	165	148		65	308	27	19	140	25
		With Project	85	101	23	203	213		64	309	27	19	141	26
2	Tassajara Road & Dublin Boulevard	Storage	250	565	300	380	830		355	930	930	280	635	250
		No Project	70	74	27	168	217		99	213	43	22	244	18
		With Project	70	74	27	183	372		90	213	43	23	239	21
3	Fallon Road & Dublin Boulevard	Storage	340	640	0	0	500		380	580	0	130	1,250	215
		No Project	44	44	15	0	0		#419	111	0	0	386	22
		With Project	74	74	18	73	#1670		***#808***	231	0	52	452	21
		Mitigated	#69	16	19	78	349		#330	167	41	57	494	48
4	Fallon Road and I-580 WB Ramps	Storage				1,500	1,500	1,500		1,000			650	220
		No Project				107	109	80		247			78	32
		With Project				70	72	24		95			42	27
5	El Charro Road & I-580 EB Ramps	Storage	275		275					825			1,050	
		No Project	28		13					34			40	
		With Project	29		13					31			40	
6	Airway Boulevard & I-580 EB Ramps	Storage	575	380	380	250	1,000	250	360	1,000	1,000	815	815	
		No Project	302	222	49	30	76	39	38	145	0	93	53	
		With Project	272	219	49	30	75	71	38	338	0	96	68	
7	Airway Boulevard and I-580 WB Ramps	Storage				115	1,350	475		780			530	
		No Project				49	50	23		27			0	
		With Project				48	48	192		558			2	
8	Airway Boulevard & N. Canyons Parkway	Storage		500	500	510	510	190		540	Parking		100	
		No Project		11	0	195	12	0		149	194		0	
		With Project		38	12	109	291	0		#1039	199		0	
		Mitigated		38	12	109	291	0		441	118		0	
9	Doolan Road & N. Canyons Parkway	Storage	150	500		135	650			250			250	
		No Project	#N/A			2	2			0			1	

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
		With Project	6	27		36	303			0			23	
10	Isabel Avenue & Portola Avenue	Storage	850	850	350	420	1,000		300	1,850	300	195	400	
		No Project	17	146	12	115	197		#298	256	0	72	67	
		With Project	17	69	12	98	271		#296	250	0	72	66	
11	Isabel Avenue & I-580 WB Ramps	Storage				1,500		460		1,315			1,830	320
		No Project				343		225		167			85	31
		With Project				337		233		168			82	30
12	Isabel Avenue & I-580 EB Ramps	Storage	255		255					1,050			1,322	
		No Project	104		142					96			462	
		With Project	101		139					78			435	
13	Murrieta Boulevard & Portola Avenue	Storage	75	1,500		360	825		175	1,000	1,000		100	
		No Project	20	164		290	319		111	111	63		0	
		With Project	20	161		284	397		104	104	63		0	
14	Croak Road & Dublin Boulevard Extension	Storage	210	500	250	150	500	250	150	150		150	150	
		No Project	N/A: intersection does not exist under no project conditions									N/A		
		With Project	#79	13	4	7	309	4	4	0		58	59	

Grey highlights indicate queue exceeds the turn pocket storage for turn movements or extends into an upstream signalized intersection for through movements

Bold Italic text indicates a significant impact

95th percentile volume exceeds capacity, queue may be longer.

Source: Kittelson & Associates, Inc. 2018

Exhibit 13: Existing 95th Percentile Queue Lengths in Feet during the PM Peak Hour

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Hacienda Drive and Dublin Boulevard	Storage	270	515	240	260	670		250	460	240	280	720	215
		No Project	108	293	28	132	140		72	248	40	48	165	13
		With Project	109	327	29	132	141		72	250	41	52	163	13
2	Tassajara Road & Dublin Boulevard	Storage	250	565	300	380	830		355	930	930	280	635	250
		No Project	168	342	40	95	131		155	322	73	58	194	27
		With Project	167	422	65	92	131		155	320	79	59	193	27
3	Fallon Road & Dublin Boulevard	Storage	340	640	0	0	500		380	580	0	130	1,250	215
		No Project	134	136	24	0	6		146	181	0	0	244	0
		With Project	#295	#869	18	#183	15		169	349	0	120	286	0
		Mitigated	#175	184	18	#221	0		#93	317	0	101	211	22
4	Fallon Road and I-580 WB Ramps	Storage				1,500	1,500	1,500		1,000			650	220
		No Project				82	83	65		322			131	29
		With Project				60	61	45		#358			53	27
5	El Charro Road & I-580 EB Ramps	Storage	275		275					825			1,050	
		No Project	71		15					66			62	
		With Project	79		20					77			51	
6	Airway Boulevard & I-580 EB Ramps	Storage	575	380	380	250	1,000	250	360	1,000	1,000	815	815	
		No Project	221	182	66	37	133	51	62	75	0	147	68	
		With Project	117	175	64	40	133	51	61	76	0	#169	97	
7	Airway Boulevard and I-580 WB Ramps	Storage				115	1,350	475		780			530	
		No Project				44	45	32		51			1	
		With Project				44	43	34		50			3	
8	Airway Boulevard & N. Canyons Parkway	Storage		500	500	510	510	190		540	540		100	
		No Project		8	38	#489	12	0		179	175		7	
		With Project		220	66	#492	23	0		213	88		7	
		Mitigated		220	66	#408	19	0		131	88		7	
9	Doolan Road & N. Canyons Parkway	Storage	150	500		135	650			250			250	
		No Project	#N/A			5	2			0			1	

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
		With Project	5	160		#55	23			15			15	
10	Isabel Avenue & Portola Avenue	Storage	850	850	350	420	1,000		300	1,850	300	195	400	
		No Project	24	261	35	69	66		121	151	49	138	114	
		With Project	24	185	34	66	64		118	146	42	133	114	
11	Isabel Avenue & I-580 WB Ramps	Storage				1,500		460		1,315			1,830	320
		No Project				147		44		102			93	34
		With Project				143		34		89			93	33
12	Isabel Avenue & I-580 EB Ramps	Storage	255		255					1,050			1,322	
		No Project	59		82					73			225	
		With Project	48		73					64			216	
13	Murrieta Boulevard & Portola Avenue	Storage	75	1,500		360	825		175	1,000	1,000		100	
		No Project	11	497		334	117		90	90	86		25	
		With Project	11	#660		334	114		88	88	80		25	
14	Croak Road & Dublin Boulevard Extension	Storage	210	500	250	150	500	250	150	150		150	150	
		No Project	N/A: Intersection does not exist under no project conditions									N/A		
		With Project	#177	118	2	5	8	15	9	0		26	0	

Grey highlights indicate queue exceeds the turn pocket storage for turn movements or extends into an upstream signalized intersection for through movements

Bold Italic text indicates a significant impact

95th percentile volume exceeds capacity, queue may be longer.

Source: Kittelson & Associates, Inc. 2018

2025 NEAR-TERM CONDITIONS

Near-term 2025 conditions were analyzed to provide an estimation of anticipated conditions when the project is operational (opening day). Traffic volumes for 2025 near-term without Project conditions were developed using the Alameda County Travel Demand model which accounts for background traffic growth between existing conditions and 2025 and approved but not yet constructed and occupied changes to the land use in the area.

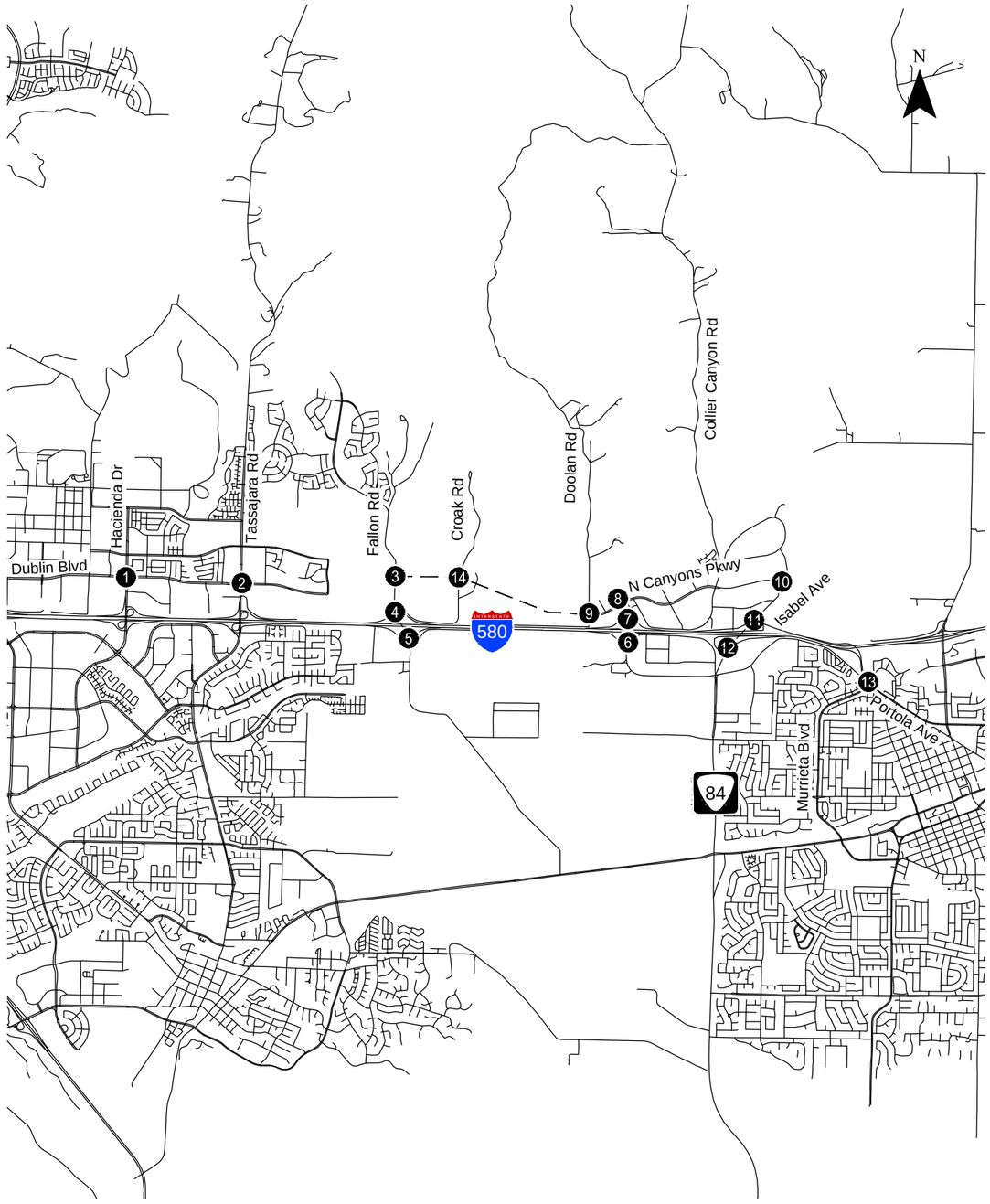
Network Assumptions

The following changes to the transportation network between existing and 2025 conditions were assumed to have been implemented prior to the Project:

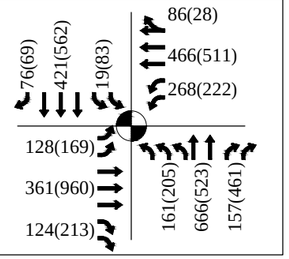
- **Dublin Boulevard & Fallon Road** - Construction of a second eastbound and a second northbound left turn lane consistent with the improvements being built by the Kaiser Dublin project. This improvement was also assumed to result in optimization of the signal timing plans to accommodate the new lanes.

Heavy vehicle percentages, peak hour factors, traffic signal timings, and pedestrian and bicycle activity at the study intersections were left unchanged from existing conditions except as noted for Dublin Boulevard & Fallon Road.

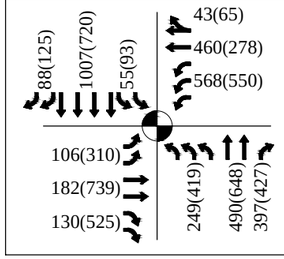
Exhibit 14 and Exhibit 15 show the estimated 2025 traffic volumes and lane configurations without and with the Project, respectively.



1 Hacienda Dr / Dublin Blvd



2 Tassajarra Rd / Dublin Blvd



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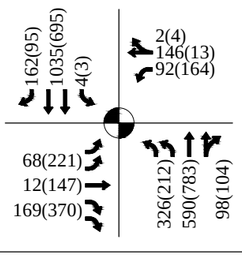
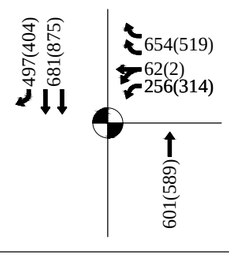
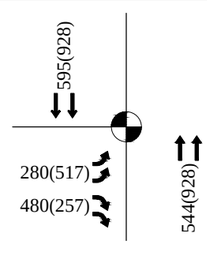


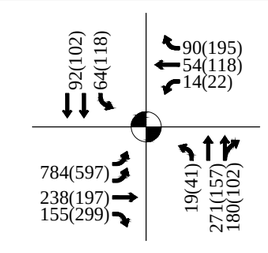
4 Fallon Rd / I-580 WB Ramps



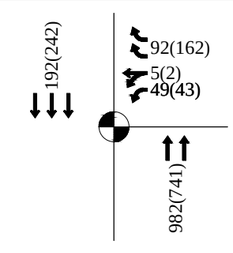
5 El Charro Rd / I-580 EB Ramps



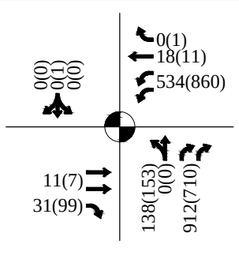
6 Airway Blvd / I-580 EB Ramps



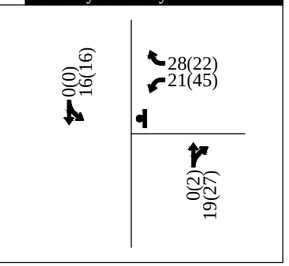
7 Airway Blvd / I-580 WB Ramps



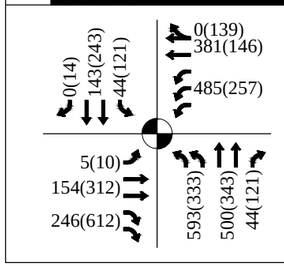
8 Airway Blvd / N Canyons Pkwy



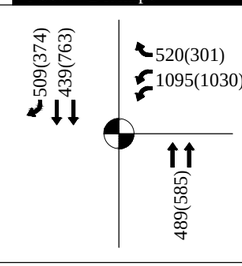
9 Doolan Rd / N Canyons Pkwy



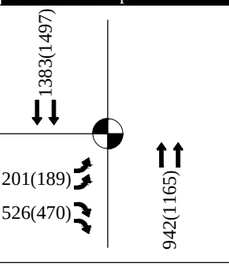
10 Isabel Ave / Portola Ave



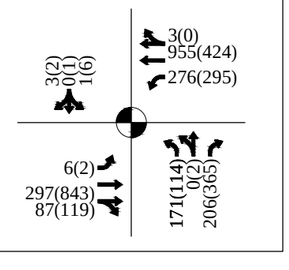
11 Isabel Ave / I-580 WB Ramps



12 Isabel Ave / I-580 EB Ramps



13 Murrieta Blvd / Portola Ave



14 Croak Rd / Dublin Blvd

PROPOSED INTERSECTION

AM(PM) - Traffic Volume
- Traffic Signal
- - Proposed Project

2025 Near-Term No Project
Volumes and Lane Configurations
Livermore, California

Exhibit 14

KITTELSON & ASSOCIATES

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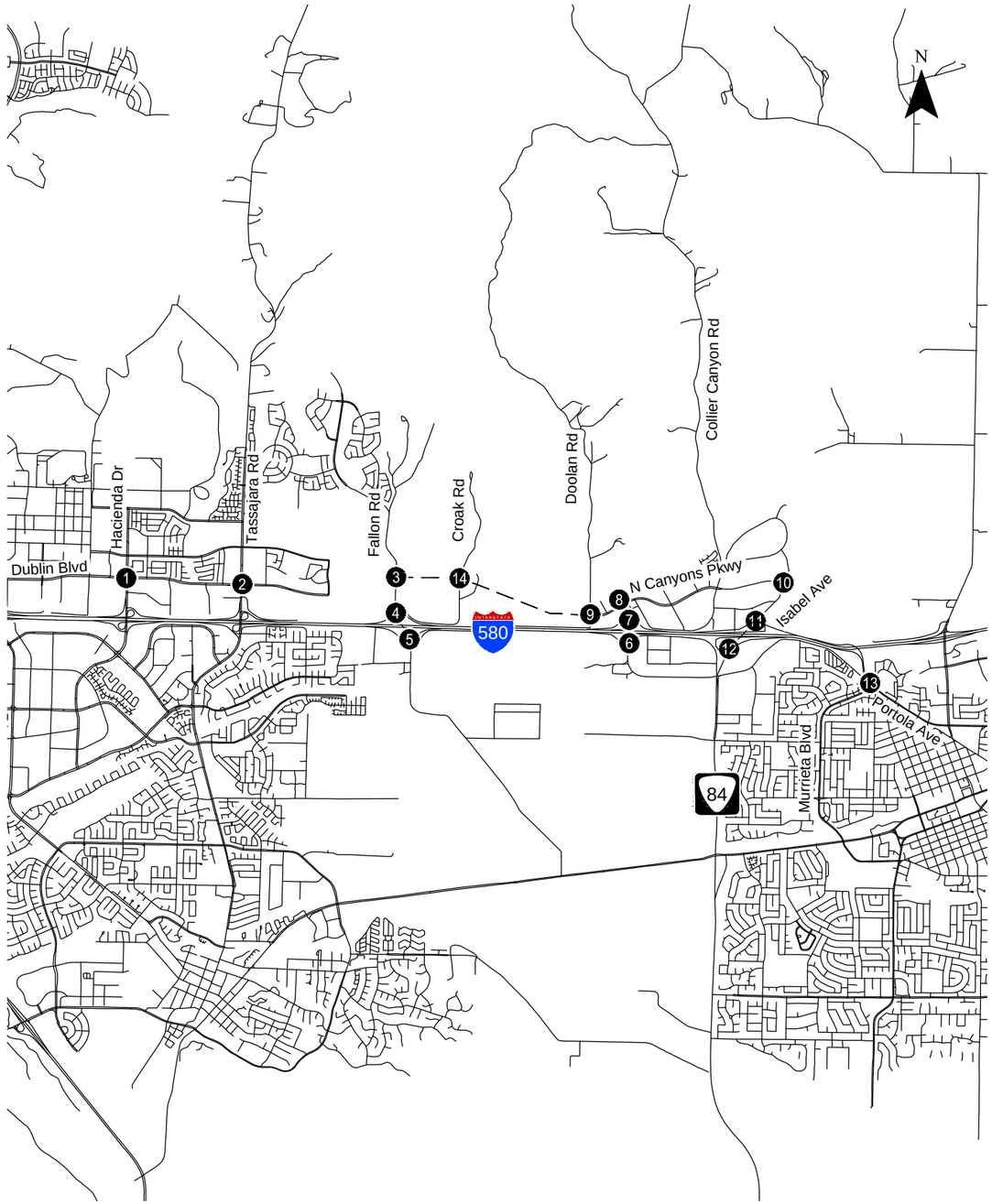
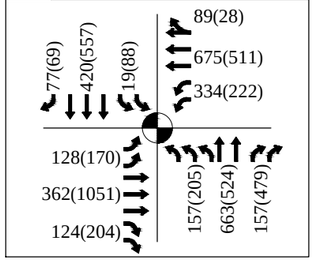
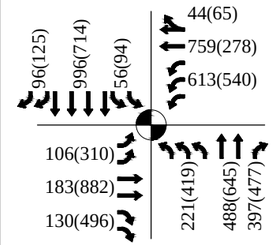


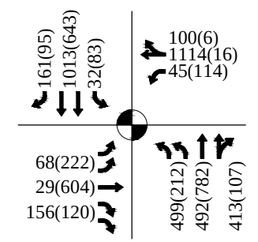
1 Hacienda Dr / Dublin Blvd



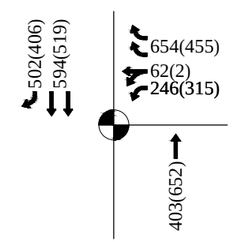
2 Tassajarra Rd / Dublin Blvd



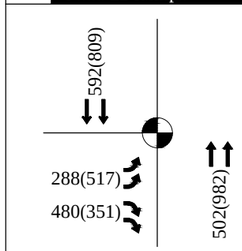
3 Fallon Rd / Dublin Blvd



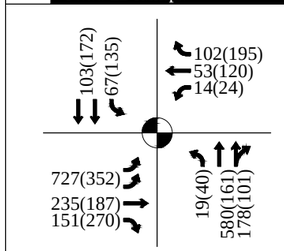
4 Fallon Rd / I-580 WB Ramps



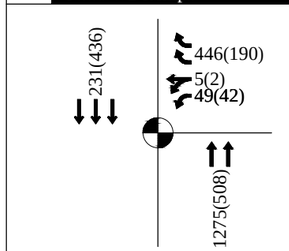
5 El Charro Rd / I-580 EB Ramps



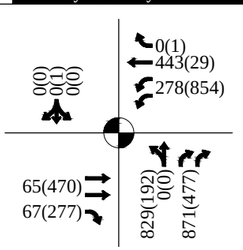
6 Airway Blvd / I-580 EB Ramps



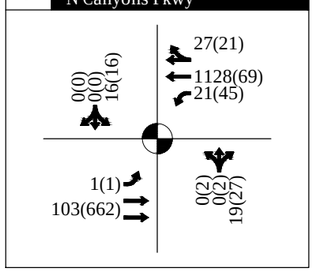
7 Airway Blvd / I-580 WB Ramps



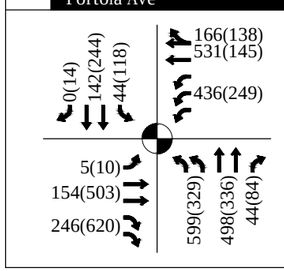
8 Airway Blvd / N Canyons Pkwy



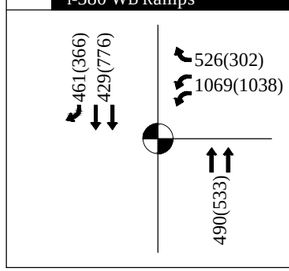
9 Doolan Rd / N Canyons Pkwy



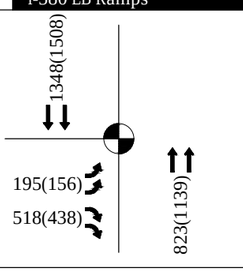
10 Isabel Ave / Portola Ave



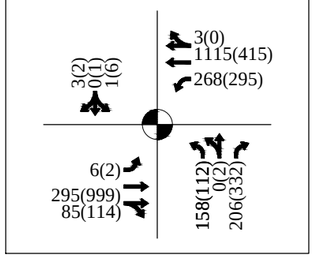
11 Isabel Ave / I-580 WB Ramps



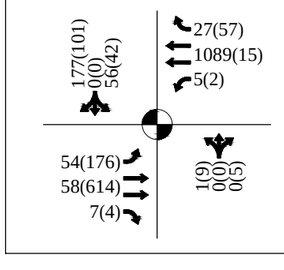
12 Isabel Ave / I-580 EB Ramps



13 Murrieta Blvd / Portola Ave



14 Croak Rd / Dublin Blvd



AM(PM) - Traffic Volume

- Traffic Signal

- - - Proposed Project

2025 Near-Term Plus Project Volumes and Lane Configurations Livermore, California

Exhibit 15

KITTELSON & ASSOCIATES

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2025 Near-Term Conditions Intersection Levels of Service

Levels of service calculations were conducted to evaluate intersection operations under 2025 near-term conditions both with and without the project. The corresponding LOS calculation sheets are included in Appendix 4. The delay, LOS, and V/C ratio findings from this analysis are summarized in Exhibit 16 and Exhibit 17 for the AM and PM peak hours, respectively. The findings of the analysis indicate that the following intersections would degrade below the LOS standard for the intersection because of the Project:

- **Fallon Road & Dublin Boulevard (#3)** – The Project causes the intersection to degrade from LOS C to LOS F in the AM peak hour and LOS C to LOS E in the PM peak hour. This is the result of increases in the number of vehicles using the eastern leg of the intersection to access the Project.
- **Airway Boulevard & N. Canyons Parkway (#8)** – The Project causes the LOS to degrade from LOS D to LOS F in the AM peak hour which is below the LOS E standard for this intersection. This degradation is caused by the increase in the northbound left turn traffic volumes as vehicles access the Project.

2025 Near-Term Conditions 95th Percentile Queue Lengths

In addition to determining intersection delay, Kittelson also estimated 95th percentile queue lengths to determine if the Project causes queueing impacts. The findings for the 95th percentile queue length in the AM and PM peak hours are shown in Exhibit 18 and Exhibit 19, respectively. Detailed queue worksheets for these findings are included in Appendix 5. Intersection movements where the Project causes a turn pocket to exceed its available storage by more than 25 feet or increase a queue already exceeding the available turn pocket storage by more than 25 feet include:

- Fallon Road and Dublin Boulevard (#3) - During the PM peak hour, the Project causes the queue for the southbound left turn movement to increase from 13 feet to 197 feet resulting in the queue exceeding the available storage of 130 feet.

Impacts and Mitigation Measures

This section documents the intersections impacted by the project under 2025 near-term conditions and proposes mitigation measures. The analysis files for the mitigation measures are in Appendix 10 and Appendix 11 for the LOS and queue worksheets, respectively.

Impact TRAF-4: The change in travel patterns resulting from the proposed Project would result in unacceptable operations at the intersection of Fallon Road and Dublin Boulevard (#3) during both the AM and PM peak hours for near-term conditions.

As one of the primary intersections to access the Project, this intersection experiences significant growth in vehicles coming from and going to the eastern leg of the intersection. The existing lane configurations do not provide enough capacity to handle the increased demand.

Mitigation Measure TRAF-4: The City of Dublin is to implement the following geometric and signal timing improvements at the intersection of Fallon Road and Dublin Boulevard prior to the opening of the Dublin Boulevard Extension in the near-term scenario:

- Northbound – construct at least one northbound right turn lane resulting in the following final lane configuration: 2 left turns, 2 through, and one right turn lane.
- Eastbound – construct at least one more through lane resulting in the following final lane configuration: 2 left turns, 2 through, and 2 rights.
- Westbound – construct at least two additional through lanes resulting in the following lane configuration: 1 left turn, 2 through, and a shared through/right.
- Optimize the signal timing

Implementation of Mitigation Measure TRAF-4 would improve the operation of this intersection to LOS D during both the AM and PM peak hours and lessen the Project's impact to less than significant.

Significance After Mitigation: Less than significant.

Impact TRAF-5: The change in travel patterns resulting from the proposed Project would result in unacceptable operations at the intersection of Airway Boulevard and N. Canyons Parkway (#8) during the AM peak hour for near-term conditions.

As one of the primary intersections to access the Project, this intersection experiences significant growth to the northbound left turn with the demand exceeding 800 vehicles per hour during the AM peak hour. The existing lane configuration of a single shared left and through lane for both left and through movements for the northbound approach is insufficient to handle this demand.

Mitigation Measure TRAF-5: The City of Livermore is to implement mitigation measure TRAF-2 prior to project completion.

Implementation of Mitigation Measure TRAF-5 would improve the operation of this intersection to LOS D during the AM peak hour and lessen the Project impacts to less than significant. However, because the City of Dublin as the lead agency for this project cannot guarantee the implementation and timing of the mitigation measure as it is outside the control and jurisdiction of the City, this impact remains significant and unavoidable. The City of Livermore, City of Dublin, and Alameda County are coordinating on this project to meet their General Plan's objectives including the planned extension of this roadway. Dublin and Livermore currently have a funding agreement Memorandum of Understanding (MOU) and are exploring a separate 2 or 3-way MOU with Alameda County to continue to work together to identify the funding and timing for this mitigation.

Significance After Mitigation: Significant and unavoidable.

Impact TRAF-6: The change in travel patterns resulting from the proposed Project would result in the southbound left turn queue at the intersection of Fallon Road and Dublin Boulevard (#3) during the PM peak hour to exceed the available turn pocket storage by more than 25 feet (67 feet) for near-term conditions.

As one of the primary intersections to access the Project, the southbound left turn demand to access the Project increases significantly. The existing lane configurations and signal timing do not provide enough capacity to keep the 95th percentile queue from exceeding the available storage.

> **Mitigation Measure TRAF-6:** The City of Dublin is to implement mitigation measure TRAF-4 prior to the completion of the Project.
>
> Implementation of Mitigation Measure TRAF-6 would reduce the queue to 105 feet allowing it to be contained within the available storage and reducing the Project's impact to less than significant.
>
> **Significance After Mitigation:** Less than significant.

Exhibit 16: 2025 Near-Term AM Peak Hour Intersection Operation Findings

#	Location	LOS Standard	2025 AM			2025 AM + Project			2025 AM + Project Mitigated		
			V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	D	0.54	25.2	C	0.61	27.0	C			
2	Tassajara Road & Dublin Boulevard	D	0.60	29.0	C	0.68	33.3	C			
3	Fallon Road & Dublin Boulevard	D	0.68	26.5	C	***1.43***	***241.8***	***F***	0.86	42.5	D
4	Fallon Road & I-580 WB Ramps	D	0.66	10.0	A	0.51	8.2	A			
5	El Charro Road & I-580 EB Ramps	D	0.41	6.2	A	0.41	6.2	A			
6	Airway Boulevard & I-580 EB Ramps	E	0.54	32.2	C	0.67	36.1	D			
7	Airway Boulevard & I-580 WB Ramps	E	0.39	5.3	A	0.67	19.1	B			
8	Airway Boulevard & N. Canyons Parkway	E	0.37	48.6	D	***1.03***	***93.8***	***F***	0.70	46.2	D
9	Doolan Road & N. Canyons Parkway	Mid-D	0.03	8.7	A	0.49	12.4	B			
10	Isabel Avenue & Portola Avenue	E	0.77	37.9	D	0.81	38.1	D			
11	Isabel Avenue & I-580 WB Ramps	E	0.83	18.7	B	0.82	18.6	B			
12	Isabel Avenue & I-580 EB Ramps	E	0.83	21.7	C	0.81	21.2	C			
13	Murrieta Boulevard & Portola Avenue	Mid-D	0.53	23.1	C	0.57	21.9	C			
14	Dublin Boulevard Extension & Croak Road	D				0.52	11.4	B			

Grey highlights indicate LOS below the LOS standard
Bold Italic text indicates a significant impact
Source: Kittelson & Associates, Inc. 2018

Exhibit 17: 2025 Near-Term PM Peak Hour Intersection Operation Findings

#	Location	LOS Standard	2025 PM			2025 PM + Project			2025 PM + Project Mitigated		
			V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	D	0.59	30.4	C	0.62	31.1	C			
2	Tassajara Road & Dublin Boulevard	D	0.72	37.7	D	0.76	39.7	D			
3	Fallon Road & Dublin Boulevard	D	0.62	28.1	C	***0.92***	***58.0***	***E***	0.72	38.2	D
4	Fallon Road & I-580 WB Ramps	D	0.64	10.6	B	0.67	12.4	B			
5	El Charro Road & I-580 EB Ramps	D	0.59	8.1	A	0.59	8.1	A			
6	Airway Boulevard & I-580 EB Ramps	E	0.46	32.8	C	0.39	32.8	C			
7	Airway Boulevard & I-580 WB Ramps	E	0.28	9.3	A	0.20	9.2	A			
8	Airway Boulevard & N. Canyons Parkway	E	0.48	73.6	E	0.69	38.0	D	0.62	35.3	D
9	Doolan Road & N. Canyons Parkway	Mid-D	0.06	9.0	A	0.34	14.9	B			
10	Isabel Avenue & Portola Avenue	E	0.47	25.2	C	0.53	26.1	C			
11	Isabel Avenue & I-580 WB Ramps	E	0.73	17.9	B	0.74	17.5	B			
12	Isabel Avenue & I-580 EB Ramps	E	0.75	16.4	B	0.75	15.3	B			
13	Murrieta Boulevard & Portola Avenue	Mid-D	0.58	30.7	C	0.63	30.3	C			
14	Dublin Boulevard Extension & Croak Road	D				0.37	7.1	A			

Grey highlights indicate LOS below the LOS standard
Bold Italic text indicates a significant impact
Source: Kittelson & Associates, Inc. 2018

Exhibit 18: 2025 Near-Term 95th Percentile Queue Lengths in Feet during the AM Peak Hour

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Hacienda Drive and Dublin Boulevard	Storage	270	515	240	260	670		250	460	240	280	720	215
		No Project	92	117	26	166	157		76	335	27	22	142	29
		With Project	92	118	25	205	227		74	336	28	23	143	30
2	Tassajara Road & Dublin Boulevard	Storage	250	565	300	380	830		355	930	930	280	635	250
		No Project	73	96	27	204	224		100	221	72	45	245	18
		With Project	73	96	27	219	382		90	221	73	45	240	21
3	Fallon Road & Dublin Boulevard	Storage	340	640	340	250	500		380	580	0	130	1,250	215
		No Project	48	22	45	#155	144		#193	237	0	14	456	58
		With Project	49	40	21	71	#1783		#349	290	0	55	449	56
		Mitigated	#74	23	20	84	407		#361	212	50	68	#644	50
4	Fallon Road and I-580 WB Ramps	Storage				1,500	1,500	1,500		1,000			650	220
		No Project				104	104	80		228			61	23
		With Project				89	90	28		136			53	24
5	El Charro Road & I-580 EB Ramps	Storage	275		275					825			1,050	
		No Project	35		28					46			51	
		With Project	36		28					43			50	
6	Airway Boulevard & I-580 EB Ramps	Storage	575	380	380	250	1,000	250	360	1,000	1,000	815	815	
		No Project	#397	229	49	30	78	39	38	145	0	93	54	
		With Project	336	226	49	30	76	71	38	338	0	95	69	
7	Airway Boulevard and I-580 WB Ramps	Storage				115	1,350	475		780			530	
		No Project				49	50	23		16			0	
		With Project				48	49	200		588			2	
8	Airway Boulevard & N. Canyons Parkway	Storage		500	500	510	510	190		540	540		100	
		No Project		11	0	223	14	0		167	228		0	
		With Project		38	12	130	293	0		#1068	185		0	
		Mitigated		38	12	130	293	0		449	102		0	
9	Doolan Road & N. Canyons Parkway	Storage	150	500		135	650			250			250	
		No Project	#N/A			2	2			0			1	

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
		With Project	6	27		36	310			0			23	
10	Isabel Avenue & Portola Avenue	Storage	850	850	350	420	1,000		300	1,850	300	195	400	
		No Project	18	78	11	180	200		#455	278	3	77	90	
		With Project	18	76	11	162	274		#450	271	3	75	88	
11	Isabel Avenue & I-580 WB Ramps	Storage				1,500		460		1,315			1,830	320
		No Project				#362		225		167			114	33
		With Project				352		233		168			111	33
12	Isabel Avenue & I-580 EB Ramps	Storage	255		255					1,050			1,322	
		No Project	114		222					116			#685	
		With Project	110		218					95			#647	
13	Murrieta Boulevard & Portola Avenue	Storage	75	1,500		360	825		175	1,000	1,000		100	
		No Project	20	164		290	319		111	111	64		0	
		With Project	20	161		284	397		104	104	64		0	
14	Croak Road & Dublin Boulevard Extension	Storage	210	500	250	150	500	250	150	150		150	150	
		No Project	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A		#N/A	#N/A	
		With Project	#79	13	4	7	309	4	4	0		58	59	

Grey highlights indicate queue exceeds the turn pocket storage for turn movements or extends into an upstream signalized intersection for through movements

Bold Italic text indicates a significant impact

95th percentile volume exceeds capacity, queue may be longer.

Source: Kittelson & Associates, Inc. 2018

Exhibit 19: 2025 Near-Term 95th Percentile Queue Lengths in Feet during the PM Peak Hour

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Hacienda Drive and Dublin Boulevard	Storage	270	515	240	260	670		250	460	240	280	720	215
		No Project	110	298	30	136	154		88	262	43	63	188	24
		With Project	110	333	32	136	154		88	263	44	66	186	24
2	Tassajara Road & Dublin Boulevard	Storage	250	565	300	380	830		355	930	930	280	635	250
		No Project	183	376	49	209	160		161	327	97	70	196	28
		With Project	183	466	75	205	160		161	326	166	71	195	28
3	Fallon Road & Dublin Boulevard	Storage	340	640	340	250	500		380	580	0	130	1,250	215
		No Project	132	166	35	201	26		#174	413	0	13	327	23
		With Project	127	#860	34	146	31		#164	387	0	***#197***	281	23
		Mitigated	#177	247	18	#224	9		#171	323	8	105	232	23
4	Fallon Road and I-580 WB Ramps	Storage				1,500	1,500	1,500		1,000			650	220
		No Project				85	86	58		#309			106	28
		With Project				85	86	54		#358			58	28
5	El Charro Road & I-580 EB Ramps	Storage	275		275					825			1,050	
		No Project	108		39					133			137	
		With Project	111		50					145			115	
6	Airway Boulevard & I-580 EB Ramps	Storage	575	380	380	250	1,000	250	360	1,000	1,000	815	815	
		No Project	261	186	66	37	136	52	62	75	0	150	68	
		With Project	151	177	63	40	138	52	61	76	0	#180	97	
7	Airway Boulevard and I-580 WB Ramps	Storage				115	1,350	475		780			530	
		No Project				44	45	32		46			m1	
		With Project				44	43	34		52			3	
8	Airway Boulevard & N. Canyons Parkway	Storage		500	500	510	510	190		540	540		100	
		No Project		8	38	#518	12	0		181	207		7	
		With Project		220	66	#516	23	0		216	111		7	
		Mitigated		220	66	#435	20	0		132	111		7	
9	Doolan Road & N. Canyons Parkway	Storage	150	500		135	650			250			250	
		No Project	#N/A			5	2			0			1	
		With Project	5	160		#55	23			15			15	

10	Isabel Avenue & Portola Avenue	Storage	850	850	350	420	1,000		300	1,850	300	195	400	
		No Project	24	124	42	89	67		159	162	49	140	120	
		With Project	24	197	42	87	66		157	158	41	135	121	
11	Isabel Avenue & I-580 WB Ramps	Storage				1,500		460		1,315			1,830	320
		No Project				266		89		191			209	50
		With Project				257		77		173			214	51
12	Isabel Avenue & I-580 EB Ramps	Storage	255		255					1,050			1,322	
		No Project	95		178					123			522	
		With Project	79		166					109			497	
13	Murrieta Boulevard & Portola Avenue	Storage	75	1,500		360	825		175	1,000	1,000		100	
		No Project	11	499		336	122		90	90	93		25	
		With Project	11	#662		336	120		88	88	88		25	
14	Croak Road & Dublin Boulevard Extension	Storage	210	500	250	150	500	250	150	150		150	150	
		No Project	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A		#N/A	#N/A	
		With Project	#177	118	2	5	8	15	9	0		26	0	

Grey highlights indicate queue exceeds the turn pocket storage for turn movements or extends into an upstream signalized intersection for through movements

Bold Italic text indicates a significant impact

95th percentile volume exceeds capacity, queue may be longer.

Source: Kittelson & Associates, Inc. 2018

2040 DESIGN YEAR

Cumulative 2040 conditions were analyzed to provide an estimation of anticipated conditions for the Project's design year of 2040. Traffic volumes for 2040 cumulative without Project conditions were developed using the Alameda CTC Countywide Travel Demand model with all City of Dublin General Plan land uses updated which accounts for background traffic growth between existing conditions and 2040 and approved but not yet constructed and occupied changes to the land use in the area.

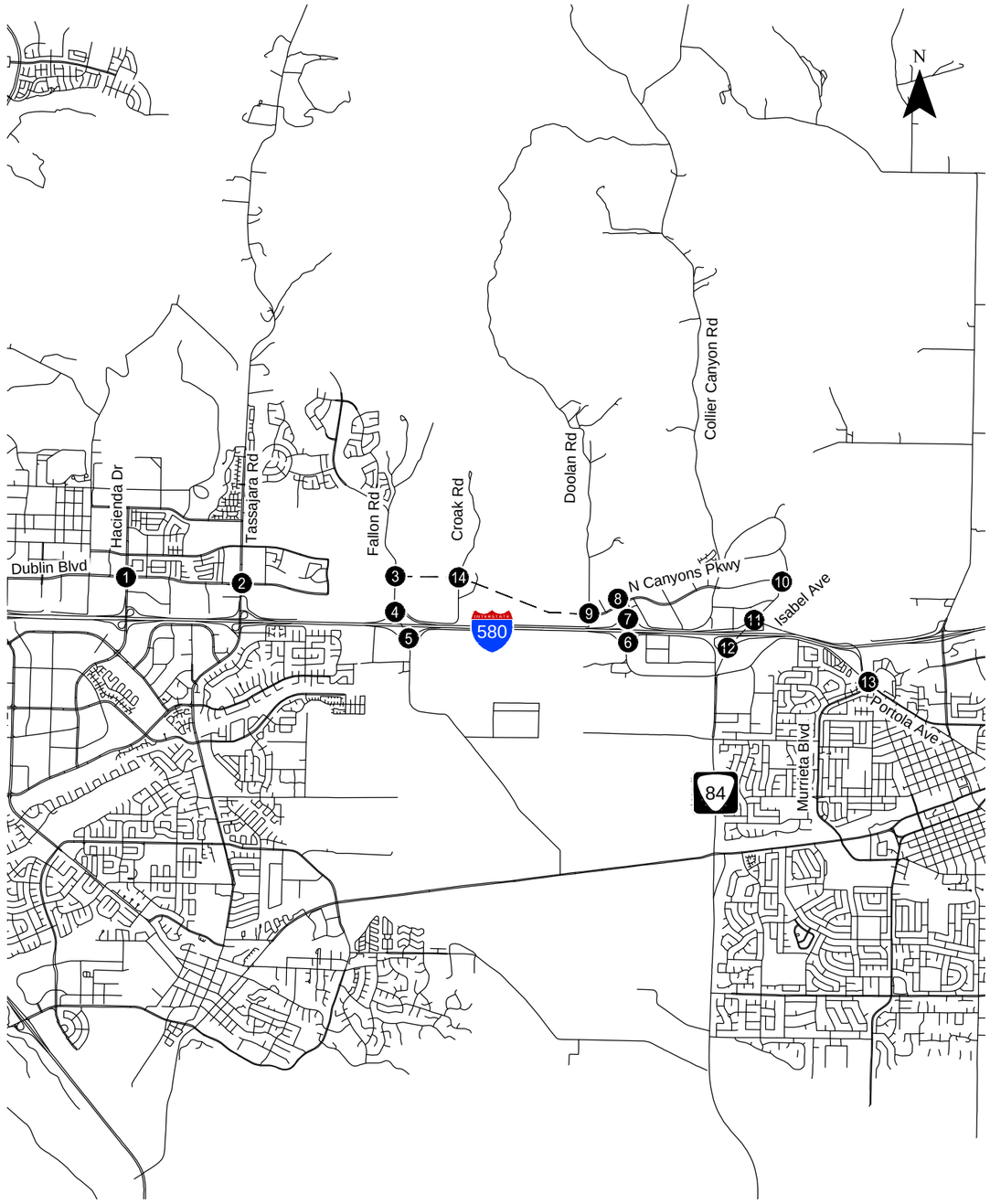
Network Assumptions

The following changes to the transportation network between existing and 2040 conditions were assumed to have been implemented prior to the Project:

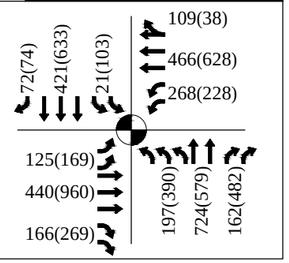
- The Portola Avenue bridge over I-580 was widened from one lane in each direction to two lanes in each direction.
- Tassajara Road and Dublin Boulevard was improved consistent with the Eastern Dublin Traffic Impact Fee (TIF).
- Fallon Road and Dublin Boulevard intersection was improved to be consistent with the Eastern Dublin Specific Plan. The final lane configurations include:
    - Northbound Approach: three left turn lanes, four through lanes, and two right turn lanes.
    - Southbound Approach: two left turn lanes, four through lanes, and one right turn lane.
    - Eastbound Approach: two left turn lanes, three through lanes, and two right turn lanes.
    - Westbound Approach: two left turn lanes, three through lanes, and one right turn lane.
    - Signal timing improvements including optimization and overlaps for the northbound right turn movement.
- Fallon Road and I-580 Ramps assumed the construction of the Phase II interchange. improvements which have three through lanes in the northbound and southbound directions.

Heavy vehicle percentages, peak hour factors, traffic signal timings, and pedestrian and bicycle activity at the study intersections were left unchanged from existing conditions.

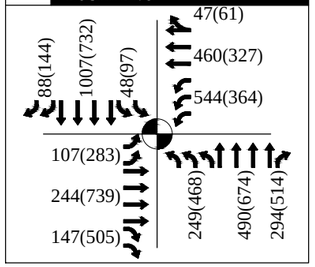
Exhibit 20 and Exhibit 21 show the estimated 2040 traffic volumes and lane configurations without and with the Project, respectively



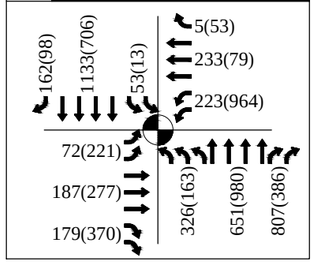
1 Hacienda Dr / Dublin Blvd



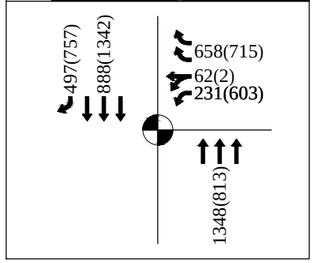
2 Tassajarra Rd / Dublin Blvd



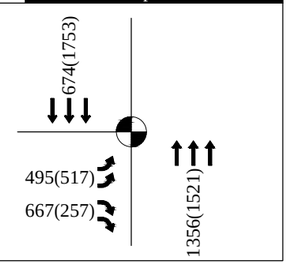
3 Fallon Rd / Dublin Blvd



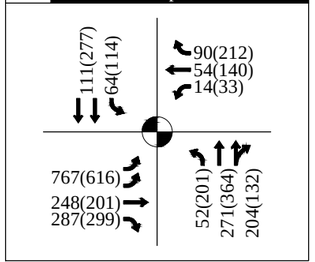
4 Fallon Rd / I-580 WB Ramps



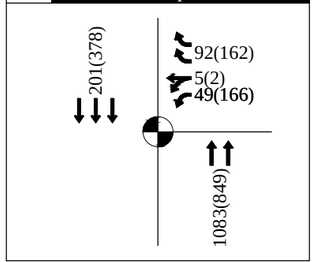
5 El Charro Rd / I-580 EB Ramps



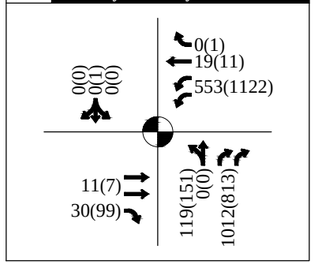
6 Airway Blvd / I-580 EB Ramps



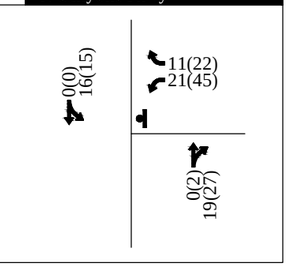
7 Airway Blvd / I-580 WB Ramps



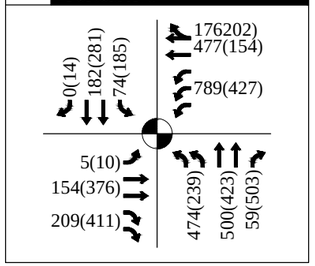
8 Airway Blvd / N Canyons Pkwy



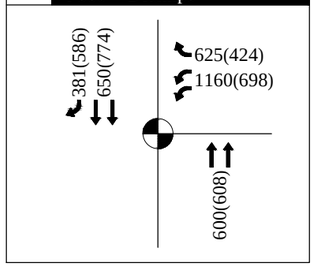
9 Doolan Rd / N Canyons Pkwy



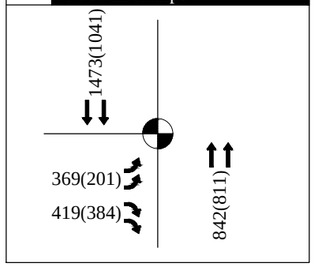
10 Isabel Ave / Portola Ave



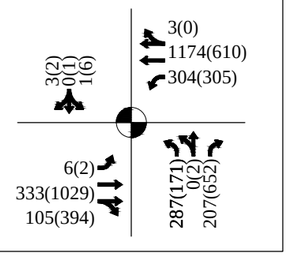
11 Isabel Ave / I-580 WB Ramps



12 Isabel Ave / I-580 EB Ramps



13 Murrieta Blvd / Portola Ave



14 Croak Rd / Dublin Blvd

PROPOSED INTERSECTION

AM(PM) - Traffic Volume

- Traffic Signal

- - - Proposed Project

2040 Cumulative No Project
Volumes and Lane Configurations
Livermore, California

Exhibit 20

KITTELSON & ASSOCIATES

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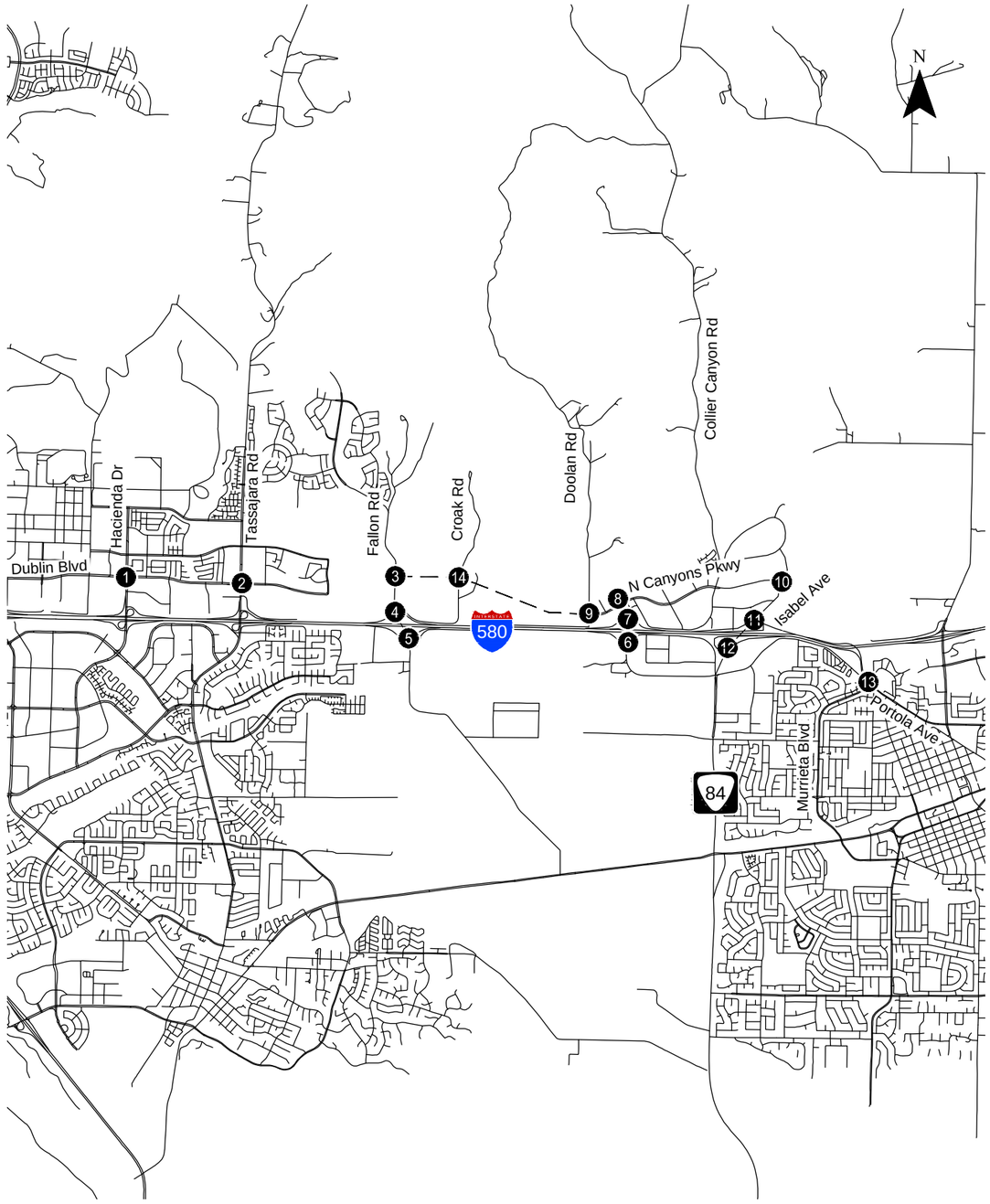
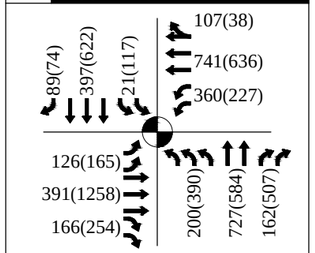
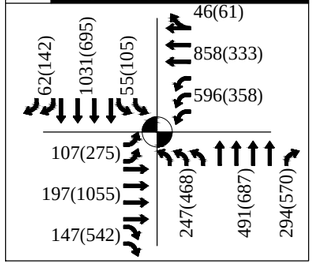


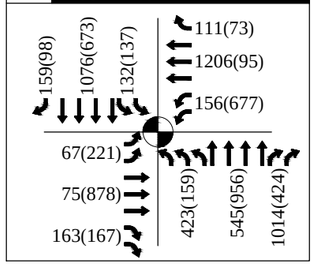
1 Hacienda Dr / Dublin Blvd



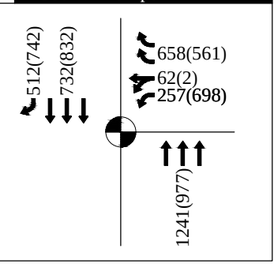
2 Tassajarra Rd / Dublin Blvd



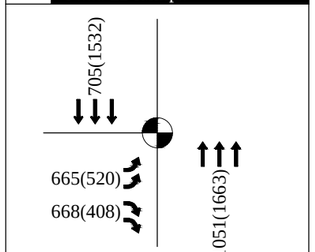
3 Fallon Rd / Dublin Blvd



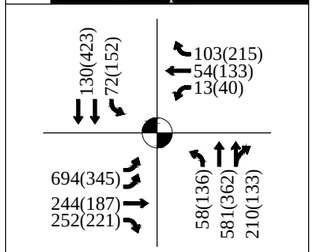
4 Fallon Rd / I-580 WB Ramps



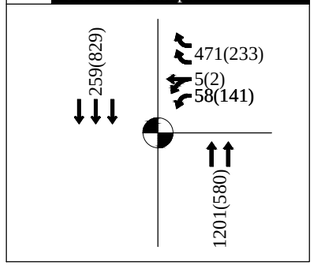
5 El Charro Rd / I-580 EB Ramps



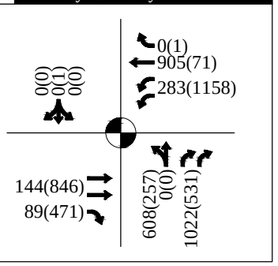
6 Airway Blvd / I-580 EB Ramps



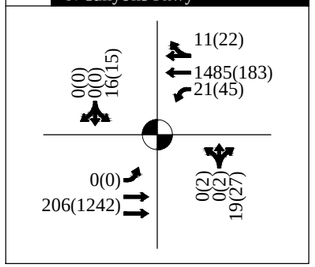
7 Airway Blvd / I-580 WB Ramps



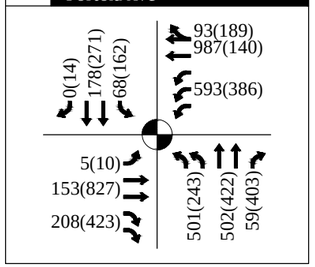
8 Airway Blvd / N Canyons Pkwy



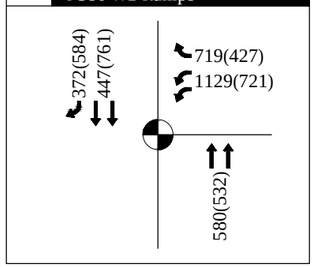
9 Doolan Rd / N Canyons Pkwy



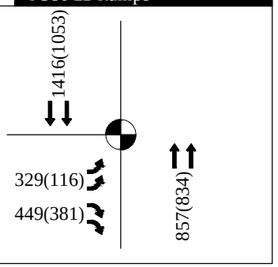
10 Isabel Ave / Portola Ave



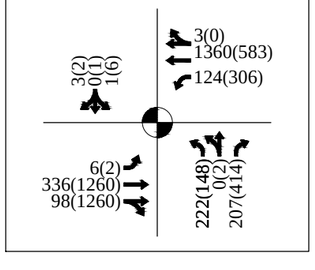
11 Isabel Ave / I-580 WB Ramps



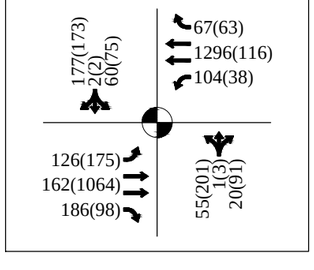
12 Isabel Ave / I-580 EB Ramps



13 Murrieta Blvd / Portola Ave



14 Croak Rd / Dublin Blvd



AM(PM) - Traffic Volume

- Traffic Signal

- - - Proposed Project

2040 Cumulative Plus Project
Volumes and Lane Configurations
Livermore, California

Exhibit 21

KITTELSON & ASSOCIATES

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2040 Cumulative Conditions Intersection Levels of Service

Levels of service calculations were conducted to evaluate intersection operations under 2040 cumulative conditions both with and without the project. The corresponding LOS calculation sheets are included in Appendix 6. The delay, LOS, and V/C ratio findings from this analysis are summarized in Exhibit 22 and Exhibit 23 for the AM and PM peak hours, respectively. The findings of the analysis indicate that the following intersections would degrade below the LOS standard for the intersection because of the Project:

- **Airway Boulevard & N. Canyons Parkway (#8)** – The Project causes the LOS to degrade from LOS E to LOS F in the AM peak hour which is below the LOS E standard for this intersection. The PM peak hour is also impacted with the Project causing the delay for this intersection already operating at a substandard LOS to increase the average vehicle delay by 5 seconds or more. These Project impacts are caused by the significant increase in the northbound left turn traffic volumes as vehicles access the Project.

2040 Cumulative Conditions 95th Percentile Queue Lengths

In addition to determining intersection delay, Kittelson also estimated 95th percentile queue lengths to determine if the Project causes queueing impacts. The findings for the 95th percentile queue length in the AM and PM peak hours are shown in Exhibit 24 and Exhibit 25, respectively. Detailed queue worksheets for these findings are included in Appendix 7. Intersection movements where the Project causes a turn pocket to exceed its available storage by more than 25 feet or increase a queue already exceeding the available turn pocket storage by more than 25 feet include:

- Airway Boulevard & N. Canyons Parkway (#8) – The Project causes the southbound left turn queue, which is already exceeding the available turn pocket storage, to increase by more than 25 feet (29 feet) during the PM peak hour.
- Isabel Avenue & I-580 Westbound Ramps (#11) – the Project causes westbound right turn lane queue to exceed the available storage by more than 25 feet (58 feet) during the AM peak hour.

Impacts and Mitigation Measures

This section documents the intersections impacted by the project under 2040 cumulative conditions and proposes mitigation measures. The analysis files for the mitigation measures are in Appendix 12 and Appendix 13 for the LOS and queue worksheets, respectively.

Impact TRAF-7: The change in travel patterns resulting from the proposed Project would result in unacceptable operations at the intersection of Airway Boulevard and N. Canyons Parkway (#8) during the AM and PM peak hours for cumulative conditions.

As one of the primary intersections to access the Project, this intersection experiences significant growth to the northbound left turn and westbound through movements. The existing lane configuration of a

single shared left and through lane for both left and through movements for the northbound approach is insufficient to handle this demand.

Mitigation Measure TRAF-7: The City of Livermore is to implement mitigation measure TRAF-2 at the time of Project completion.

Implementation of Mitigation Measure TRAF-7 would improve the operation of this intersection to LOS C during the AM peak hour and LOS D during the PM peak hour lessening Project's impact to less than significant. However, because the City of Dublin as the lead agency for this project cannot guarantee the implementation and timing of the mitigation measure as it is outside the control and jurisdiction of the City, this impact remains significant and unavoidable. The City of Livermore, City of Dublin, and Alameda County are coordinating on this project to meet their General Plan's objectives including the planned extension of this roadway. Dublin and Livermore currently have a funding agreement Memorandum of Understanding (MOU) and are exploring a separate 2 or 3-way MOU with Alameda County to continue to work together to identify the funding and timing for this mitigation.

Significance After Mitigation: Significant and unavoidable.

Impact TRAF-8: The change in travel patterns resulting from the proposed Project would result in the westbound queue at Airway Boulevard and N. Canyons Parkway (#8), which is already exceeding the available storage, to increase by more than 25 feet (29 feet) during the PM peak hour for cumulative conditions.

As one of the primary intersections to access the Project, this intersection experiences significant growth in demand. The signal timing and lane configuration is unable to provide sufficient capacity to meet the demand for this movement.

Mitigation Measure TRAF-8: The City of Livermore is to implement mitigation measure TRAF-2 at the time of Project completion.

Implementation of Mitigation Measure TRAF-8 would reduce the westbound left turn queue to less than the no project condition and lessen the Project's impact to less than significant. However, because the City of Dublin as the lead agency for this project cannot guarantee the implementation and timing of the mitigation measure as it is outside the control and jurisdiction of the City, this impact remains significant and unavoidable. The City of Livermore, City of Dublin, and Alameda County are coordinating on this project to meet their General Plan's objectives including the planned extension of this roadway. Dublin and Livermore currently have a funding agreement Memorandum of Understanding (MOU) and are exploring a separate 2 or 3-way MOU with Alameda County to continue to work together to identify the funding and timing for this mitigation.

Significance After Mitigation: Significant and unavoidable.

Impact TRAF-9: The change in travel patterns resulting from the proposed Project would result in the westbound right turn at the intersection of Isabel Avenue and I-580 Westbound Off-Ramps (#11) during the AM peak hour to exceed the available turn pocket storage by more than 25 feet (58 feet) for cumulative conditions.

The increased demand for vehicles exiting the freeway to access the Project exceeds the ability for the signal with its existing signal timings to provide sufficient capacity for the movement.

Mitigation Measure TRAF-9: Caltrans is to optimize the traffic signal at Isabel Avenue and I-580 Westbound Ramps by the year 2035 to increase the green time for the westbound right turn movement.

Implementation of Mitigation Measure TRAF-9 would reduce the queue to 439 feet allowing it to be contained within the available storage and reducing the Project's impact to less than significant. However, this intersection is under the jurisdiction of Caltrans and the timing and implementation of the proposed mitigation cannot be guaranteed. Therefore, the impact remains significant and unavoidable.

Significance After Mitigation: Significant and unavoidable.

Exhibit 22: 2040 Cumulative AM Peak Hour Intersection Operation Findings

#	Location	LOS Standard	2040 AM			2040 AM + Project			2040 AM + Project Mitigated		
			V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	D	0.56	26.3	C	0.66	28.7	C			
2	Tassajara Road & Dublin Boulevard	D	0.55	28.1	C	0.63	31.2	C			
3	Fallon Road & Dublin Boulevard	D	0.48	21.9	C	0.70	28.5	C			
4	Fallon Road & I-580 WB Ramps	D	0.66	9.8	A	0.63	9.8	A			
5	El Charro Road & I-580 EB Ramps	D	0.63	10.0	A	0.58	9.3	A			
6	Airway Boulevard & I-580 EB Ramps	E	0.54	31.7	C	0.67	35.9	D			
7	Airway Boulevard & I-580 WB Ramps	E	0.43	5.4	A	0.65	17.8	B			
8	Airway Boulevard & N. Canyons Parkway	E	0.41	57.3	E	***1.20***	***85.3***	***F***	0.68	20.8	C
9	Doolan Road & N. Canyons Parkway	Mid-D	0.03	8.8	A	0.59	3.8	A			
10	Isabel Avenue & Portola Avenue	E	0.79	37.7	D	0.93	44.0	D			
11	Isabel Avenue & I-580 WB Ramps	E	0.94	31.6	C	0.99	46.4	D	0.96	23.0	C
12	Isabel Avenue & I-580 EB Ramps	E	0.85	27.2	C	0.83	24.5	C			
13	Murrieta Boulevard & Portola Avenue	Mid-D	0.64	25.1	C	0.62	19.3	B			
14	Dublin Boulevard Extension & Croak Road	D				0.66	14.7	B			

Grey highlights indicate LOS below the LOS standard
Bold Italic text indicates a significant impact
Source: Kittelson & Associates, Inc. 2018

Exhibit 23: 2040 Cumulative PM Peak Hour Intersection Operation Findings

#	Location	LOS Standard	2040 PM			2040 PM + Project			2040 PM + Project Mitigated		
			V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	D	0.64	33.0	C	0.71	34.8	C			
2	Tassajara Road & Dublin Boulevard	D	0.55	31.9	C	0.65	34.2	C			
3	Fallon Road & Dublin Boulevard	D	0.70	37.1	D	0.74	41.0	D	0.76	52.3	D
4	Fallon Road & I-580 WB Ramps	D	0.65	10.2	B	0.66	11.6	B			
5	El Charro Road & I-580 EB Ramps	D	0.65	8.9	A	0.62	9.1	A			
6	Airway Boulevard & I-580 EB Ramps	E	0.62	34.9	C	0.50	33.0	C			
7	Airway Boulevard & I-580 WB Ramps	E	0.37	12.7	B	0.27	10.5	B			
8	Airway Boulevard & N. Canyons Parkway	E	0.58	94.2	F	***1.02***	***105.9***	***F***	0.91	42.3	D
9	Doolan Road & N. Canyons Parkway	Mid-D	0.06	9.0	A	0.55	7.5	A			
10	Isabel Avenue & Portola Avenue	E	0.55	30.4	C	0.68	33.3	C			
11	Isabel Avenue & I-580 WB Ramps	E	0.70	12.2	B	0.69	12.0	B			
12	Isabel Avenue & I-580 EB Ramps	E	0.61	12.5	B	0.61	11.5	B			
13	Murrieta Boulevard & Portola Avenue	Mid-D	0.92	51.2	D	0.78	32.9	C			
14	Dublin Boulevard Extension & Croak Road	D				0.70	10.7	B			

Grey highlights indicate LOS below the LOS standard
Bold Italic text indicates a significant impact
Source: Kittelson & Associates, Inc. 2018

Exhibit 24: 2040 Cumulative 95th Percentile Queue Lengths in Feet during the AM Peak Hour

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Hacienda Drive and Dublin Boulevard	Storage	270	515	240	260	670		250	460	240	280	720	215
		No Project	91	144	29	168	164		90	371	28	25	144	25
		With Project	92	130	29	223	260		91	375	28	25	138	42
2	Tassajara Road & Dublin Boulevard	Storage	250	565	300	380	830		355	930	930	280	635	250
		No Project	74	65	28	196	145		100	110	63	41	245	18
		With Project	74	54	28	214	272		99	111	63	45	252	6
3	Fallon Road & Dublin Boulevard	Storage	340	640	410	485	500		405	580	400	450	1,250	290
		No Project	50	59	53	#162	71		113	113	48	40	224	45
		With Project	48	28	48	#100	#385		146	98	34	81	214	45
4	Fallon Road and I-580 WB Ramps	Storage				1,500	1,500	1,500		1,000			650	220
		No Project				96	96	158		133			50	23
		With Project				104	104	154		120			41	23
5	El Charro Road & I-580 EB Ramps	Storage	275		275					825			1,050	
		No Project	132		142					190			81	
		With Project	138		113					120			75	
6	Airway Boulevard & I-580 EB Ramps	Storage	575	380	380	250	1,000	250	360	1,000	1,000	815	815	
		No Project	#382	239	64	30	78	39	77	145	0	87	63	
		With Project	317	235	61	27	78	72	84	#360	0	103	80	
7	Airway Boulevard and I-580 WB Ramps	Storage				115	1,350	475		780			530	
		No Project				49	50	23		16			0	
		With Project				53	54	203		553			2	
8	Airway Boulevard & N. Canyons Parkway	Storage		500	500	510	510	190		540	540		100	
		No Project		11	0	236	16	0		148	239		0	
		With Project		73	30	132	#956	0		#698	189		0	
		Mitigated		49	26	128	195	0		268	18		0	
9	Doolan Road & N. Canyons Parkway	Storage	150	500		135	650			250			250	
		No Project	#N/A			2	1			0			1	
		With Project	0	49		34	372			0			21	
10		Storage	850	850	350	420	1,000		300	1,850	300	195	400	

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	Isabel Avenue & Portola Avenue	No Project	19	82	13	#337	267		#350	291	17	115	111	
		With Project	19	81	13	228	524		#375	289	17	107	108	
11	Isabel Avenue & I-580 WB Ramps	Storage				1,500		460		1,315			1,830	320
		No Project				#673		402		268			166	25
		With Project				#637		***518***		258			110	25
		Mitigated				318		#439		197			122	36
12	Isabel Avenue & I-580 EB Ramps	Storage	255		255					1,050			1,322	
		No Project	189		171					141			#775	
		With Project	171		184					135			#726	
13	Murrieta Boulevard & Portola Avenue	Storage	75	1,500		360	825		175	1,000	1,000		100	
		No Project	20	193		314	429		174	175	63		0	
		With Project	20	153		156	544		138	138	63		0	
14	Croak Road & Dublin Boulevard Extension	Storage	210	500	250	150	500	250	150	150		150	150	
		No Project	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A		#N/A	#N/A	
		With Project	#208	30	23	63	404	20	61	19		61	72	

Grey highlights indicate queue exceeds the turn pocket storage for turn movements or extends into an upstream signalized intersection for through movements

Bold Italic text indicates a significant impact

95th percentile volume exceeds capacity, queue may be longer.

Source: Kittelson & Associates, Inc. 2018

Exhibit 25: 2040 Cumulative 95th Percentile Queue Lengths in Feet during the PM Peak Hour

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Hacienda Drive and Dublin Boulevard	Storage	270	515	240	260	670		250	460	240	280	720	215
		No Project	115	324	35	146	208		157	297	43	78	230	29
		With Project	112	447	53	145	208		157	303	44	86	225	30
2	Tassajara Road & Dublin Boulevard	Storage	250	565	300	380	830		355	930	930	280	635	250
		No Project	172	179	43	146	120		181	166	210	73	201	31
		With Project	164	255	48	141	119		178	169	314	76	190	30
3	Fallon Road & Dublin Boulevard	Storage	340	640	410	485	500		405	580	400	450	1,250	290
		No Project	154	116	188	#640	30		85	273	28	19	202	30
		With Project	153	#375	68	378	35		82	262	106	#172	190	29
		Mitigated	127	270	42	#482	32		#93	213	111	87	136	27
4	Fallon Road and I-580 WB Ramps	Storage				1,500	1,500	1,500		1,000			650	220
		No Project				#189	#191	123		87			106	37
		With Project				#230	#232	97		107			60	36
5	El Charro Road & I-580 EB Ramps	Storage	275		275					825			1,050	
		No Project	148		82					158			200	
		With Project	149		129					181			164	
6	Airway Boulevard & I-580 EB Ramps	Storage	575	380	380	250	1,000	250	360	1,000	1,000	815	815	
		No Project	270	190	66	51	159	111	#324	187	0	147	155	
		With Project	148	178	59	58	151	74	#205	186	0	#212	210	
7	Airway Boulevard and I-580 WB Ramps	Storage				115	1,350	475		780			530	
		No Project				111	110	29		248			m12	
		With Project				98	97	34		143			m9	
8	Airway Boulevard & N. Canyons Parkway	Storage		500	500	510	510	190		540	540		100	
		No Project		8	38	#736	12	0		181	232		7	
		With Project		#513	89	***#765***	47	0		280	144		7	
		Mitigated		#490	211	#644	13	0		#246	29		7	
9	Doolan Road & N. Canyons Parkway	Storage	150	500		135	650			250			250	
		No Project	#N/A	#N/A		5	2			0			1	
		With Project	0	#419		#55	36			15			15	

#	Location		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
10	Isabel Avenue & Portola Avenue	Storage	850	850	350	420	1,000		300	1,850	300	195	400	
		No Project	27	185	43	150	84		135	203	177	222	130	
		With Project	26	#480	60	139	78		138	205	84	197	127	
11	Isabel Avenue & I-580 WB Ramps	Storage				1,500		460		1,315			1,830	320
		No Project				175		163		157			150	46
		With Project				170		139		136			148	47
12	Isabel Avenue & I-580 EB Ramps	Storage	255		255					1,050			1,322	
		No Project	73		100					81			256	
		With Project	45		95					68			237	
13	Murrieta Boulevard & Portola Avenue	Storage	75	1,500		360	825		175	1,000	1,000		100	
		No Project	11	#992		348	189		123	121	#427		25	
		With Project	11	#1025		345	172		111	109	99		25	
14	Croak Road & Dublin Boulevard Extension	Storage	210	500	250	150	500	250	150	150		150	150	
		No Project	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A		#N/A	#N/A	
		With Project	#176	237	22	36	36	18	106	39		41	31	

Grey highlights indicate queue exceeds the turn pocket storage for turn movements or extends into an upstream signalized intersection for through movements

Bold Italic text indicates a significant impact

95th percentile volume exceeds capacity, queue may be longer.

Source: Kittelson & Associates, Inc. 2018

MULTIMODAL ANALYSIS

Previous sections of this transportation analysis have focused on the potential impacts the Project would have on vehicular circulation and access. This section focuses on impacts to the non-vehicle modes including pedestrians, bicycles, and transit passengers.

PEDESTRIAN FACILITIES

Pedestrians would be impacted by this Project if their circulation, access, and safety would be substantially impeded.

Under existing conditions, there is no pedestrian connectivity between Dublin and Livermore along the north side of I-580. Pedestrians would need to divert down Isabel Avenue and travel along Jack London Boulevard to walk between these cities today. The Project would provide a more direct pedestrian connection along the north side of I-580 connecting the Fallon Road and Dublin Boulevard intersection in Dublin with the Doolan Road and North Canyons Parkway intersection in Livermore. The proposed cross section for this new roadway connection includes a sidewalk on one side and a multiuse pathway on the other. By providing this connection on the north side of I-580, the Project is improving connectivity rather than impeding it.

Pedestrian access to the new roadway facilities would be from the intersections of Fallon Road and Dublin Boulevard and from Doolan Road and North Canyons Parkway. The Fallon Road and Dublin Boulevard intersection does not currently provide for pedestrian crosswalks across Fallon Road. However, the proposed Project would add these crosswalks providing pedestrian access to the new facility on the west end. Similarly, the Doolan Road and North Canyons Parkway intersection does not provide pedestrian access across Doolan Road because there are no land uses on the west side today. As the Project is built, this intersection will be improved to a signalized intersection providing full pedestrian signals and crosswalks.

Pedestrian safety is not anticipated to be impeded because of this Project. The new sidewalk and multiuse trail would be built to the latest applicable standards ensuring adequate separation between pedestrians and vehicle traffic. At the access intersections, the signals would be updated when the crosswalks are installed to have pedestrian signals and to provide sufficient time for pedestrians to cross the intersection. Therefore, the project is anticipated to have beneficial effects on pedestrians resulting in a less than significant impact.

BICYCLE FACILITIES

Similar to pedestrians, bicycles would be significantly impacted by the Project if it caused their circulation, access, and safety to be substantially impeded. The new connection would improve bicycle connectivity north of I-580 where there are no bicycle facilities today. The Project would implement a multiuse path along with bikeways (separated) and/or bicycle lanes along Dublin Boulevard to facilitate the connection

between Doolan Road in Livermore and Fallon Road in Dublin. Access to these new facilities would occur via signalized intersections at Fallon Road and Doolan Road. As part of the Project, the signal timing at these intersections would be improved and brought up to the latest standards for providing sufficient green time to accommodate bicycle movements.

Bicycle safety along the Project would be addressed through the design of the bikeways/bike lanes and multiuse path. These facilities would be designed to meet current standards providing sufficient separation between bicyclists and motor vehicle traffic. Therefore, the Project is not anticipated to significantly impede bicycle safety.

TRANSIT SERVICES

The primary goals of transit service in the project area are to increase ridership, improve access to BART, and reduce system inefficiencies. Similar to the bicycle and pedestrian modes, the Project will provide a roadway connection on the north side of I-580 better connecting the cities of Dublin and Livermore. This new connection would provide LAVTA the ability to relocate Route 30R from the freeway to the Project between Airway Boulevard and Fallon Road avoiding the I-580 freeway which is heavily congested during the peak commute periods. This is anticipated to improve transit travel times which may increase ridership.

The Project also provides the option to provide for future transit improvements including dedicated transit lanes and queue jumps. The dedicated transit lane would require the construction of an additional lane in each direction between Croak Road and Doolan Road increasing the roadway from four lanes (two in each direction) to six lanes (three in each direction). Based on 2040 traffic volume forecasts, the travel speed along the corridor for a transit vehicle is not anticipated to change significantly with the addition of the transit only lane (Exhibit 26). While the transit only lane is not anticipated to be needed in 2040 at this time, future land use assumptions may change the demand for the Dublin Boulevard Extension which may show a significant speed advantage for transit vehicles using a transit only-lane.

Exhibit 26: Four-Lane Versus Six-Lane Transit Travel Speeds for the Project

Travel Speeds (mph)	AM Peak Hour	PM Peak Hour
Four-Lane (No Transit-Only Lane)	38.5 mph	39.7 mph
Six-Lane (Transit-Only Lane)	39.6 mph	39.9 mph
Difference	1.1 mph (3%)	0.2 mph (1%)
Source: Alameda CTC Model and Kittelson and Associates, Inc., 2018		

Another transit improvement that can be considered as the Project is built is the installation of transit queue jumps. A queue jump provides preference to transit vehicle by providing an additional approach lane to the intersection. This lane is often restricted to transit vehicles only by may serve a dual purpose

as a right turn lane. Once a transit vehicle is detected in a queue jump lanes, they receive signal priority reducing delay for the transit vehicle at the intersection. To accommodate queue jumps, the Project has designed long right turn lanes (about 250 feet) at the intersections of Dublin Boulevard with Fallon Road and Croak Road. These lanes can be converted to exclusive transit queue jump lanes in the future based on the needs of the local transit agency.

Since the Project would provide better local connections for transit vehicles and it allows for options to improve transit performance, the Project's impact on transit will be less than significant.

TRANSPORTATION OPERATIONS SUMMARY

The Dublin Boulevard Extension Project would connect the intersection of Dublin Boulevard and Fallon Road in Dublin with the intersection of Doolan Road and N. Canyons Parkway in Livermore. Kittelson assessed the potential transportation impacts of this project during existing conditions, the anticipated opening year (2025), and cumulative (2040) conditions. The main findings of this analysis include:

- Existing Conditions
    - The Project would result in significant traffic operations impacts to two intersections including Fallon Road/Dublin Boulevard and Airway Boulevard/N. Canyons Parkway.
    - Mitigations for these two intersections would require additional lanes to accommodate the increased traffic volume. Fallon Road/Dublin Boulevard would need to be expanded to incorporate the mitigation measures from the Kaiser EIR in addition to elements of the planned intersection improvements documented in the Eastern Dublin Transportation Impact Fee Program. The intersection of Airway Boulevard/N. Canyons Parkway would require additional lanes for the northbound and westbound approaches. These additional lanes could be accommodated within the existing right-of-way.
- 2025 Near-Term Conditions
    - The Project would result in significant traffic operations impacts to two intersections including Fallon Road/Dublin Boulevard and Airway Boulevard/N. Canyons Parkway.
    - Mitigations for these two intersections would require additional lanes to accommodate the increased traffic volume. Fallon Road/Dublin Boulevard would need to be expanded to incorporate elements of the planned intersection improvements documented in the Eastern Dublin Transportation Impact Fee Program. The intersection of Airway Boulevard/N. Canyons Parkway would require additional lanes for the northbound and westbound approaches. These additional lanes could be accommodated within the existing right-of-way.
- 2040 Cumulative Conditions
    - The Project would result in significant traffic operations impacts to the intersection of Airway Boulevard and N. Canyons Parkway.
    - Similar to the 2025 mitigation requirements, adding additional lanes to the northbound and westbound approach would eliminate this significant impact. These additional lanes can be accommodated within the existing right-of-way.
    - Queue impacts were also found at the following three intersections in 2040. Mitigation of these queue impacts include updating the signal timing to better align with future traffic volumes:
        - Airway Boulevard & N. Canyons Parkway (#8)
        - Isabel Avenue & I-580 Westbound Ramps (#11)
- Pedestrians, Bicycles, and Transit
    - The Project would increase connectivity for the pedestrian and bicycle modes by connecting Dublin and Livermore north of I-580. The Project would provide pedestrian and bicycle facilities consistent with the latest design standards.

- The Project also provides an alternative transit route for transit agencies to avoid the heavily congested I-580 freeway for local transit trips between Dublin and Livermore north of I-580. The Project design has considered transit improvements such as dedicated transit lanes and queue jumps. While the future demand forecasts do not currently show a benefit of having a transit-only lane, this could change as projected land uses in the area change. The Project has also accommodated the future potential for queue jumps by designing longer right turn lanes that may eventually serve as transit queue jump lanes.

Appendix 1
Traffic Count Data

Type of peak hour being reported: Intersection Peak

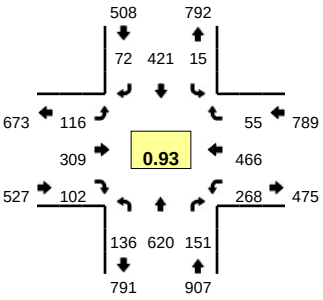
Method for determining peak hour: Total Entering Volume

LOCATION: 1 - Hacienda Dr -- Dublin Blvd

CITY/STATE: Dublin, CA

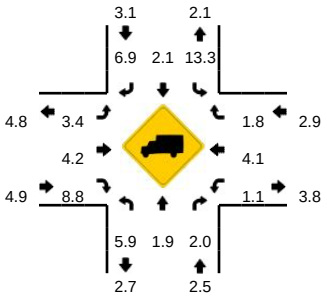
QC JOB #: 13967625

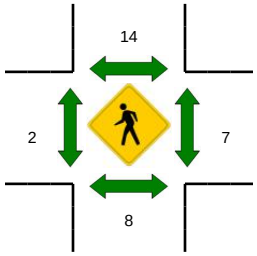
DATE: Thu, Jan 26 2017

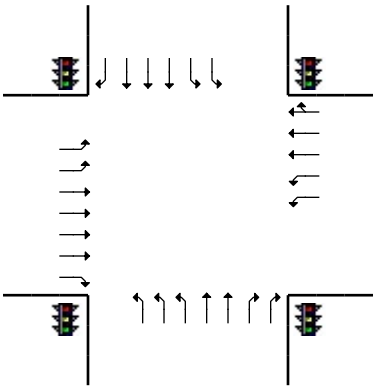


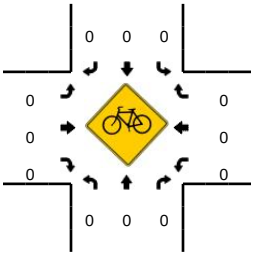
Peak-Hour: 8:00 AM -- 9:00 AM

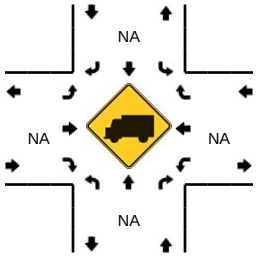
Peak 15-Min: 8:20 AM -- 8:35 AM

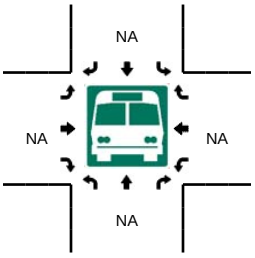












5-Min Count Period Beginning At	1 - Hacienda Dr (Northbound)				1 - Hacienda Dr (Southbound)				Dublin Blvd (Eastbound)				Dublin Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	28	41	6	0	0	13	0	0	2	12	6	0	8	36	0	0	152	
7:05 AM	24	25	0	0	1	8	4	1	1	13	8	0	9	71	3	0	168	
7:10 AM	13	29	3	0	1	17	8	0	3	12	6	0	16	60	3	0	171	
7:15 AM	18	30	9	0	2	20	9	0	8	5	6	0	13	59	4	0	183	
7:20 AM	9	47	7	0	0	18	5	0	7	8	7	0	25	86	9	0	228	
7:25 AM	10	38	8	1	0	31	8	1	3	17	4	0	12	46	2	0	181	
7:30 AM	20	39	5	0	0	17	8	0	11	13	6	0	19	76	5	0	219	
7:35 AM	15	36	4	0	2	31	15	0	1	19	9	0	20	101	3	0	256	
7:40 AM	11	34	10	0	0	28	23	0	10	21	3	0	16	73	2	0	231	
7:45 AM	18	53	20	0	2	26	8	0	7	18	5	0	13	69	9	0	248	
7:50 AM	9	44	13	0	0	31	6	0	3	22	2	0	17	30	3	0	180	
7:55 AM	8	43	8	0	0	23	1	0	23	29	2	1	20	49	8	0	215	2432
8:00 AM	11	62	9	0	2	18	1	0	24	27	10	0	26	33	6	0	229	2509
8:05 AM	8	43	10	0	1	23	8	0	11	37	4	0	7	33	7	0	192	2533
8:10 AM	6	45	16	0	0	30	3	0	12	28	7	1	15	44	5	1	213	2575
8:15 AM	13	67	9	0	1	40	4	0	9	22	8	0	9	21	4	1	208	2600
8:20 AM	28	52	13	0	1	44	9	0	5	28	13	0	19	51	5	0	268	2640
8:25 AM	16	55	18	0	0	38	7	1	7	21	9	0	29	43	7	0	251	2710
8:30 AM	3	35	10	0	0	48	8	0	8	19	7	0	30	43	6	0	217	2708
8:35 AM	6	48	16	1	4	44	9	0	4	27	10	0	31	40	3	0	243	2695
8:40 AM	7	55	12	1	2	45	9	0	4	24	7	0	16	38	2	0	222	2686
8:45 AM	14	63	11	0	0	28	6	1	6	34	10	0	29	56	1	0	259	2697
8:50 AM	8	32	14	0	1	29	6	0	10	26	5	0	27	32	6	0	196	2713
8:55 AM	14	63	13	0	1	34	2	0	15	16	12	0	28	32	3	0	233	2731

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	188	568	164	0	4	520	96	4	80	272	116	0	312	548	72	0	2944
Heavy Trucks	8	8	12		0	12	0		8	12	16		4	20	4		104
Pedestrians		8				24				4				16			52
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 2 - Tassajara Rd -- Dublin Blvd

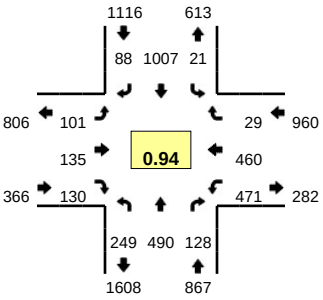
CITY/STATE: Alameda, CA

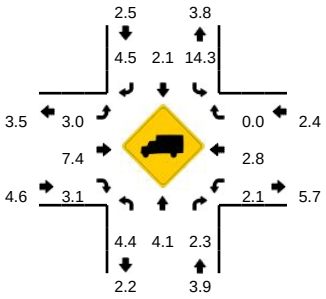
QC JOB #: 13967617

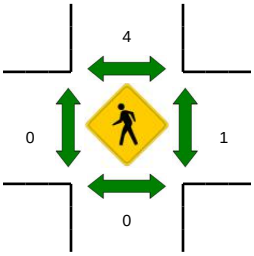
DATE: Thu, Jan 26 2017

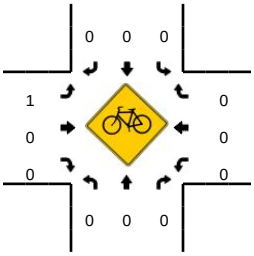
Peak-Hour: 7:50 AM -- 8:50 AM

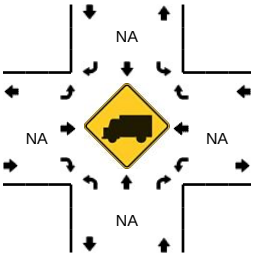
Peak 15-Min: 8:30 AM -- 8:45 AM

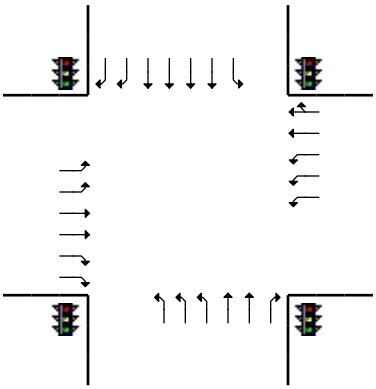


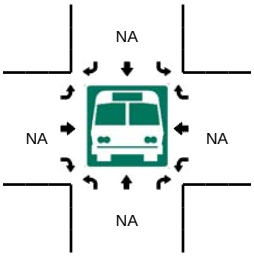












5-Min Count Period Beginning At	2 - Tassajara Rd (Northbound)				2 - Tassajara Rd (Southbound)				Dublin Blvd (Eastbound)				Dublin Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	29	45	8	0	1	39	10	0	2	4	2	0	26	21	0	0	187	
7:05 AM	44	26	8	0	0	34	3	0	1	5	7	0	32	31	2	0	193	
7:10 AM	17	39	7	0	1	55	4	0	9	4	11	0	28	34	4	0	213	
7:15 AM	15	30	5	0	2	50	8	0	1	4	8	1	36	81	1	0	242	
7:20 AM	27	42	8	0	1	59	10	0	4	1	9	0	28	25	3	0	217	
7:25 AM	20	39	5	0	0	52	4	0	3	8	7	0	23	79	4	0	244	
7:30 AM	34	51	5	0	0	81	7	0	4	3	12	1	32	40	7	0	277	
7:35 AM	30	45	8	0	0	58	12	0	1	7	15	0	28	47	3	0	254	
7:40 AM	14	41	7	0	1	60	4	0	6	15	9	0	54	52	2	0	265	
7:45 AM	29	36	5	0	2	63	7	0	2	3	5	0	34	37	3	0	226	
7:50 AM	16	54	11	0	3	93	5	0	10	8	6	2	24	40	1	0	273	
7:55 AM	14	29	11	0	3	67	6	0	6	7	10	0	45	46	2	0	246	2837
8:00 AM	22	31	11	0	2	71	4	0	8	19	16	0	24	24	0	0	232	2882
8:05 AM	14	50	7	0	0	65	7	0	11	16	10	0	35	43	5	0	263	2952
8:10 AM	31	42	10	0	2	82	6	1	5	6	8	0	45	37	3	0	278	3017
8:15 AM	22	55	9	0	0	108	9	0	9	11	8	0	35	32	2	0	300	3075
8:20 AM	16	31	9	0	3	69	8	0	5	10	14	0	58	47	4	0	274	3132
8:25 AM	13	24	21	0	0	87	7	0	9	19	14	1	42	46	2	0	285	3173
8:30 AM	32	49	6	0	0	118	11	0	7	7	7	1	35	38	0	0	311	3207
8:35 AM	20	39	7	0	1	81	4	0	11	6	17	0	54	34	5	0	279	3232
8:40 AM	22	39	14	0	2	90	10	0	7	19	6	1	43	37	3	0	293	3260
8:45 AM	27	47	12	0	3	76	11	1	4	7	14	4	31	36	2	0	275	3309
8:50 AM	24	23	11	0	1	60	5	0	8	17	12	1	37	42	4	0	245	3281
8:55 AM	35	39	9	0	3	91	6	0	8	5	13	0	32	18	2	0	261	3296

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	296	508	108	0	12	1156	100	0	100	128	120	8	528	436	32	0	3532
Heavy Trucks	8	20	4		0	20	4		4	16	0		8	4	0		88
Pedestrians		0				8				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

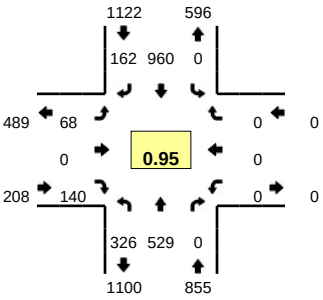
Method for determining peak hour: Total Entering Volume

LOCATION: 3 - Fallon Rd -- Dublin Blvd

CITY/STATE: Dublin, CA

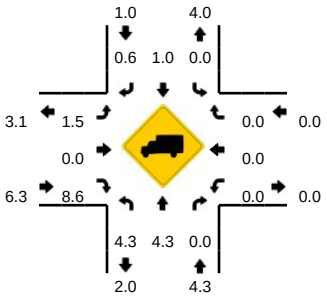
QC JOB #: 13967611

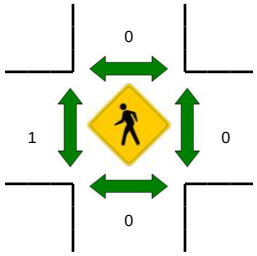
DATE: Thu, Jan 26 2017

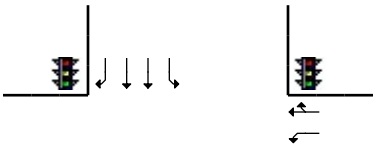


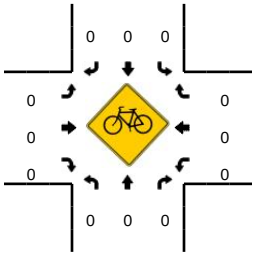
Peak-Hour: 7:35 AM -- 8:35 AM

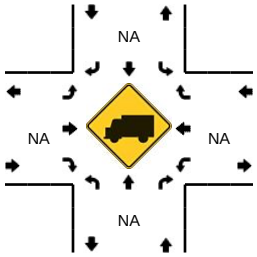
Peak 15-Min: 8:05 AM -- 8:20 AM

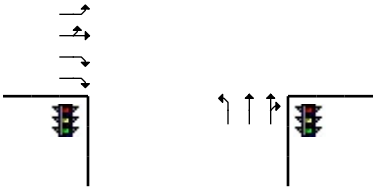


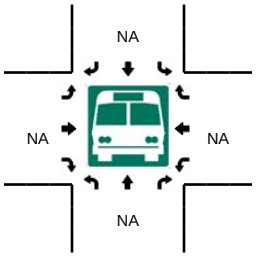












5-Min Count Period Beginning At	3 - Fallon Rd (Northbound)				3 - Fallon Rd (Southbound)				Dublin Blvd (Eastbound)				Dublin Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	19	31	0	0	0	36	5	0	4	0	13	0	0	0	0	0	108	
7:05 AM	20	35	0	0	0	49	10	0	5	0	5	0	0	0	0	0	124	
7:10 AM	39	44	0	0	0	46	10	0	3	0	6	0	0	0	0	0	148	
7:15 AM	42	49	0	0	0	57	17	0	5	0	9	0	0	0	0	0	179	
7:20 AM	35	60	1	0	0	56	14	0	3	0	13	1	0	1	0	0	184	
7:25 AM	42	46	0	0	0	74	12	0	2	0	11	0	0	0	0	0	187	
7:30 AM	37	44	0	0	0	82	13	0	3	0	9	0	0	0	0	0	188	
7:35 AM	40	38	0	0	0	73	14	0	6	0	6	0	0	0	0	0	177	
7:40 AM	24	39	0	0	0	89	15	0	2	0	4	0	0	0	0	0	173	
7:45 AM	35	61	0	0	0	75	8	0	5	0	15	0	0	0	0	0	199	
7:50 AM	33	39	0	0	0	63	12	0	3	0	14	0	0	0	0	0	164	
7:55 AM	29	47	0	0	0	77	8	0	6	0	17	0	0	0	0	0	184	2015
8:00 AM	21	49	0	0	0	51	5	0	9	0	7	0	0	0	0	0	142	2049
8:05 AM	26	63	0	0	0	65	9	0	12	0	18	0	0	0	0	0	193	2118
8:10 AM	27	59	0	0	0	82	13	0	3	0	15	1	0	0	0	0	200	2170
8:15 AM	17	44	0	0	0	85	20	0	6	0	8	0	0	0	0	0	180	2171
8:20 AM	32	39	0	0	0	71	16	0	7	0	19	0	0	0	0	0	184	2171
8:25 AM	21	27	0	0	0	121	19	0	5	0	6	0	0	0	0	0	199	2183
8:30 AM	21	24	0	0	0	108	23	0	3	0	11	0	0	0	0	0	190	2185
8:35 AM	12	29	1	0	0	84	17	0	13	0	15	0	0	0	0	0	171	2179
8:40 AM	25	21	0	0	0	88	22	0	6	0	13	0	0	0	0	0	175	2181
8:45 AM	14	40	0	0	0	85	25	0	7	0	14	1	0	0	0	0	186	2168
8:50 AM	24	23	0	0	0	55	15	0	4	0	15	0	0	0	0	0	136	2140
8:55 AM	13	30	0	0	0	80	15	0	15	0	18	0	0	0	0	0	171	2127

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	280	664	0	0	0	928	168	0	84	0	164	4	0	0	0	0	2292
Heavy Trucks	8	32	0		0	8	0		0	0	16		0	0	0		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

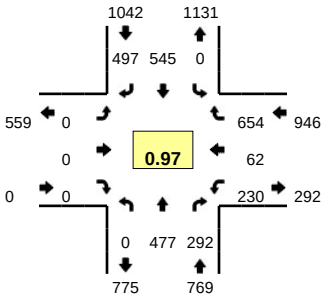
Type of peak hour being reported: Intersection Peak

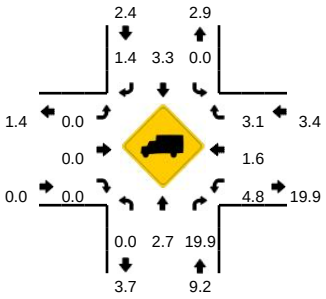
Method for determining peak hour: Total Entering Volume

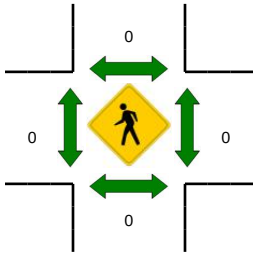
LOCATION: 4 - Fallon Rd -- I-580 WB On/Off Ramps
CITY/STATE: Alameda, CA

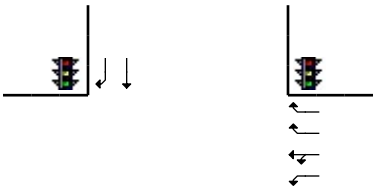
QC JOB #: 13967613
DATE: Thu, Jan 26 2017

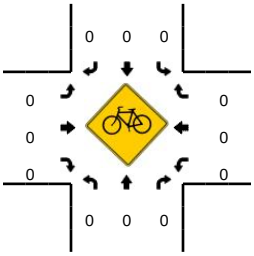
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

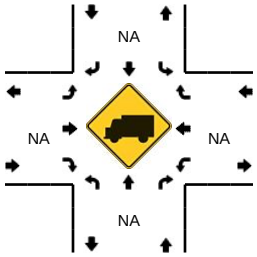


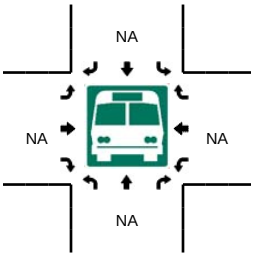












5-Min Count Period Beginning At	4 - Fallon Rd (Northbound)				4 - Fallon Rd (Southbound)				I-580 WB On/Off Ramps (Eastbound)				I-580 WB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	25	24	0	0	35	28	0	0	0	0	0	9	1	39	0	161	
7:05 AM	0	23	21	0	0	27	37	0	0	0	0	0	20	1	50	0	179	
7:10 AM	0	32	15	0	0	21	27	0	0	0	0	0	17	11	82	0	205	
7:15 AM	0	33	25	0	0	39	31	0	0	0	0	0	16	5	72	0	221	
7:20 AM	0	31	22	0	0	46	32	0	0	0	0	0	26	4	65	0	226	
7:25 AM	0	30	25	0	0	39	47	0	0	0	0	0	16	6	59	0	222	
7:30 AM	0	31	19	0	0	44	56	0	0	0	0	0	18	10	70	0	248	
7:35 AM	0	29	25	0	0	39	46	0	0	0	0	0	26	10	51	0	226	
7:40 AM	0	45	28	0	0	49	43	0	0	0	0	0	15	3	48	0	231	
7:45 AM	0	47	24	0	0	55	46	0	0	0	0	0	17	5	58	0	252	
7:50 AM	0	37	36	0	0	48	28	0	0	0	0	0	16	6	42	0	213	
7:55 AM	0	37	16	0	0	59	36	0	0	0	0	0	28	6	56	0	238	2622
8:00 AM	0	42	27	0	0	33	37	0	0	0	0	0	15	3	48	0	205	2666
8:05 AM	0	63	23	0	0	47	43	0	0	0	0	0	21	2	45	0	244	2731
8:10 AM	0	52	22	0	0	47	52	0	0	0	0	0	16	2	40	0	231	2757
8:15 AM	0	41	24	0	0	51	42	0	0	0	0	0	11	0	38	0	207	2743
8:20 AM	0	35	25	0	0	51	46	0	0	0	0	0	18	1	36	0	212	2729
8:25 AM	0	28	24	0	0	59	69	0	0	0	0	0	15	0	41	0	236	2743
8:30 AM	0	22	25	0	0	68	48	0	0	0	0	0	15	1	35	0	214	2709
8:35 AM	0	24	13	0	0	67	49	0	0	0	0	0	24	1	39	0	217	2700
8:40 AM	0	29	17	0	0	48	46	0	0	0	0	0	25	2	26	0	193	2662
8:45 AM	0	30	21	0	0	64	47	0	0	0	0	0	24	2	44	0	232	2642
8:50 AM	0	31	24	0	0	53	29	0	0	0	0	0	23	0	31	0	191	2620
8:55 AM	0	23	15	0	0	47	50	0	0	0	0	0	19	1	29	0	184	2566

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	484	308	0	0	572	540	0	0	0	0	0	232	72	628	0	2836
Heavy Trucks	0	8	84		0	16	4		0	0	0		16	0	20		148
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 5 - El Charro Rd -- I-580 EB On/Off Ramps

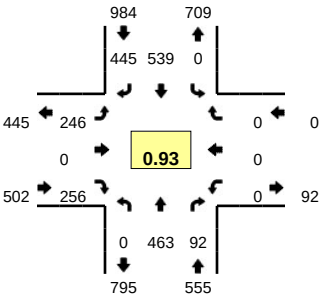
QC JOB #: 13967615

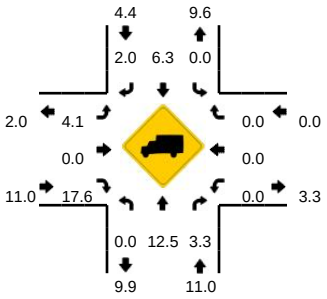
CITY/STATE: Alameda, CA

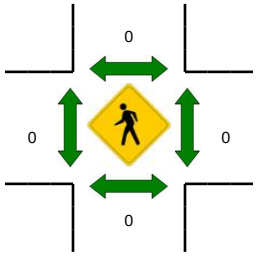
DATE: Tue, Feb 14 2017

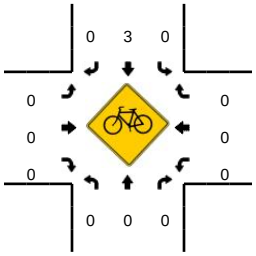
Peak-Hour: 7:45 AM -- 8:45 AM

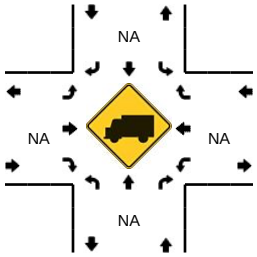
Peak 15-Min: 7:45 AM -- 8:00 AM

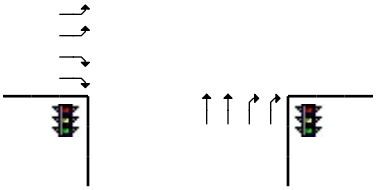


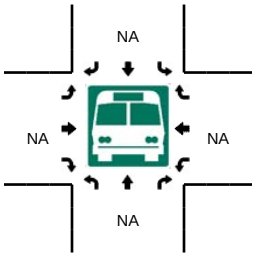












5-Min Count Period Beginning At	5 - El Charro Rd (Northbound)				5 - El Charro Rd (Southbound)				I-580 EB On/Off Ramps (Eastbound)				I-580 EB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	40	4	0	0	32	17	0	32	0	15	0	0	0	0	0	140	
7:05 AM	0	40	11	0	0	36	23	0	24	0	25	0	0	0	0	0	159	
7:10 AM	0	49	7	0	0	35	20	0	37	0	10	0	0	0	0	0	158	
7:15 AM	0	40	13	0	0	35	20	0	14	0	9	0	0	0	0	0	131	
7:20 AM	0	40	12	0	0	40	25	0	14	0	14	0	0	0	0	0	145	
7:25 AM	0	53	6	0	0	46	17	0	19	0	19	0	0	0	0	0	160	
7:30 AM	0	43	7	0	0	49	22	0	13	0	15	0	0	0	0	0	149	
7:35 AM	0	31	11	0	0	46	26	0	12	0	14	0	0	0	0	0	140	
7:40 AM	0	41	12	0	0	42	35	0	16	0	17	0	0	0	0	0	163	
7:45 AM	0	40	11	0	0	43	44	0	18	0	17	0	0	0	0	0	173	
7:50 AM	0	56	4	0	0	56	32	0	15	0	20	0	0	0	0	0	183	
7:55 AM	0	44	2	0	0	48	38	0	33	0	27	0	0	0	0	0	192	1893
8:00 AM	0	44	14	0	0	43	38	0	19	0	14	0	0	0	0	0	172	1925
8:05 AM	0	29	5	0	0	47	32	0	19	0	12	0	0	0	0	0	144	1910
8:10 AM	0	41	9	0	0	38	40	0	20	0	16	0	0	0	0	0	164	1916
8:15 AM	0	34	8	0	0	46	32	0	18	0	16	0	0	0	0	0	154	1939
8:20 AM	0	28	6	0	0	44	32	0	26	0	22	0	0	0	0	0	158	1952
8:25 AM	0	41	8	0	0	44	36	0	22	0	24	0	0	0	0	0	175	1967
8:30 AM	0	39	8	0	0	44	26	0	15	0	22	0	0	0	0	0	154	1972
8:35 AM	0	30	3	0	0	35	55	0	27	0	41	0	0	0	0	0	191	2023
8:40 AM	0	37	14	0	0	51	40	0	14	0	25	0	0	0	0	0	181	2041
8:45 AM	0	33	4	0	0	40	44	0	16	0	32	0	0	0	0	0	169	2037
8:50 AM	0	37	6	0	0	40	41	0	14	0	30	0	0	0	0	0	168	2022
8:55 AM	0	44	6	0	0	28	36	0	19	0	48	0	0	0	0	0	181	2011

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	560	68	0	0	588	456	0	264	0	256	0	0	0	0	0	2192
Heavy Trucks	0	52	4		0	40	12		12	0	28		0	0	0		148
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/17/2017 3:55 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

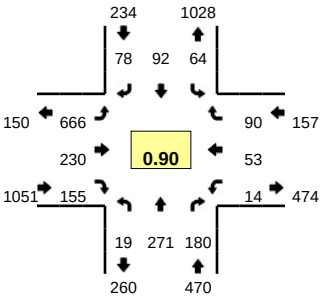
Method for determining peak hour: Total Entering Volume

LOCATION: 6 - Airway Blvd -- I-580 EB On/Off Ramps

QC JOB #: 13967601

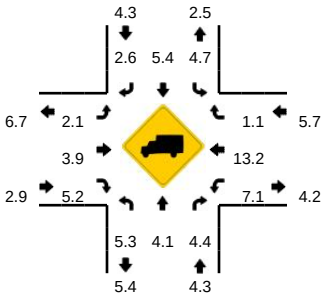
CITY/STATE: Livermore, CA

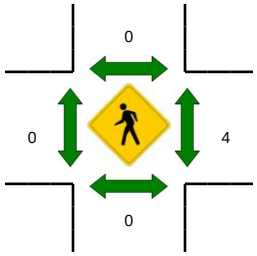
DATE: Tue, Feb 14 2017

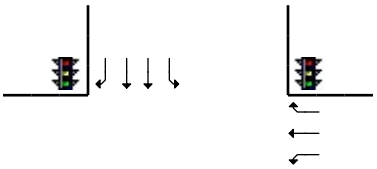


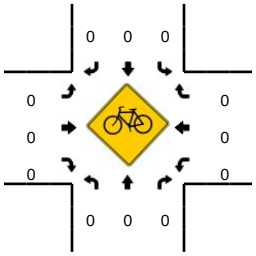
Peak-Hour: 7:50 AM -- 8:50 AM

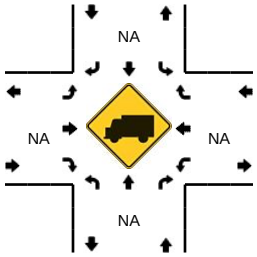
Peak 15-Min: 7:50 AM -- 8:05 AM

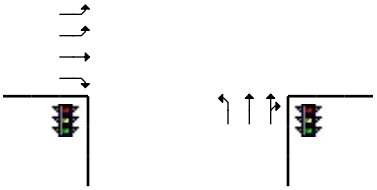


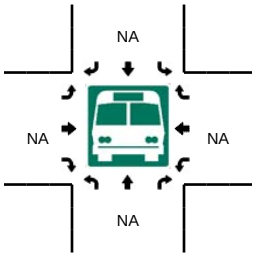












5-Min Count Period Beginning At	6 - Airway Blvd (Northbound)				6 - Airway Blvd (Southbound)				I-580 EB On/Off Ramps (Eastbound)				I-580 EB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	20	8	0	5	2	1	0	35	14	6	0	0	5	14	0	112	
7:05 AM	1	12	6	0	5	2	2	0	30	12	11	0	0	6	17	0	104	
7:10 AM	0	18	7	0	4	2	7	0	29	12	11	0	1	2	5	0	98	
7:15 AM	2	15	8	0	4	1	2	0	23	10	8	0	1	6	9	1	90	
7:20 AM	1	17	6	0	8	1	2	0	28	10	7	0	3	8	5	0	96	
7:25 AM	1	23	4	0	2	2	11	0	36	16	1	0	0	8	12	0	116	
7:30 AM	1	13	8	0	3	4	10	0	35	19	13	0	0	5	6	0	117	
7:35 AM	0	16	7	0	4	7	8	0	32	17	13	0	1	3	4	0	112	
7:40 AM	0	28	9	0	5	4	6	0	66	14	6	0	0	4	10	0	152	
7:45 AM	0	22	6	0	6	7	7	0	57	10	11	0	0	6	12	0	144	
7:50 AM	3	24	17	0	8	8	6	0	71	18	15	0	1	7	11	0	189	
7:55 AM	2	23	17	0	5	11	3	0	64	18	9	0	0	5	8	0	165	1495
8:00 AM	0	29	14	0	3	12	8	0	56	22	14	0	1	5	11	0	175	1558
8:05 AM	0	21	13	0	4	6	5	0	51	14	11	0	0	5	10	0	140	1594
8:10 AM	0	26	14	0	9	6	8	0	49	16	10	0	1	7	5	0	151	1647
8:15 AM	1	15	11	0	6	10	12	0	56	22	16	0	2	4	6	0	161	1718
8:20 AM	0	24	11	0	2	7	4	0	63	24	7	0	1	0	6	0	149	1771
8:25 AM	2	25	15	0	3	8	9	0	40	13	11	0	1	6	7	0	140	1795
8:30 AM	5	23	15	0	7	5	4	0	45	20	17	0	0	7	4	1	153	1831
8:35 AM	2	23	17	0	7	6	6	1	54	23	16	0	0	1	8	0	164	1883
8:40 AM	3	20	14	0	5	6	6	0	58	22	19	0	4	3	6	0	166	1897
8:45 AM	1	18	22	0	4	7	7	0	59	18	10	0	2	3	8	0	159	1912
8:50 AM	4	20	17	0	2	4	3	0	67	25	21	0	1	2	4	0	170	1893
8:55 AM	1	12	20	0	6	5	3	0	63	18	13	0	0	3	11	0	155	1883

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	304	192	0	64	124	68	0	764	232	152	0	8	68	120	0	2116
Heavy Trucks	0	8	8		0	4	0		12	8	8		4	12	4		68
Pedestrians		0				0				0				12			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 2/17/2017 3:55 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

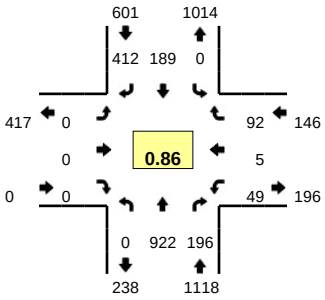
Method for determining peak hour: Total Entering Volume

LOCATION: 7 - Airway Blvd -- I-580 WB On/Off Ramps

QC JOB #: 13967603

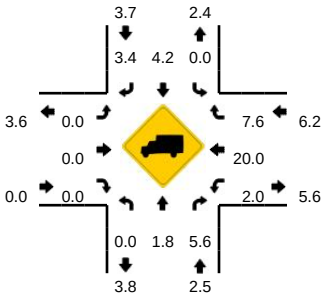
CITY/STATE: Livermore, CA

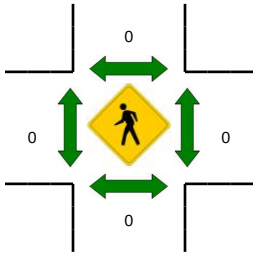
DATE: Thu, Jan 26 2017

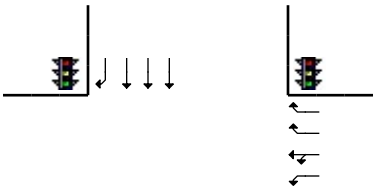


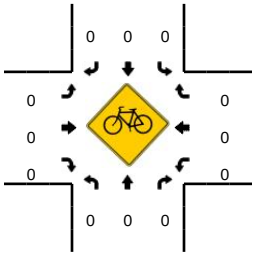
Peak-Hour: 7:45 AM -- 8:45 AM

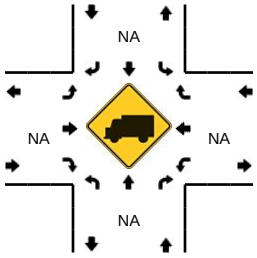
Peak 15-Min: 7:45 AM -- 8:00 AM

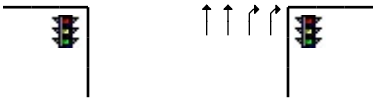


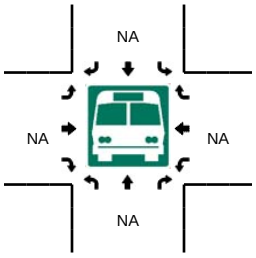












5-Min Count Period Beginning At	7 - Airway Blvd (Northbound)				7 - Airway Blvd (Southbound)				I-580 WB On/Off Ramps (Eastbound)				I-580 WB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	39	14	0	0	14	19	0	0	0	0	0	4	0	7	0	97	
7:05 AM	0	31	15	0	0	16	31	0	0	0	0	0	4	0	9	0	106	
7:10 AM	0	34	23	0	0	11	29	0	0	0	0	0	0	0	6	0	103	
7:15 AM	0	39	23	0	0	10	32	0	0	0	0	0	3	0	10	0	117	
7:20 AM	0	40	18	0	0	14	34	0	0	0	0	0	3	1	4	0	114	
7:25 AM	0	27	19	0	0	11	42	0	0	0	0	0	10	0	8	0	117	
7:30 AM	0	72	31	0	0	13	35	0	0	0	0	0	3	1	6	0	161	
7:35 AM	0	67	10	0	0	9	32	0	0	0	0	0	1	0	4	0	123	
7:40 AM	0	71	7	0	0	12	44	0	0	0	0	0	2	2	4	0	142	
7:45 AM	0	83	18	0	0	27	27	0	0	0	0	0	2	0	6	0	163	
7:50 AM	0	107	20	0	0	20	35	0	0	0	0	0	3	4	11	0	200	
7:55 AM	0	95	15	0	0	19	38	0	0	0	0	0	6	0	9	0	182	1625
8:00 AM	0	71	19	0	0	17	34	0	0	0	0	0	5	0	9	0	155	1683
8:05 AM	0	71	19	0	0	14	44	0	0	0	0	0	1	0	6	0	155	1732
8:10 AM	0	67	16	0	0	20	34	0	0	0	0	0	5	1	9	0	152	1781
8:15 AM	0	57	19	0	0	12	28	0	0	0	0	0	2	0	4	0	122	1786
8:20 AM	0	65	20	0	0	11	30	0	0	0	0	0	4	0	5	0	135	1807
8:25 AM	0	78	5	0	0	15	39	0	0	0	0	0	8	0	7	0	152	1842
8:30 AM	0	68	14	0	0	14	27	0	0	0	0	0	3	0	8	0	134	1815
8:35 AM	0	84	21	0	0	10	28	0	0	0	0	0	4	0	6	0	153	1845
8:40 AM	0	76	10	0	0	10	48	0	0	0	0	0	6	0	12	0	162	1865
8:45 AM	0	79	11	0	0	16	26	0	0	0	0	0	7	0	11	0	150	1852
8:50 AM	0	55	16	0	0	17	29	0	0	0	0	0	8	0	13	0	138	1790
8:55 AM	0	66	16	0	0	10	22	0	0	0	0	0	4	0	6	0	124	1732

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1140	212	0	0	264	400	0	0	0	0	0	44	16	104	0	2180
Heavy Trucks	0	24	8		0	8	4		0	0	0		0	4	16		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 8 - Airway Blvd -- N Canyons Pkwy

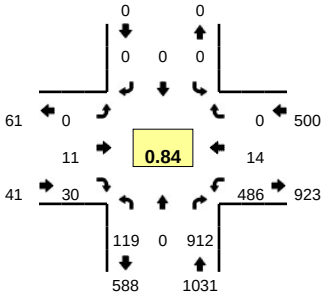
QC JOB #: 13967605

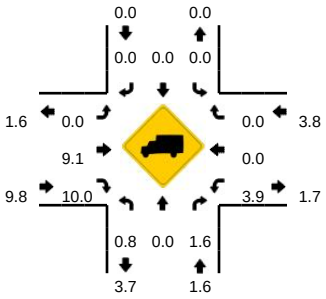
CITY/STATE: Livermore, CA

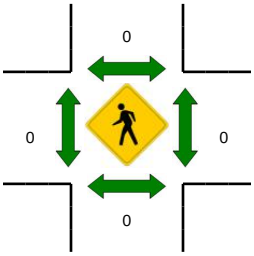
DATE: Thu, Jan 26 2017

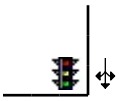
Peak-Hour: 7:45 AM -- 8:45 AM

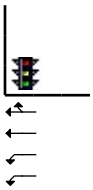
Peak 15-Min: 7:45 AM -- 8:00 AM

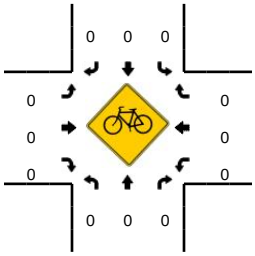


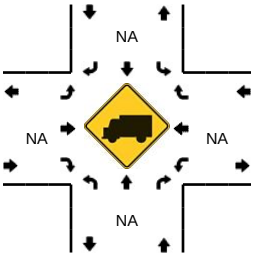


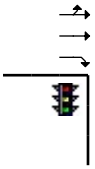


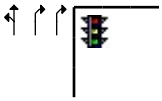


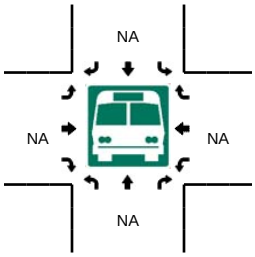












5-Min Count Period Beginning At	8 - Airway Blvd (Northbound)				8 - Airway Blvd (Southbound)				N Canyons Pkwy (Eastbound)				N Canyons Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	0	35	4	0	0	0	0	0	2	5	0	26	1	0	0	76	
7:05 AM	7	0	32	6	0	0	0	0	0	2	4	0	32	0	0	0	83	
7:10 AM	3	0	35	13	0	0	0	0	0	1	2	0	25	1	0	0	80	
7:15 AM	1	0	42	8	0	0	0	0	0	2	7	0	27	0	0	0	87	
7:20 AM	1	0	41	5	0	0	0	0	0	0	1	0	42	0	0	0	90	
7:25 AM	1	1	31	7	0	0	0	0	0	0	3	0	48	0	0	0	91	
7:30 AM	3	0	56	5	0	0	0	0	0	0	5	0	36	2	0	1	108	
7:35 AM	8	0	60	11	0	0	0	0	0	0	2	0	31	1	0	0	113	
7:40 AM	2	0	59	6	0	0	0	0	0	1	4	0	50	1	0	0	123	
7:45 AM	4	0	92	8	0	0	0	0	0	0	0	0	41	2	0	0	147	
7:50 AM	3	0	105	6	0	0	0	0	0	1	3	0	48	0	0	0	166	
7:55 AM	5	0	91	7	0	0	0	0	0	0	5	0	45	0	0	0	153	1317
8:00 AM	4	0	76	3	0	0	0	0	0	0	4	0	46	0	0	0	133	1374
8:05 AM	2	0	77	8	0	0	0	0	0	4	3	0	47	2	0	0	143	1434
8:10 AM	1	0	57	2	0	0	0	0	0	3	5	0	40	3	0	0	111	1465
8:15 AM	5	0	59	8	0	0	0	0	0	0	3	0	30	1	0	0	106	1484
8:20 AM	5	0	74	5	0	0	0	0	0	1	3	0	33	1	0	0	122	1516
8:25 AM	3	0	67	3	0	0	0	0	0	0	1	0	47	1	0	0	122	1547
8:30 AM	3	0	62	8	0	0	0	0	0	1	1	0	30	1	0	0	106	1545
8:35 AM	7	0	70	4	0	0	0	0	0	0	1	0	34	1	0	0	117	1549
8:40 AM	5	0	82	10	0	0	0	0	0	1	1	0	45	2	0	0	146	1572
8:45 AM	7	0	74	6	0	0	0	0	0	0	6	0	30	3	0	0	126	1551
8:50 AM	4	0	53	6	0	0	0	0	0	0	6	0	38	2	0	0	109	1494
8:55 AM	7	0	48	4	0	0	0	0	0	0	2	0	20	2	0	0	83	1424

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	48	0	1152	84	0	0	0	0	0	4	32	0	536	8	0	0	1864
Heavy Trucks	0	0	28		0	0	0		0	0	4		12	0	0		44
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 9 - Doolan Rd -- N Canyons Pkwy

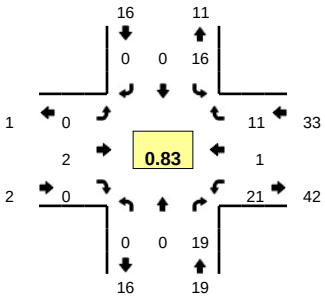
CITY/STATE: Livermore, CA

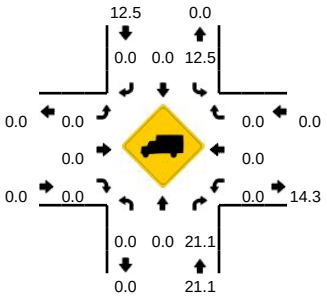
QC JOB #: 13967609

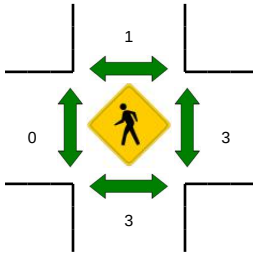
DATE: Thu, Jan 26 2017

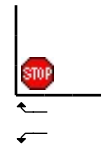
Peak-Hour: 7:25 AM -- 8:25 AM

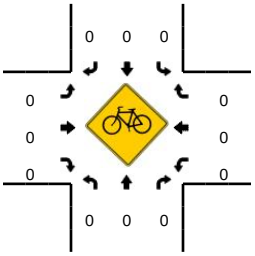
Peak 15-Min: 8:00 AM -- 8:15 AM

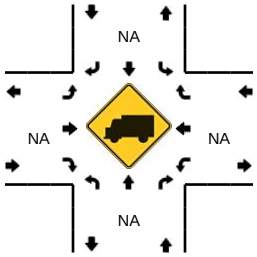


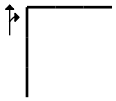


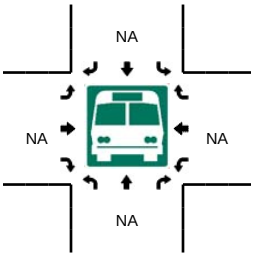












5-Min Count Period Beginning At	9 - Doolan Rd (Northbound)				9 - Doolan Rd (Southbound)				N Canyons Pkwy (Eastbound)				N Canyons Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	3	0	3	1	0	0	0	0	0	0	1	0	1	0	9	
7:05 AM	0	0	4	0	1	0	0	0	0	0	0	0	2	0	1	1	9	
7:10 AM	0	0	2	0	1	0	0	0	0	0	0	0	0	0	1	0	4	
7:15 AM	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	5	
7:20 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:25 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	3	
7:30 AM	0	0	1	0	3	0	0	0	0	0	0	0	2	0	1	0	7	
7:35 AM	0	0	1	0	1	0	0	0	0	0	0	0	2	0	3	1	8	
7:40 AM	0	0	2	0	1	0	0	0	0	0	0	0	1	0	0	0	4	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	
7:50 AM	0	0	3	0	1	0	0	0	0	1	0	0	1	1	0	0	7	
7:55 AM	0	0	2	0	0	0	0	0	0	0	0	0	2	0	2	0	6	67
8:00 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	1	0	5	63
8:05 AM	0	0	2	0	3	0	0	0	0	0	0	0	2	0	0	0	7	61
8:10 AM	0	0	4	0	0	0	0	0	0	1	0	0	1	0	1	2	9	66
8:15 AM	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	64
8:20 AM	0	0	0	0	2	0	0	0	0	0	0	0	3	0	0	2	7	70
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3	70
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	65
8:35 AM	0	0	0	0	1	0	0	0	0	0	0	0	4	0	1	1	7	64
8:40 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	3	0	5	65
8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	3	0	0	2	7	68
8:50 AM	0	0	2	0	1	0	0	0	0	0	0	0	0	0	1	1	5	66
8:55 AM	0	0	0	0	1	0	0	0	0	0	0	0	3	0	2	1	7	67

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	32	0	20	0	0	0	0	4	0	0	12	0	8	8	84
Heavy Trucks	0	0	4		4	0	0		0	0	0		0	0	0		8
Pedestrians		4				0				0				4			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 10 - Isabel Ave -- Portola Ave

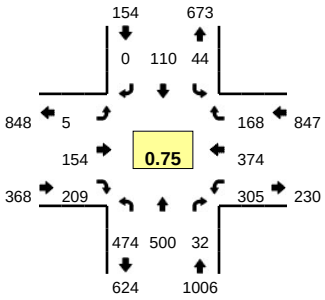
QC JOB #: 13967607

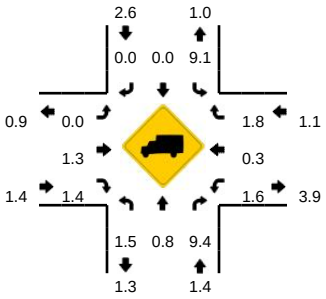
CITY/STATE: Livermore, CA

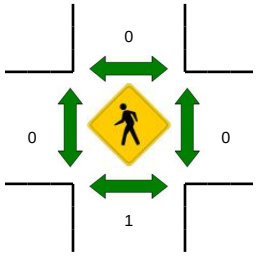
DATE: Thu, Jan 26 2017

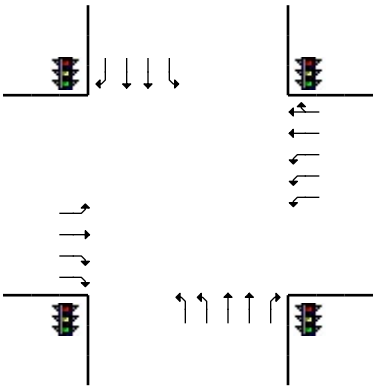
Peak-Hour: 7:30 AM -- 8:30 AM

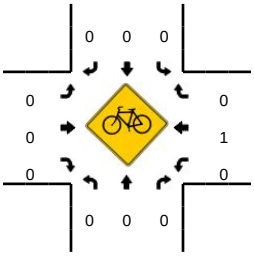
Peak 15-Min: 7:45 AM -- 8:00 AM

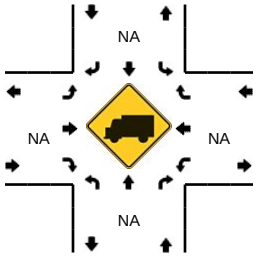


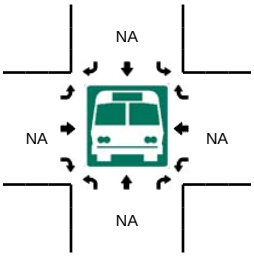












5-Min Count Period Beginning At	10 - Isabel Ave (Northbound)				10 - Isabel Ave (Southbound)				Portola Ave (Eastbound)				Portola Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	31	3	6	0	0	1	0	0	0	8	8	0	21	12	3	0	93	
7:05 AM	20	7	9	0	0	10	0	0	0	3	14	0	36	11	0	0	110	
7:10 AM	22	12	4	0	2	6	0	0	0	3	10	0	24	13	4	0	100	
7:15 AM	19	13	1	0	4	10	0	0	0	5	11	0	31	14	1	0	109	
7:20 AM	19	9	2	0	4	7	0	0	0	4	8	0	28	29	3	0	113	
7:25 AM	27	23	5	0	2	2	0	0	0	4	24	0	20	24	3	0	134	
7:30 AM	22	40	5	0	2	8	0	0	0	7	16	0	24	17	7	0	148	
7:35 AM	45	42	3	0	4	6	0	0	2	6	14	0	21	20	10	0	173	
7:40 AM	24	41	4	0	4	10	0	0	0	8	22	0	34	26	21	0	194	
7:45 AM	55	65	1	0	3	13	0	0	0	8	12	0	22	47	21	0	247	
7:50 AM	53	90	3	0	7	12	0	0	0	10	14	0	13	33	36	0	271	
7:55 AM	50	95	3	0	6	14	0	0	2	12	18	0	22	30	22	0	274	1966
8:00 AM	27	41	2	0	5	14	0	0	0	20	22	0	35	37	14	0	217	2090
8:05 AM	46	19	1	0	4	7	0	0	0	13	15	0	26	40	7	0	178	2158
8:10 AM	38	18	1	0	0	10	0	0	0	22	20	0	30	36	4	0	179	2237
8:15 AM	35	12	4	0	0	7	0	0	0	19	25	0	28	31	8	0	169	2297
8:20 AM	46	18	0	0	5	6	0	0	0	16	15	0	18	30	11	0	165	2349
8:25 AM	33	19	5	0	4	3	0	0	1	13	16	0	32	27	7	0	160	2375
8:30 AM	27	27	0	0	0	6	0	0	0	9	14	0	22	24	6	0	135	2362
8:35 AM	34	47	5	0	3	4	0	0	0	8	9	0	28	19	11	0	168	2357
8:40 AM	28	46	5	0	1	9	1	0	0	7	9	0	22	22	11	0	161	2324
8:45 AM	41	46	0	0	6	1	0	0	1	8	9	0	22	11	10	0	155	2232
8:50 AM	36	40	8	0	5	6	0	0	0	6	9	0	20	21	21	0	172	2133
8:55 AM	34	52	1	0	3	7	0	0	1	7	10	0	22	20	23	0	180	2039

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	632	1000	28	0	64	156	0	0	8	120	176	0	228	440	316	0	3168
Heavy Trucks	12	0	0		4	0	0		0	0	4		4	0	4		28
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

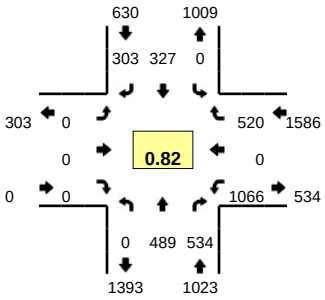
Type of peak hour being reported: Intersection Peak

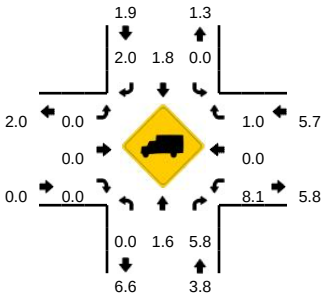
Method for determining peak hour: Total Entering Volume

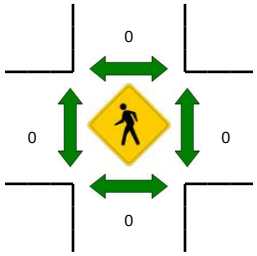
LOCATION: 11 - Isabel Ave -- I-580 WB On/Off Ramps
CITY/STATE: Alameda, CA

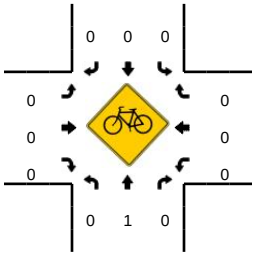
QC JOB #: 13967621
DATE: Thu, Jan 26 2017

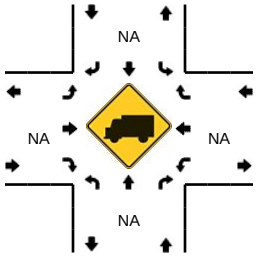
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

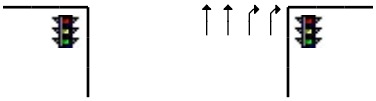


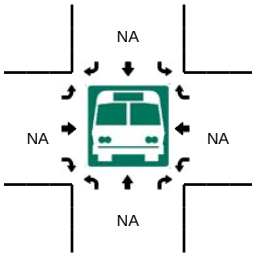












5-Min Count Period Beginning At	11 - Isabel Ave (Northbound)				11 - Isabel Ave (Southbound)				I-580 WB On/Off Ramps (Eastbound)				I-580 WB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	11	34	0	0	12	15	0	0	0	0	0	71	0	20	0	163	
7:05 AM	0	12	46	0	0	25	40	0	0	0	0	0	54	0	19	0	196	
7:10 AM	0	4	44	0	0	11	20	0	0	0	0	0	100	0	29	0	208	
7:15 AM	0	14	43	0	0	17	33	0	0	0	0	0	85	0	19	0	211	
7:20 AM	0	14	63	0	0	16	27	0	0	0	0	0	73	0	27	0	220	
7:25 AM	0	24	35	0	0	26	23	0	0	0	0	0	90	0	34	0	232	
7:30 AM	0	31	33	0	0	26	28	0	0	0	0	0	75	0	43	0	236	
7:35 AM	0	36	43	0	0	19	23	0	0	0	0	0	105	0	44	0	270	
7:40 AM	0	51	58	0	0	36	30	0	0	0	0	0	106	0	53	0	334	
7:45 AM	0	66	48	0	0	23	19	0	0	0	0	0	113	0	55	0	324	
7:50 AM	0	92	51	0	0	25	15	0	0	0	0	0	93	0	59	0	335	
7:55 AM	0	65	34	0	0	28	26	0	0	0	0	0	74	0	53	0	280	3009
8:00 AM	0	30	40	0	0	41	28	0	0	0	0	0	88	0	34	0	261	3107
8:05 AM	0	22	38	0	0	27	24	0	0	0	0	0	92	0	47	0	250	3161
8:10 AM	0	21	47	0	0	30	26	0	0	0	0	0	72	0	36	0	232	3185
8:15 AM	0	17	41	0	0	30	36	0	0	0	0	0	78	0	37	0	239	3213
8:20 AM	0	20	44	0	0	17	23	0	0	0	0	0	93	0	33	0	230	3223
8:25 AM	0	38	57	0	0	25	25	0	0	0	0	0	77	0	26	0	248	3239
8:30 AM	0	27	51	0	0	18	23	0	0	0	0	0	84	0	31	0	234	3237
8:35 AM	0	42	38	0	0	16	30	0	0	0	0	0	70	0	39	0	235	3202
8:40 AM	0	46	56	0	0	18	20	0	0	0	0	0	104	0	48	0	292	3160
8:45 AM	0	39	42	0	0	10	24	0	0	0	0	0	58	0	49	0	222	3058
8:50 AM	0	46	33	0	0	11	23	0	0	0	0	0	81	0	45	0	239	2962
8:55 AM	0	40	36	0	0	20	22	0	0	0	0	0	69	0	43	0	230	2912

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	836	628	0	0	336	256	0	0	0	0	0	1248	0	668	0	3972
Heavy Trucks	0	8	24		0	8	4		0	0	0		100	0	8		152
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 12 - Isabel Ave -- I-580 EB On/Off Ramps

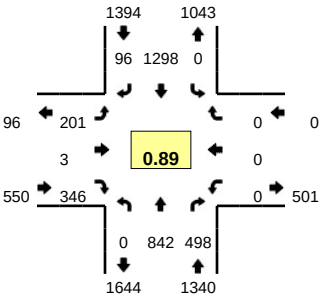
QC JOB #: 13967623

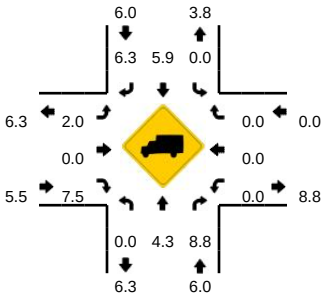
CITY/STATE: Alameda, CA

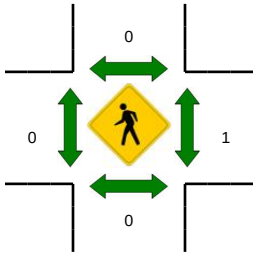
DATE: Thu, Jan 26 2017

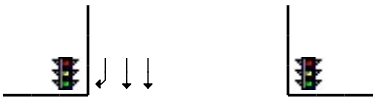
Peak-Hour: 7:35 AM -- 8:35 AM

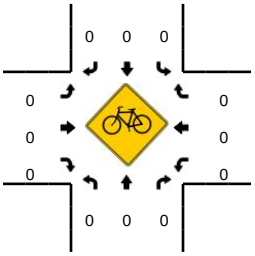
Peak 15-Min: 7:40 AM -- 7:55 AM

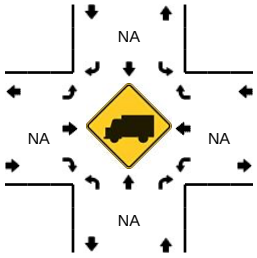


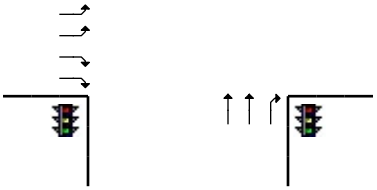


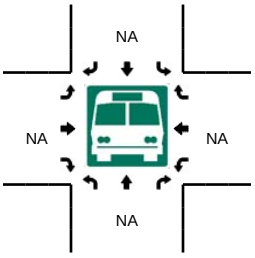












5-Min Count Period Beginning At	12 - Isabel Ave (Northbound)				12 - Isabel Ave (Southbound)				I-580 EB On/Off Ramps (Eastbound)				I-580 EB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	32	25	0	0	89	5	0	7	0	16	0	0	0	0	0	174	
7:05 AM	0	54	48	0	0	77	5	0	4	0	19	0	0	0	0	0	207	
7:10 AM	0	51	30	0	0	98	10	0	0	0	19	0	0	0	0	0	208	
7:15 AM	0	58	29	0	1	87	3	0	5	0	18	0	0	0	0	0	201	
7:20 AM	0	75	42	0	0	87	7	0	7	0	23	0	0	0	0	0	241	
7:25 AM	0	43	31	0	0	102	10	0	15	0	33	0	0	0	0	0	234	
7:30 AM	0	57	44	0	0	112	6	0	9	0	26	0	0	0	0	0	254	
7:35 AM	0	64	42	0	0	118	4	0	17	1	17	0	0	0	0	0	263	
7:40 AM	0	88	35	0	0	140	4	0	22	0	24	0	0	0	0	0	313	
7:45 AM	0	94	36	0	0	103	5	0	33	0	31	0	0	0	0	0	302	
7:50 AM	0	95	26	0	0	118	7	0	37	0	25	0	0	0	0	0	308	
7:55 AM	0	65	50	0	0	104	8	0	23	1	33	0	0	0	0	0	284	2989
8:00 AM	0	55	46	0	0	98	12	0	14	0	30	0	0	0	0	0	255	3070
8:05 AM	0	57	41	0	0	109	10	0	11	0	34	0	0	0	0	0	262	3125
8:10 AM	0	60	61	0	0	106	13	0	5	0	31	0	0	0	0	0	276	3193
8:15 AM	0	52	26	0	0	96	8	0	8	1	25	0	0	0	0	0	216	3208
8:20 AM	0	71	41	0	0	109	9	0	8	0	36	0	0	0	0	0	274	3241
8:25 AM	0	66	45	0	0	88	7	0	14	0	33	0	0	0	0	0	253	3260
8:30 AM	0	75	49	0	0	109	9	0	9	0	27	0	0	0	0	0	278	3284
8:35 AM	0	80	49	0	0	71	13	0	17	0	30	0	0	0	0	0	260	3281
8:40 AM	0	60	40	0	0	120	4	0	17	0	23	0	0	0	0	0	264	3232
8:45 AM	0	74	56	0	0	73	3	0	17	0	38	0	0	0	0	0	261	3191
8:50 AM	0	49	38	0	0	77	4	0	18	0	30	0	0	0	0	0	216	3099
8:55 AM	0	77	46	0	0	86	11	0	19	0	22	0	0	0	0	0	261	3076

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1108	388	0	0	1444	64	0	368	0	320	0	0	0	0	0	3692
Heavy Trucks	0	32	28		0	84	4		0	0	28		0	0	0		176
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

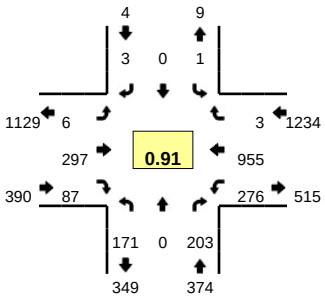
Type of peak hour being reported: Intersection Peak

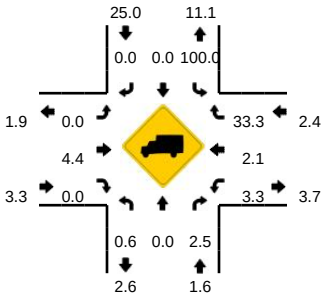
Method for determining peak hour: Total Entering Volume

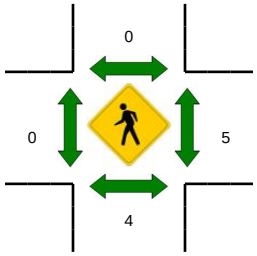
LOCATION: 13 - Murrieta Blvd -- Portola Ave
CITY/STATE: Alameda, CA

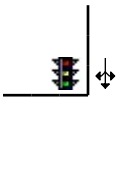
QC JOB #: 13967619
DATE: Thu, Jan 26 2017

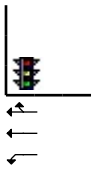
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

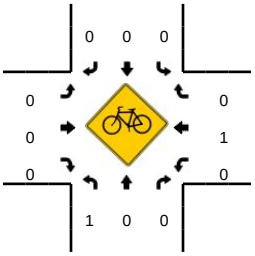


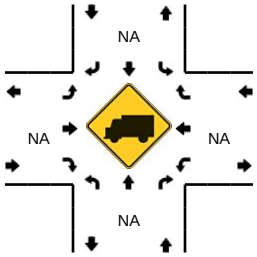


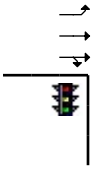


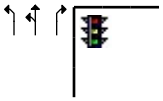


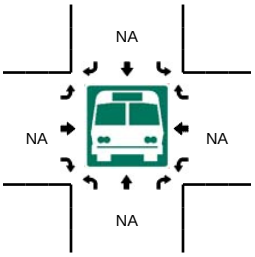












5-Min Count Period Beginning At	13 - Murrieta Blvd (Northbound)				13 - Murrieta Blvd (Southbound)				Portola Ave (Eastbound)				Portola Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	0	5	0	0	0	0	0	0	10	4	0	8	54	0	0	87	
7:05 AM	11	0	5	0	0	0	0	0	0	13	3	0	11	42	0	0	85	
7:10 AM	3	0	6	0	0	0	0	0	0	12	3	0	15	76	0	0	115	
7:15 AM	7	0	5	0	0	0	0	0	0	19	2	0	13	47	0	0	93	
7:20 AM	7	0	11	0	0	0	0	0	0	14	3	0	24	71	0	2	132	
7:25 AM	10	0	6	0	0	0	0	0	0	15	3	0	20	63	0	1	118	
7:30 AM	14	0	7	0	0	0	0	0	0	13	5	0	24	67	0	1	131	
7:35 AM	5	0	12	0	0	0	1	0	0	13	10	0	22	82	0	1	146	
7:40 AM	16	0	12	0	0	0	0	0	0	28	6	0	10	97	0	1	170	
7:45 AM	21	0	14	0	0	0	0	0	0	16	4	0	22	94	0	2	173	
7:50 AM	16	0	11	0	1	0	0	0	0	26	6	0	17	95	2	0	174	
7:55 AM	25	0	19	0	0	0	1	0	2	25	3	0	13	85	0	1	174	1598
8:00 AM	20	0	19	0	0	0	0	0	0	30	12	0	30	90	0	0	201	1712
8:05 AM	12	0	16	0	0	0	0	0	0	21	3	0	32	81	0	1	166	1793
8:10 AM	15	0	15	0	0	0	0	0	2	34	16	0	17	62	0	0	161	1839
8:15 AM	7	0	20	0	0	0	0	0	0	10	6	0	33	68	1	5	150	1896
8:20 AM	12	0	19	0	0	0	0	0	0	40	7	0	21	75	0	2	176	1940
8:25 AM	13	0	25	0	0	0	0	0	0	33	6	0	16	58	0	1	152	1974
8:30 AM	9	0	21	0	0	0	1	0	2	21	8	0	29	68	0	0	159	2002
8:35 AM	24	0	13	0	0	0	1	0	0	22	4	0	11	66	0	2	143	1999
8:40 AM	11	0	15	0	0	0	0	0	0	13	9	0	17	45	0	2	112	1941
8:45 AM	8	0	17	0	0	1	0	0	0	19	5	0	20	67	0	0	137	1905
8:50 AM	15	1	8	0	0	0	0	0	1	27	5	0	7	57	0	0	121	1852
8:55 AM	7	0	11	0	0	0	0	0	0	15	0	0	14	49	1	1	98	1776

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	244	0	196	0	4	0	4	0	8	324	84	0	240	1080	8	4	2196
Heavy Trucks	4	0	4		4	0	0		0	12	0		8	8	4		44
Pedestrians		4				0				0				12			16
Bicycles	1	0	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

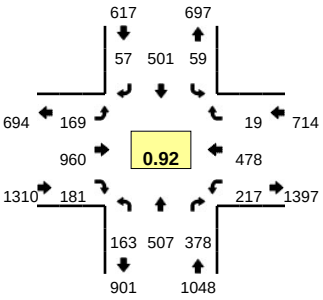
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

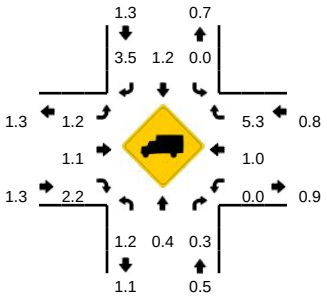
Method for determining peak hour: Total Entering Volume

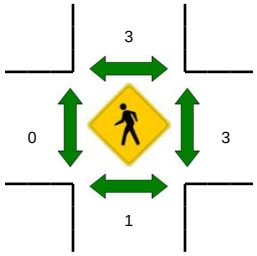
LOCATION: 1 - Hacienda Dr -- Dublin Blvd
CITY/STATE: Dublin, CA

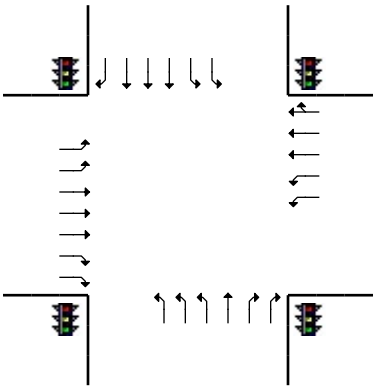
QC JOB #: 13967626
DATE: Thu, Jan 26 2017

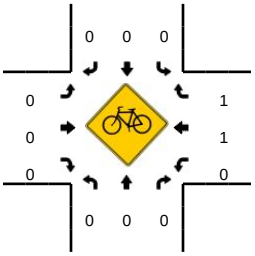


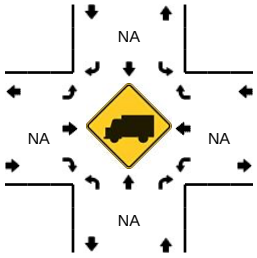
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

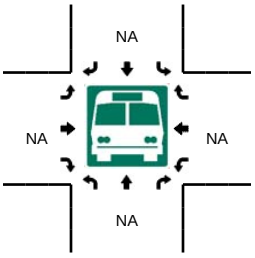












5-Min Count Period Beginning At	1 - Hacienda Dr (Northbound)				1 - Hacienda Dr (Southbound)				Dublin Blvd (Eastbound)				Dublin Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	10	19	16	0	3	30	4	2	25	89	10	0	11	26	0	0	245	
4:05 PM	10	14	13	0	0	31	1	0	15	50	15	1	18	25	0	0	193	
4:10 PM	9	18	21	0	2	47	6	0	13	96	13	0	16	46	1	0	288	
4:15 PM	5	31	28	0	3	43	2	0	11	55	11	0	17	27	1	0	234	
4:20 PM	12	18	9	0	5	24	3	0	10	56	16	0	16	36	1	0	206	
4:25 PM	6	20	26	0	4	27	3	0	20	74	18	0	6	39	2	0	245	
4:30 PM	8	43	37	0	1	40	5	0	5	68	13	0	13	28	3	0	264	
4:35 PM	8	25	18	0	2	39	10	0	11	66	16	0	6	50	1	0	252	
4:40 PM	10	24	21	0	4	53	3	0	12	85	21	0	13	35	1	0	282	
4:45 PM	10	24	22	0	5	25	3	0	13	80	12	0	13	44	1	1	253	
4:50 PM	6	36	21	0	7	43	7	0	7	71	11	0	22	46	1	0	278	
4:55 PM	8	33	33	0	3	33	3	0	8	67	14	0	14	39	3	0	258	2998
5:00 PM	9	31	28	0	2	40	4	0	8	88	17	0	20	31	3	1	282	3035
5:05 PM	11	32	35	0	8	54	5	1	17	78	13	0	23	39	3	0	319	3161
5:10 PM	12	36	30	0	3	57	9	0	13	110	21	0	19	50	1	0	361	3234
5:15 PM	9	56	38	0	5	46	6	0	10	88	24	0	11	24	3	0	320	3320
5:20 PM	18	67	34	0	4	35	7	0	10	62	15	0	13	39	2	0	306	3420
5:25 PM	16	39	25	1	7	42	3	0	21	92	6	0	26	46	0	0	324	3499
5:30 PM	14	37	30	1	5	46	4	0	12	73	13	0	14	57	0	0	306	3541
5:35 PM	15	46	31	0	7	35	4	1	12	77	14	0	19	43	1	0	305	3594
5:40 PM	13	38	30	0	3	46	5	0	23	73	18	0	21	39	1	0	310	3622
5:45 PM	10	45	35	2	6	34	2	0	7	57	14	0	4	37	3	0	256	3625
5:50 PM	19	40	26	0	4	33	6	0	18	86	10	0	22	41	0	1	306	3653
5:55 PM	13	40	36	0	3	33	2	0	18	76	16	0	23	32	2	0	294	3689

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	128	496	412	0	64	628	80	4	160	1104	232	0	212	452	28	0	4000
Heavy Trucks	0	0	0		0	4	4		4	8	4		0	0	4		28
Pedestrians		4				8				0				8			20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 2 - Tassajara Rd -- Dublin Blvd

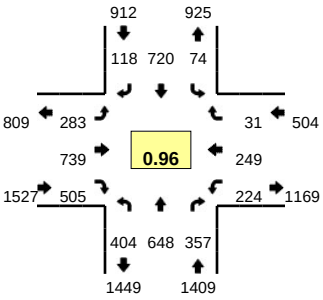
CITY/STATE: Alameda, CA

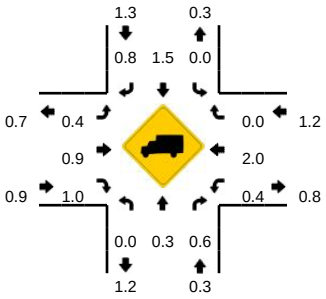
QC JOB #: 13967618

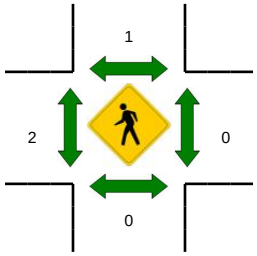
DATE: Tue, Feb 14 2017

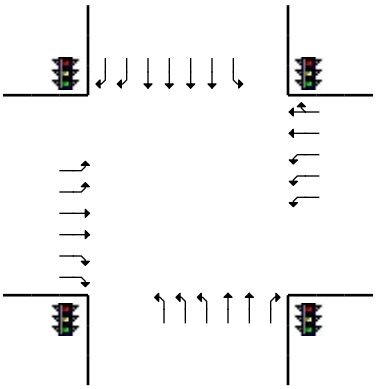
Peak-Hour: 5:00 PM -- 6:00 PM

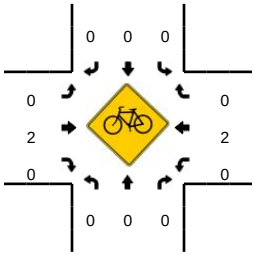
Peak 15-Min: 5:45 PM -- 6:00 PM

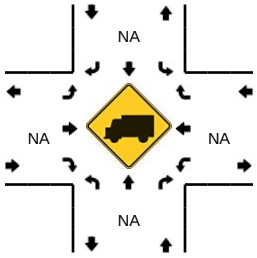


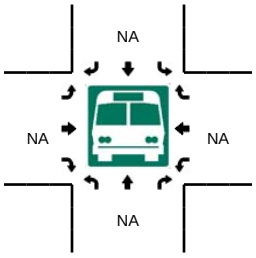












5-Min Count Period Beginning At	2 - Tassajara Rd (Northbound)				2 - Tassajara Rd (Southbound)				Dublin Blvd (Eastbound)				Dublin Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	35	38	20	0	9	67	10	0	17	43	51	1	18	18	5	0	332	
4:05 PM	31	52	23	0	3	56	7	0	15	59	39	1	22	15	4	0	327	
4:10 PM	25	43	21	0	10	59	14	0	16	51	32	1	12	34	1	0	319	
4:15 PM	44	47	19	0	2	77	9	0	16	39	34	3	16	25	2	0	333	
4:20 PM	29	36	20	0	1	47	7	0	26	39	42	4	19	16	3	0	289	
4:25 PM	24	32	15	0	8	57	7	0	11	51	34	4	24	9	3	0	279	
4:30 PM	31	46	21	0	3	59	8	0	14	38	38	2	16	27	1	0	304	
4:35 PM	23	30	15	0	6	48	6	0	12	70	56	1	21	27	2	0	317	
4:40 PM	33	44	21	0	4	46	6	0	21	39	35	0	18	22	2	0	291	
4:45 PM	41	38	21	0	5	77	8	0	17	55	36	2	16	24	4	0	344	
4:50 PM	27	48	38	0	6	44	7	0	19	38	25	5	11	3	2	0	273	
4:55 PM	32	40	26	0	12	61	13	0	22	61	37	2	28	28	4	0	366	3774
5:00 PM	24	30	25	0	6	29	8	0	25	70	40	3	22	27	3	0	312	3754
5:05 PM	48	45	20	0	5	70	9	0	19	47	43	6	19	21	4	0	356	3783
5:10 PM	20	43	16	0	5	57	9	0	13	51	39	1	18	22	0	0	294	3758
5:15 PM	47	39	34	0	5	89	8	0	16	80	35	3	17	21	2	0	396	3821
5:20 PM	27	56	31	0	7	76	4	0	23	69	44	0	17	16	3	0	373	3905
5:25 PM	39	49	35	0	12	63	18	0	14	49	35	3	21	15	2	0	355	3981
5:30 PM	31	50	45	0	2	71	9	0	24	60	50	3	26	26	0	0	397	4074
5:35 PM	29	88	27	0	5	46	8	1	14	60	39	6	15	16	1	0	355	4112
5:40 PM	44	38	36	0	9	62	13	0	18	63	34	1	25	29	4	0	376	4197
5:45 PM	35	75	29	0	8	50	10	0	30	54	52	4	13	18	3	0	381	4234
5:50 PM	27	61	29	0	3	43	10	0	24	86	47	3	24	17	4	0	378	4339
5:55 PM	33	74	30	0	6	64	12	0	25	50	47	5	7	21	5	0	379	4352

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	380	840	352	0	68	628	128	0	316	760	584	48	176	224	48	0	4552
Heavy Trucks	0	0	0		0	16	0		4	12	12		0	8	0		52
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/17/2017 3:55 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 3 - Fallon Rd -- Dublin Blvd

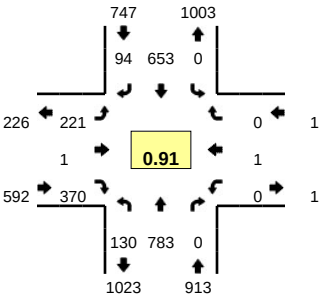
CITY/STATE: Dublin, CA

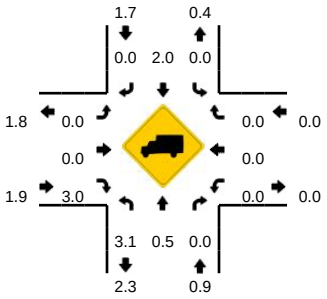
QC JOB #: 13967612

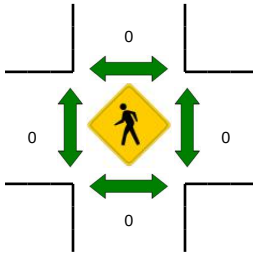
DATE: Thu, Jan 26 2017

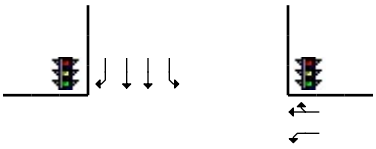
Peak-Hour: 5:00 PM -- 6:00 PM

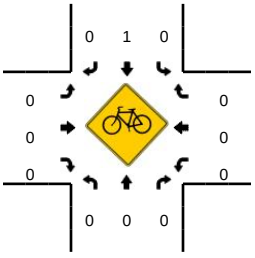
Peak 15-Min: 5:35 PM -- 5:50 PM

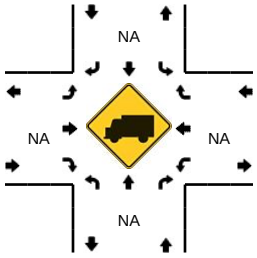


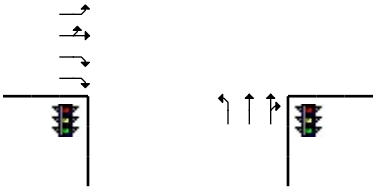


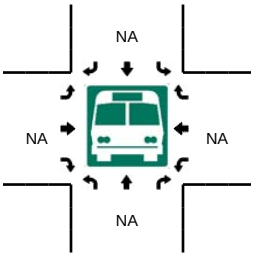












5-Min Count Period Beginning At	3 - Fallon Rd (Northbound)				3 - Fallon Rd (Southbound)				Dublin Blvd (Eastbound)				Dublin Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	14	31	0	0	0	50	10	0	9	0	27	0	0	0	0	0	141	
4:05 PM	4	29	0	0	0	46	7	0	19	0	42	0	0	0	0	0	147	
4:10 PM	9	48	0	0	0	50	15	0	7	0	41	0	0	0	0	0	170	
4:15 PM	8	30	0	0	0	49	8	0	9	0	42	0	0	0	0	0	146	
4:20 PM	6	58	0	0	0	64	7	0	13	0	31	0	0	0	0	0	179	
4:25 PM	13	39	1	0	0	38	3	0	10	0	33	2	0	0	0	0	139	
4:30 PM	8	39	0	0	0	62	7	0	13	0	31	1	0	0	0	0	161	
4:35 PM	10	37	0	0	0	42	5	0	18	0	30	0	1	0	0	0	143	
4:40 PM	10	38	0	0	0	48	6	0	13	0	47	0	0	0	0	0	162	
4:45 PM	6	48	0	0	0	62	7	0	10	2	39	0	0	0	0	0	174	
4:50 PM	7	62	0	0	0	41	11	0	6	0	33	1	0	0	0	0	161	
4:55 PM	5	48	0	0	0	39	6	0	12	0	45	0	0	0	0	0	155	1878
5:00 PM	14	43	0	0	0	52	4	0	9	0	15	0	0	0	0	0	137	1874
5:05 PM	9	37	0	0	0	52	10	0	23	0	36	0	0	0	0	0	167	1894
5:10 PM	15	61	0	0	0	61	8	0	25	0	25	0	0	0	0	0	195	1919
5:15 PM	12	74	0	0	0	34	7	0	25	0	41	0	0	0	0	0	193	1966
5:20 PM	8	43	0	0	0	61	9	0	11	0	39	0	0	0	0	0	171	1958
5:25 PM	10	76	0	0	0	48	2	0	15	1	40	1	0	0	0	0	193	2012
5:30 PM	6	79	0	0	0	50	8	0	22	0	29	0	0	0	0	0	194	2045
5:35 PM	5	72	0	0	0	64	5	0	20	0	24	0	0	0	0	0	190	2092
5:40 PM	15	70	0	0	0	58	5	0	21	0	30	0	0	1	0	0	200	2130
5:45 PM	14	73	0	0	0	63	12	0	24	0	40	0	0	0	0	0	226	2182
5:50 PM	12	73	0	0	0	59	11	0	10	0	24	0	0	0	0	0	189	2210
5:55 PM	10	82	0	0	0	51	13	0	15	0	27	0	0	0	0	0	198	2253

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	136	860	0	0	0	740	88	0	260	0	376	0	0	4	0	0	2464
Heavy Trucks	4	0	0		0	16	0		0	0	4		0	0	0		24
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

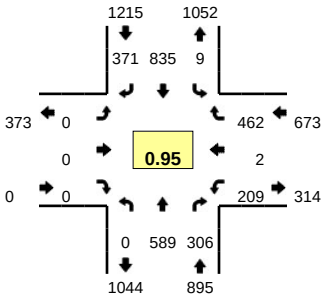
Type of peak hour being reported: Intersection Peak

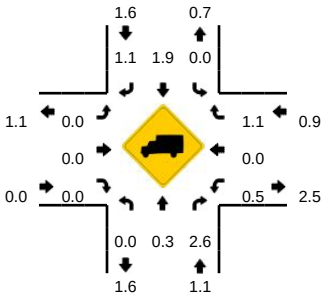
Method for determining peak hour: Total Entering Volume

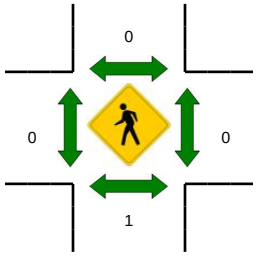
LOCATION: 4 - Fallon Rd -- I-580 WB On/Off Ramps
CITY/STATE: Alameda, CA

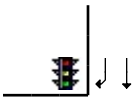
QC JOB #: 13967614
DATE: Thu, Jan 26 2017

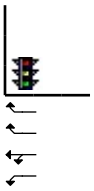
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

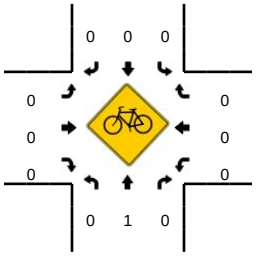


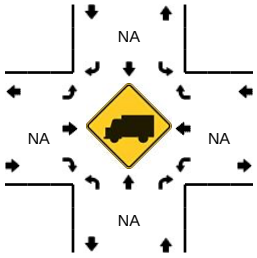


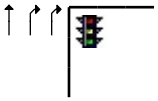


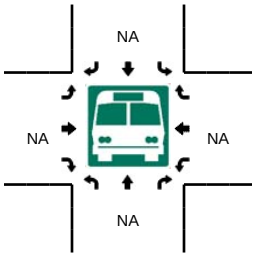












5-Min Count Period Beginning At	4 - Fallon Rd (Northbound)				4 - Fallon Rd (Southbound)				I-580 WB On/Off Ramps (Eastbound)				I-580 WB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	26	17	0	0	75	22	0	0	0	0	0	16	0	24	0	180	
4:05 PM	0	30	25	0	0	75	29	0	0	0	0	0	9	1	24	0	193	
4:10 PM	0	34	38	0	0	83	25	0	0	0	0	0	16	1	27	0	224	
4:15 PM	0	29	24	0	0	87	31	0	0	0	0	0	13	1	40	0	225	
4:20 PM	0	50	32	0	0	70	38	0	0	0	0	0	7	2	38	0	237	
4:25 PM	0	38	27	0	0	65	21	0	0	0	0	0	19	1	25	0	196	
4:30 PM	0	34	22	0	0	82	34	0	0	0	0	0	12	0	31	0	215	
4:35 PM	0	26	23	0	0	62	31	0	0	0	0	0	12	0	33	0	187	
4:40 PM	0	37	31	0	0	78	24	0	0	0	0	0	14	0	32	0	216	
4:45 PM	0	35	35	0	0	78	41	0	0	0	0	0	23	0	40	0	252	
4:50 PM	0	40	34	0	0	65	29	0	0	0	0	0	11	0	39	0	218	
4:55 PM	0	38	32	0	0	78	19	0	0	0	0	0	14	1	34	0	216	2559
5:00 PM	0	35	22	0	0	63	24	0	0	0	0	0	19	0	33	0	196	2575
5:05 PM	0	30	23	0	0	62	31	0	0	0	0	0	18	0	43	0	207	2589
5:10 PM	0	58	32	0	0	85	30	0	0	0	0	0	16	1	44	0	266	2631
5:15 PM	0	31	30	0	0	77	26	0	0	0	0	0	15	0	55	0	234	2640
5:20 PM	0	39	31	0	0	82	32	0	0	0	0	0	20	0	27	0	231	2634
5:25 PM	0	60	24	0	0	73	36	0	0	0	0	0	24	0	36	0	253	2691
5:30 PM	0	52	29	0	0	57	28	0	0	0	0	0	14	1	36	0	217	2693
5:35 PM	0	51	26	0	0	54	35	1	0	0	0	0	18	0	40	0	225	2731
5:40 PM	0	61	22	0	0	70	28	0	0	0	0	0	13	0	41	0	235	2750
5:45 PM	0	45	27	0	0	79	42	0	0	0	0	0	18	0	38	0	249	2747
5:50 PM	0	60	20	0	8	63	27	0	0	0	0	0	21	0	31	0	230	2759
5:55 PM	0	67	20	0	0	70	32	0	0	0	0	0	13	0	38	0	240	2783

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	512	372	0	0	976	352	0	0	0	0	0	204	4	504	0	2924
Heavy Trucks	0	4	16		0	16	0		0	0	0		0	0	12		48
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

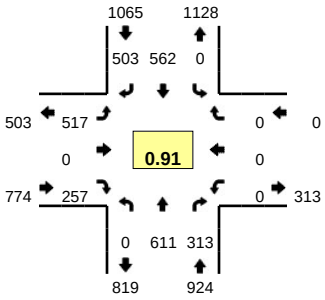
LOCATION: 5 - El Charro Rd -- I-580 EB On/Off Ramps

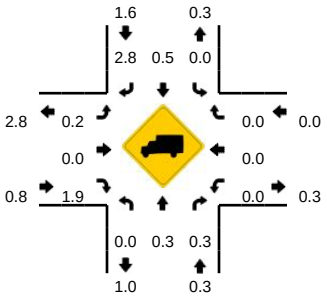
QC JOB #: 13967616

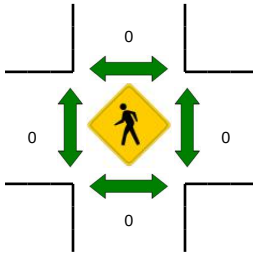
CITY/STATE: Alameda, CA

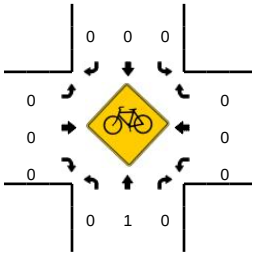
DATE: Tue, Feb 14 2017

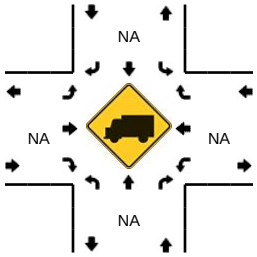
Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

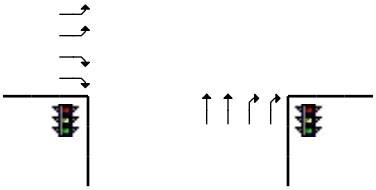


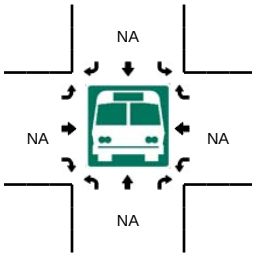












5-Min Count Period Beginning At	5 - El Charro Rd (Northbound)				5 - El Charro Rd (Southbound)				I-580 EB On/Off Ramps (Eastbound)				I-580 EB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	40	39	0	0	40	30	0	34	0	17	0	0	0	0	0	200	
4:05 PM	0	60	36	0	0	51	32	0	17	0	22	0	0	0	0	0	218	
4:10 PM	0	63	49	0	0	41	38	0	15	0	19	0	0	0	0	0	225	
4:15 PM	0	38	20	0	0	33	41	0	33	0	18	0	0	0	0	0	183	
4:20 PM	0	50	20	0	0	62	41	0	31	0	26	0	0	0	0	0	230	
4:25 PM	0	54	21	0	0	49	40	0	32	0	22	0	0	0	0	0	218	
4:30 PM	0	45	25	0	0	55	38	0	32	0	19	0	0	0	0	0	214	
4:35 PM	0	63	20	0	0	41	34	0	30	0	12	0	0	0	0	0	200	
4:40 PM	0	60	30	0	0	60	45	0	37	0	22	0	0	0	0	0	254	
4:45 PM	0	37	34	0	0	50	29	0	51	0	25	0	0	0	0	0	226	
4:50 PM	0	52	22	0	0	47	43	0	39	0	27	0	0	0	0	0	230	
4:55 PM	0	44	30	0	0	45	34	0	55	0	19	0	0	0	0	0	227	2625
5:00 PM	0	55	26	0	0	43	73	0	48	0	23	0	0	0	0	0	268	2693
5:05 PM	0	56	31	0	0	40	35	0	59	0	21	0	0	0	0	0	242	2717
5:10 PM	0	51	29	0	0	39	43	0	63	0	22	0	0	0	0	0	247	2739
5:15 PM	0	44	25	0	0	31	48	0	40	0	19	0	0	0	0	0	207	2763
5:20 PM	0	44	33	0	0	28	46	0	46	0	19	0	0	0	0	0	216	2749
5:25 PM	0	42	26	0	0	29	36	0	48	0	14	0	0	0	0	0	195	2726
5:30 PM	0	29	18	0	0	25	55	0	43	0	24	0	0	0	0	0	194	2706
5:35 PM	0	49	17	0	0	28	40	0	41	0	15	0	0	0	0	0	190	2696
5:40 PM	0	39	22	0	0	19	48	0	65	0	14	0	0	0	0	0	207	2649
5:45 PM	0	40	22	0	0	24	31	0	46	0	20	0	0	0	0	0	183	2606
5:50 PM	0	35	11	0	0	19	29	0	45	0	20	0	0	0	0	0	159	2535
5:55 PM	0	35	22	0	0	21	42	0	51	0	20	0	0	0	0	0	191	2499

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	648	344	0	0	488	604	0	680	0	264	0	0	0	0	0	3028
Heavy Trucks	0	4	0		0	4	24		0	0	4		0	0	0		36
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/17/2017 3:55 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 6 - Airway Blvd -- I-580 EB On/Off Ramps

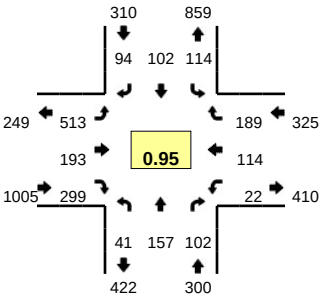
CITY/STATE: Livermore, CA

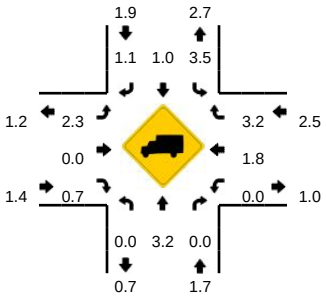
QC JOB #: 13967602

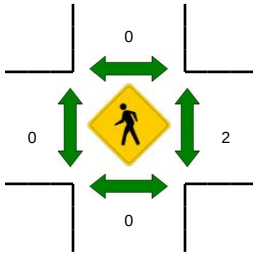
DATE: Tue, Feb 14 2017

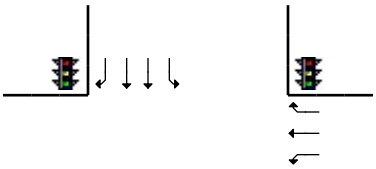
Peak-Hour: 4:50 PM -- 5:50 PM

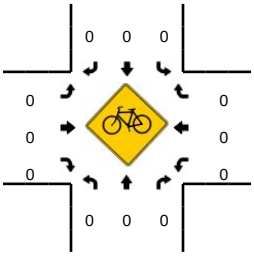
Peak 15-Min: 5:15 PM -- 5:30 PM

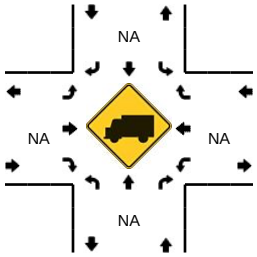


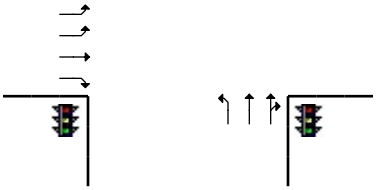


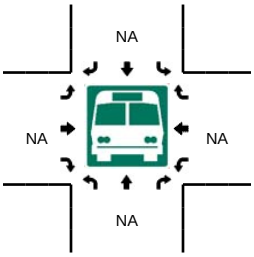












5-Min Count Period Beginning At	6 - Airway Blvd (Northbound)				6 - Airway Blvd (Southbound)				I-580 EB On/Off Ramps (Eastbound)				I-580 EB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	20	5	0	6	3	13	0	34	8	16	0	1	8	16	0	131	
4:05 PM	2	10	5	0	3	7	14	0	32	17	18	0	3	15	14	0	140	
4:10 PM	0	10	4	0	5	9	10	1	28	16	16	0	4	13	11	0	127	
4:15 PM	3	11	16	0	8	11	18	0	30	10	26	0	0	6	11	0	150	
4:20 PM	1	11	6	0	7	10	10	0	31	14	29	0	1	9	14	0	143	
4:25 PM	0	9	8	0	11	10	4	0	49	15	23	0	1	3	21	0	154	
4:30 PM	1	13	15	0	9	6	7	1	35	17	26	0	1	5	12	0	148	
4:35 PM	0	16	10	0	4	5	11	1	25	17	21	0	0	5	17	0	132	
4:40 PM	2	12	3	0	12	3	8	0	27	14	16	0	1	12	18	0	128	
4:45 PM	4	14	7	0	7	11	0	1	40	17	23	0	0	12	12	1	149	
4:50 PM	4	14	6	0	14	11	12	0	44	13	24	0	0	8	19	0	169	
4:55 PM	1	9	5	0	4	5	8	0	44	23	26	0	2	4	16	0	147	1718
5:00 PM	3	13	7	0	6	13	6	0	36	16	22	0	0	8	14	0	144	1731
5:05 PM	5	17	11	0	15	7	13	0	43	16	26	0	1	13	15	0	182	1773
5:10 PM	4	12	8	0	12	5	5	0	37	17	26	0	5	13	15	0	159	1805
5:15 PM	5	17	14	0	12	8	8	0	35	13	24	0	1	6	17	0	160	1815
5:20 PM	0	9	14	0	13	9	10	0	46	24	28	0	4	4	23	0	184	1856
5:25 PM	1	12	11	0	8	10	12	0	46	15	26	0	1	10	12	0	164	1866
5:30 PM	5	14	9	0	9	10	7	0	41	17	14	0	1	13	15	0	155	1873
5:35 PM	7	17	6	0	8	9	1	0	64	16	25	0	1	10	14	1	179	1920
5:40 PM	3	10	4	0	4	7	4	0	42	18	31	0	2	9	13	0	147	1939
5:45 PM	3	13	7	0	9	8	8	0	35	5	27	0	3	16	16	0	150	1940
5:50 PM	2	11	5	0	7	9	9	0	46	11	18	0	1	4	11	0	134	1905
5:55 PM	1	9	8	0	13	5	10	0	44	8	31	0	0	7	10	0	146	1904

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	152	156	0	132	108	120	0	508	208	312	0	24	80	208	0	2032
Heavy Trucks	0	4	0		8	0	0		8	0	0		0	0	12		32
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/17/2017 3:55 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

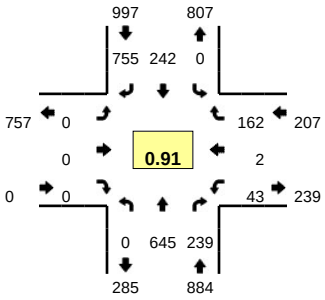
Method for determining peak hour: Total Entering Volume

LOCATION: 7 - Airway Blvd -- I-580 WB On/Off Ramps

CITY/STATE: Livermore, CA

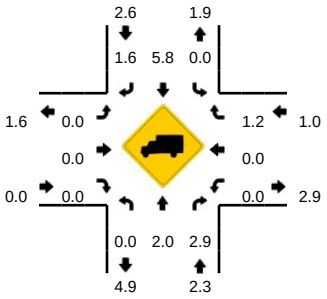
QC JOB #: 13967604

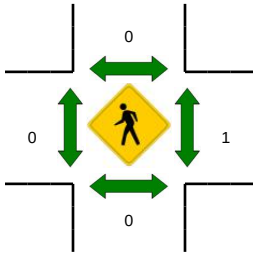
DATE: Thu, Jan 26 2017

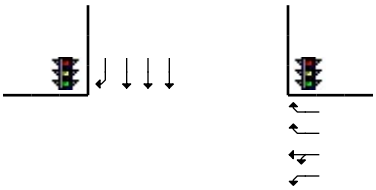


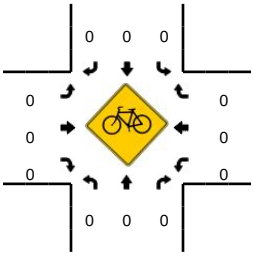
Peak-Hour: 5:00 PM -- 6:00 PM

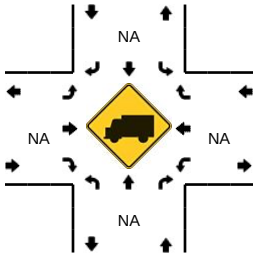
Peak 15-Min: 5:05 PM -- 5:20 PM

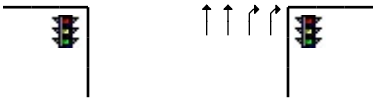


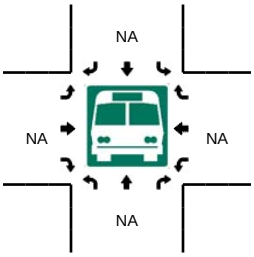












5-Min Count Period Beginning At	7 - Airway Blvd (Northbound)				7 - Airway Blvd (Southbound)				I-580 WB On/Off Ramps (Eastbound)				I-580 WB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	55	16	1	0	22	58	1	0	0	0	0	1	0	8	0	162	
4:05 PM	0	37	11	0	0	25	65	0	0	0	0	0	5	0	8	0	151	
4:10 PM	0	40	18	0	0	32	57	0	0	0	0	0	4	1	13	0	165	
4:15 PM	0	50	17	0	0	20	41	0	0	0	0	0	4	0	7	0	139	
4:20 PM	0	40	15	0	0	27	47	0	0	0	0	0	0	0	17	0	146	
4:25 PM	0	42	13	0	0	28	65	0	0	0	0	0	7	0	11	0	166	
4:30 PM	0	47	20	0	0	23	55	0	0	0	0	0	5	0	9	0	159	
4:35 PM	0	49	19	0	0	27	63	0	0	0	0	0	4	0	12	0	174	
4:40 PM	0	42	15	0	0	17	57	0	0	0	0	0	5	0	13	0	149	
4:45 PM	0	60	19	0	0	15	52	0	0	0	0	0	4	0	15	0	165	
4:50 PM	0	33	14	0	0	23	66	0	0	0	0	0	2	0	13	0	151	
4:55 PM	0	39	19	0	0	19	52	0	0	0	0	0	4	0	12	0	145	1872
5:00 PM	0	43	14	0	0	13	56	0	0	0	0	0	2	0	17	0	145	1855
5:05 PM	0	49	28	0	0	25	73	0	0	0	0	0	4	0	11	0	190	1894
5:10 PM	0	54	23	0	0	22	80	0	0	0	0	0	3	0	10	0	192	1921
5:15 PM	0	61	17	0	0	28	65	0	0	0	0	0	8	1	14	0	194	1976
5:20 PM	0	59	22	0	0	19	74	0	0	0	0	0	3	0	12	0	189	2019
5:25 PM	0	41	21	0	0	23	59	0	0	0	0	0	0	0	14	0	158	2011
5:30 PM	0	55	16	0	0	14	52	0	0	0	0	0	3	0	13	0	153	2005
5:35 PM	0	60	26	0	0	30	65	0	0	0	0	0	2	0	16	0	199	2030
5:40 PM	0	51	12	0	0	17	61	0	0	0	0	0	6	0	15	0	162	2043
5:45 PM	0	62	21	0	0	25	61	0	0	0	0	0	6	1	13	0	189	2067
5:50 PM	0	51	19	0	0	7	59	0	0	0	0	0	5	0	13	0	154	2070
5:55 PM	0	59	20	0	0	19	50	0	0	0	0	0	1	0	14	0	163	2088

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	656	272	0	0	300	872	0	0	0	0	0	60	4	140	0	2304
Heavy Trucks	0	16	8		0	24	16		0	0	0		0	0	4		68
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 8 - Airway Blvd -- N Canyons Pkwy

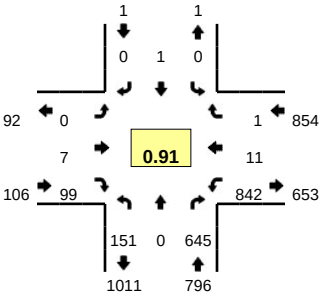
CITY/STATE: Livermore, CA

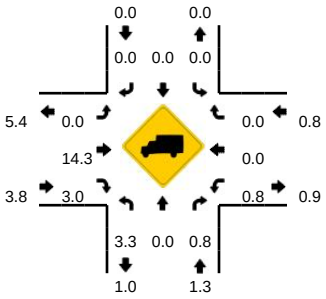
QC JOB #: 13967606

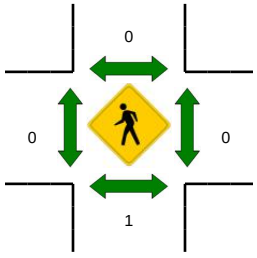
DATE: Thu, Jan 26 2017

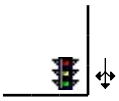
Peak-Hour: 5:00 PM -- 6:00 PM

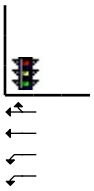
Peak 15-Min: 5:10 PM -- 5:25 PM

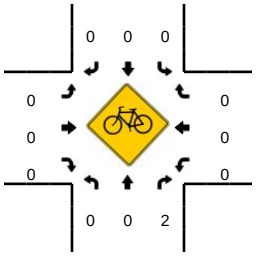


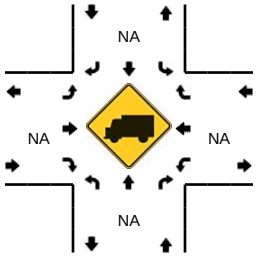


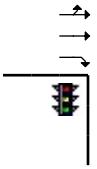


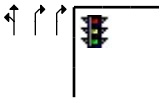


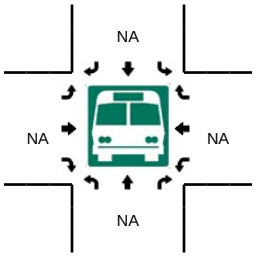












5-Min Count Period Beginning At	8 - Airway Blvd (Northbound)				8 - Airway Blvd (Southbound)				N Canyons Pkwy (Eastbound)				N Canyons Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	0	60	7	0	0	0	0	0	2	5	0	71	2	0	0	152	
4:05 PM	6	0	29	9	0	0	0	0	0	3	7	0	80	0	0	0	134	
4:10 PM	3	0	47	8	0	0	0	0	0	3	9	0	73	1	0	0	144	
4:15 PM	5	0	45	1	0	0	0	0	0	3	6	0	61	0	0	0	121	
4:20 PM	6	0	42	6	0	0	0	0	0	2	9	0	65	1	1	0	132	
4:25 PM	3	0	44	5	0	0	0	0	0	3	7	0	69	1	0	0	132	
4:30 PM	4	0	43	6	0	0	0	0	0	3	4	0	69	1	0	0	130	
4:35 PM	2	0	48	6	0	0	0	0	0	0	8	0	76	2	0	0	142	
4:40 PM	3	0	42	4	0	0	0	0	0	1	8	0	63	1	0	1	123	
4:45 PM	6	0	57	3	0	0	0	0	0	0	7	0	55	1	0	2	131	
4:50 PM	4	0	38	10	0	0	0	0	0	4	2	0	78	1	0	1	138	
4:55 PM	3	0	38	5	0	0	0	0	0	0	3	0	61	0	0	0	110	1589
5:00 PM	4	0	47	2	0	0	0	0	0	1	6	0	63	0	0	0	123	1560
5:05 PM	2	0	54	5	0	0	0	0	0	0	7	0	84	2	0	0	154	1580
5:10 PM	7	0	44	5	0	0	0	0	0	2	9	0	88	2	0	0	157	1593
5:15 PM	10	0	62	9	0	0	0	0	0	0	13	0	75	0	0	0	169	1641
5:20 PM	4	0	58	3	0	0	0	0	0	1	8	0	83	1	0	1	159	1668
5:25 PM	10	0	40	9	0	0	0	0	0	0	9	0	67	1	0	0	136	1672
5:30 PM	11	0	50	8	0	0	0	0	0	0	8	0	57	1	0	0	135	1677
5:35 PM	9	0	59	6	0	0	0	0	0	0	5	0	79	1	0	0	159	1694
5:40 PM	6	0	54	2	0	1	0	0	0	2	11	0	65	0	1	0	142	1713
5:45 PM	8	0	64	12	0	0	0	0	0	1	12	0	65	0	0	0	162	1744
5:50 PM	5	0	58	3	0	0	0	0	0	0	8	0	52	3	0	0	129	1735
5:55 PM	5	0	55	6	0	0	0	0	0	0	3	0	63	0	0	0	132	1757

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	0	656	68	0	0	0	0	0	12	120	0	984	12	0	4	1940
Heavy Trucks	12	0	8		0	0	0		0	4	0		12	0	0		36
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 9 - Doolan Rd -- N Canyons Pkwy

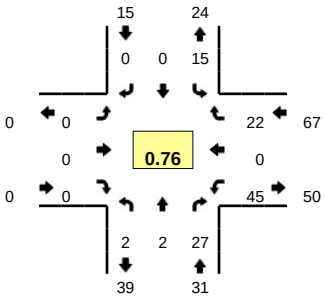
CITY/STATE: Livermore, CA

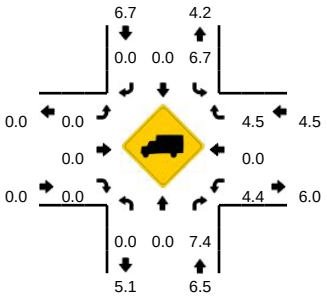
QC JOB #: 13967610

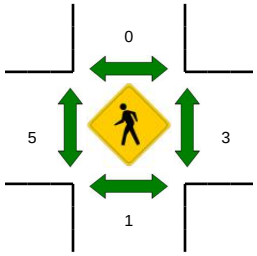
DATE: Thu, Jan 26 2017

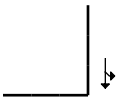
Peak-Hour: 5:00 PM -- 6:00 PM

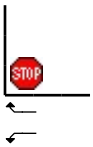
Peak 15-Min: 5:35 PM -- 5:50 PM

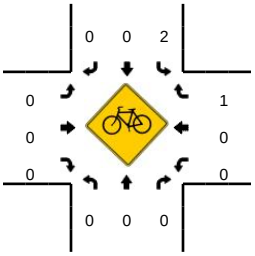


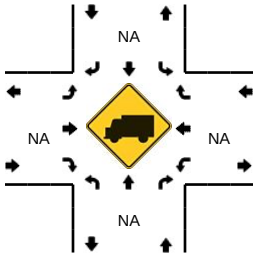


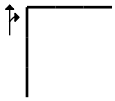


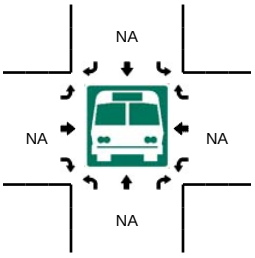












5-Min Count Period Beginning At	9 - Doolan Rd (Northbound)				9 - Doolan Rd (Southbound)				N Canyons Pkwy (Eastbound)				N Canyons Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	1	6	
4:05 PM	0	0	2	0	1	0	0	0	0	0	0	0	4	0	1	1	9	
4:10 PM	0	0	6	0	1	0	0	0	0	0	0	0	1	0	1	1	10	
4:15 PM	0	0	3	0	1	0	0	0	0	0	0	0	3	0	2	0	9	
4:20 PM	0	0	3	0	1	0	0	0	0	0	0	0	4	0	1	0	9	
4:25 PM	0	0	4	0	3	0	0	0	0	0	0	0	4	0	1	1	13	
4:30 PM	0	0	2	0	1	0	0	0	0	0	0	0	3	0	0	0	6	
4:35 PM	0	0	4	0	2	0	0	0	0	0	0	0	4	0	1	0	11	
4:40 PM	0	0	3	0	1	1	0	0	0	0	0	0	3	0	0	0	8	
4:45 PM	0	0	5	0	1	0	0	0	0	0	0	0	5	0	1	0	12	
4:50 PM	0	0	2	0	0	0	0	0	0	0	0	0	1	0	3	1	7	
4:55 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	2	5	105
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	3	102
5:05 PM	0	0	0	0	1	0	0	0	0	0	0	0	2	0	1	2	6	99
5:10 PM	0	1	2	0	1	0	0	0	0	0	0	0	4	0	0	1	9	98
5:15 PM	0	0	4	0	3	0	0	0	0	0	0	0	3	0	3	0	13	102
5:20 PM	0	0	4	0	1	0	0	0	0	0	0	0	1	0	2	1	9	102
5:25 PM	0	1	4	0	1	0	0	0	0	0	0	0	5	0	0	1	12	101
5:30 PM	0	0	2	0	1	0	0	0	0	0	0	0	4	0	2	1	10	105
5:35 PM	0	0	1	1	0	0	0	0	0	0	0	0	3	0	5	1	11	105
5:40 PM	0	0	5	0	4	0	0	0	0	0	0	0	6	0	0	0	15	112
5:45 PM	0	0	2	0	1	0	0	0	0	0	0	0	5	0	3	0	11	111
5:50 PM	0	0	1	1	1	0	0	0	0	0	0	0	2	0	1	0	6	110
5:55 PM	0	0	1	0	0	0	0	0	0	0	0	0	2	0	4	1	8	113

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	32	4	20	0	0	0	0	0	0	0	56	0	32	4	148
Heavy Trucks	0	0	4		0	0	0		0	0	0		4	0	0		8
Pedestrians		0				0				8				4			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 10 - Isabel Ave -- Portola Ave

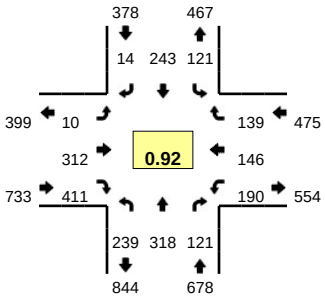
CITY/STATE: Livermore, CA

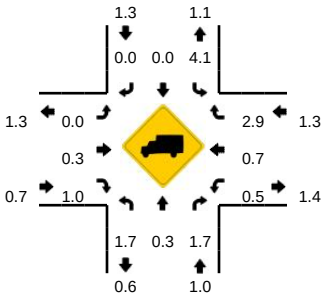
QC JOB #: 13967608

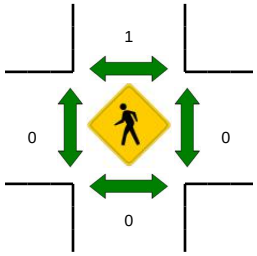
DATE: Thu, Jan 26 2017

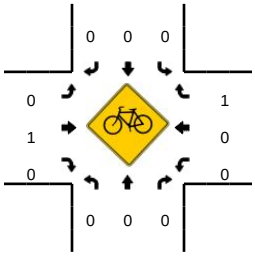
Peak-Hour: 4:50 PM -- 5:50 PM

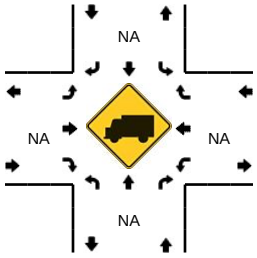
Peak 15-Min: 4:50 PM -- 5:05 PM

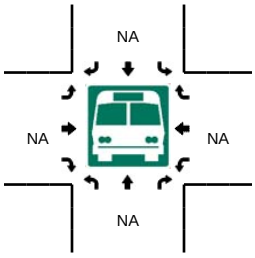


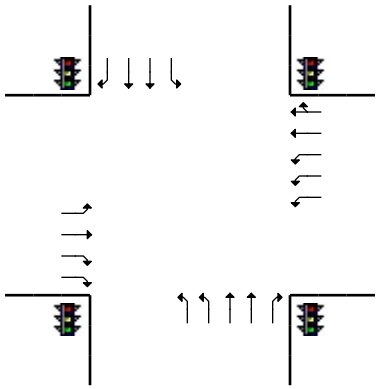












5-Min Count Period Beginning At	10 - Isabel Ave (Northbound)				10 - Isabel Ave (Southbound)				Portola Ave (Eastbound)				Portola Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	15	6	0	12	24	0	0	0	22	31	0	9	6	7	0	145	
4:05 PM	13	10	5	0	7	13	0	0	2	31	42	0	14	8	6	0	151	
4:10 PM	16	15	5	0	8	8	0	0	0	18	32	0	16	8	4	0	130	
4:15 PM	16	20	10	0	4	20	3	0	0	20	30	0	12	10	6	0	151	
4:20 PM	14	14	5	0	5	14	2	0	1	22	23	0	12	6	7	0	125	
4:25 PM	12	17	14	0	8	16	2	0	0	23	23	0	16	9	7	0	147	
4:30 PM	7	18	5	0	4	14	0	0	1	31	42	0	13	12	3	0	150	
4:35 PM	18	13	6	0	14	24	0	0	0	23	37	0	11	7	20	0	173	
4:40 PM	11	17	6	0	11	14	0	0	1	33	34	0	24	13	17	0	181	
4:45 PM	15	32	10	0	10	16	0	0	0	23	27	0	7	12	11	0	163	
4:50 PM	14	38	7	0	14	44	2	0	2	27	32	0	13	14	16	0	223	
4:55 PM	16	22	13	0	12	35	0	0	0	20	45	0	19	15	10	0	207	1946
5:00 PM	18	21	8	0	15	24	0	0	1	24	39	0	11	10	13	0	184	1985
5:05 PM	18	16	5	0	7	9	4	0	0	41	42	0	16	8	10	0	176	2010
5:10 PM	16	23	10	0	7	12	3	0	1	27	42	0	20	12	11	0	184	2064
5:15 PM	24	29	11	0	4	13	1	0	2	35	36	0	13	10	12	0	190	2103
5:20 PM	19	34	7	0	9	17	1	0	1	27	36	0	21	14	15	0	201	2179
5:25 PM	16	26	13	0	7	18	1	0	1	23	35	0	12	13	13	0	178	2210
5:30 PM	15	24	13	0	10	23	0	0	1	24	25	0	13	14	12	0	174	2234
5:35 PM	28	16	9	0	11	11	0	0	1	27	26	0	16	12	10	0	167	2228
5:40 PM	29	35	15	0	13	13	2	0	0	16	31	0	16	12	7	0	189	2236
5:45 PM	26	34	10	0	12	24	0	0	0	21	22	0	20	12	10	0	191	2264
5:50 PM	31	24	8	0	10	17	1	0	2	22	32	0	15	10	13	0	185	2226
5:55 PM	17	37	11	0	9	16	0	0	1	21	34	0	11	15	12	0	184	2203

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	192	324	112	0	164	412	8	0	12	284	464	0	172	156	156	0	2456
Heavy Trucks	4	0	4		4	0	0		0	0	12		4	0	4		32
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 11 - Isabel Ave -- I-580 WB On/Off Ramps

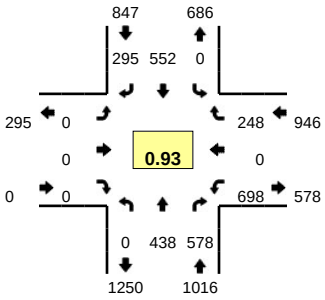
CITY/STATE: Alameda, CA

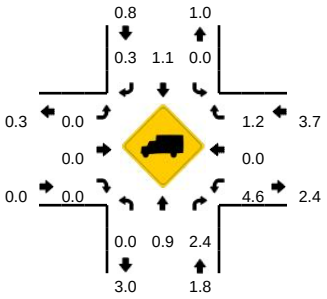
QC JOB #: 13967622

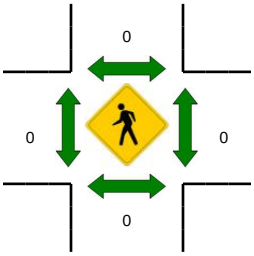
DATE: Thu, Jan 26 2017

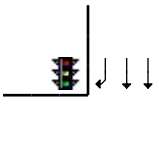
Peak-Hour: 4:50 PM -- 5:50 PM

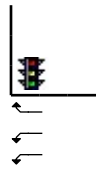
Peak 15-Min: 4:50 PM -- 5:05 PM

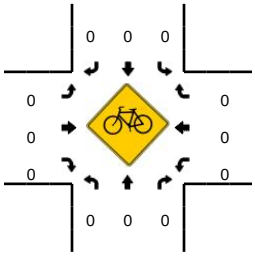


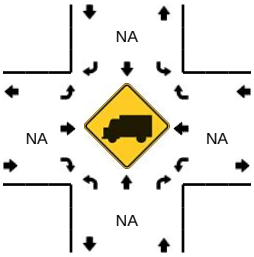


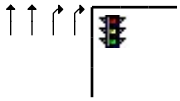


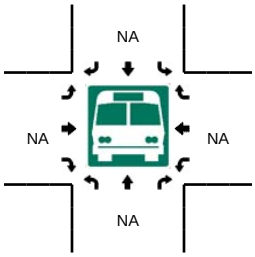












5-Min Count Period Beginning At	11 - Isabel Ave (Northbound)				11 - Isabel Ave (Southbound)				I-580 WB On/Off Ramps (Eastbound)				I-580 WB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	21	45	0	0	52	17	0	0	0	0	0	60	0	10	0	205	
4:05 PM	0	19	56	0	0	53	19	0	0	0	0	0	53	0	17	0	217	
4:10 PM	0	21	51	0	0	35	19	0	0	0	0	0	58	0	10	0	194	
4:15 PM	0	34	62	0	0	40	19	0	0	0	0	0	77	0	16	0	248	
4:20 PM	0	18	45	0	0	37	17	0	0	0	0	0	65	0	14	0	196	
4:25 PM	0	27	42	0	0	33	19	0	0	0	0	0	53	0	15	0	189	
4:30 PM	0	27	62	0	0	55	19	0	0	0	0	0	53	0	12	0	228	
4:35 PM	0	14	37	0	0	46	18	0	0	0	0	0	59	0	13	0	187	
4:40 PM	0	31	45	0	0	52	30	0	0	0	0	0	54	0	13	0	225	
4:45 PM	0	31	36	0	0	38	11	0	0	0	0	0	71	0	21	0	208	
4:50 PM	0	42	63	0	0	52	28	0	0	0	0	0	57	0	21	0	263	
4:55 PM	0	32	36	0	0	58	41	0	0	0	0	0	72	0	15	0	254	2614
5:00 PM	0	31	57	0	0	43	30	0	0	0	0	0	58	0	18	0	237	2646
5:05 PM	0	34	54	0	0	58	19	0	0	0	0	0	58	0	14	0	237	2666
5:10 PM	0	33	44	0	0	52	25	0	0	0	0	0	59	0	20	0	233	2705
5:15 PM	0	28	41	0	0	31	20	0	0	0	0	0	73	0	29	0	222	2679
5:20 PM	0	40	44	0	0	57	23	0	0	0	0	0	54	0	11	0	229	2712
5:25 PM	0	41	56	0	0	48	21	0	0	0	0	0	63	0	21	0	250	2773
5:30 PM	0	32	39	0	0	33	22	0	0	0	0	0	62	0	17	0	205	2750
5:35 PM	0	34	51	0	0	34	20	0	0	0	0	0	52	0	24	0	215	2778
5:40 PM	0	51	51	0	0	45	19	0	0	0	0	0	40	0	27	0	233	2786
5:45 PM	0	40	42	0	0	41	27	0	0	0	0	0	50	0	31	0	231	2809
5:50 PM	0	46	27	0	0	47	20	0	0	0	0	0	53	0	23	0	216	2762
5:55 PM	0	45	38	0	0	41	21	0	0	0	0	0	43	0	23	0	211	2719

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	420	624	0	0	612	396	0	0	0	0	0	748	0	216	0	3016
Heavy Trucks	0	4	28		0	16	0		0	0	0		56	0	4		108
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

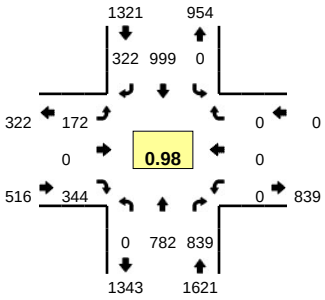
LOCATION: 12 - Isabel Ave -- I-580 EB On/Off Ramps

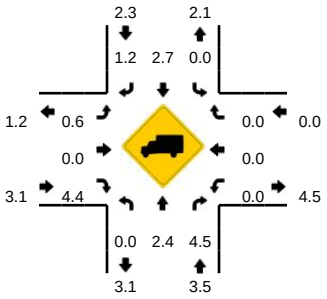
QC JOB #: 13967624

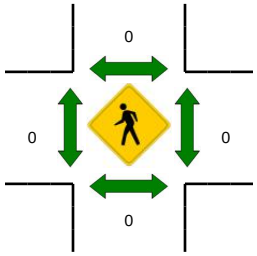
CITY/STATE: Alameda, CA

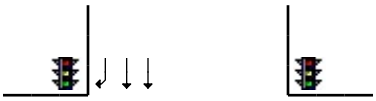
DATE: Thu, Jan 26 2017

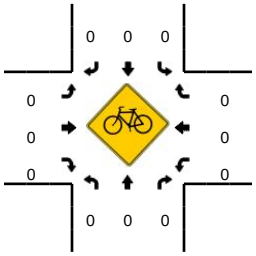
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:55 PM -- 5:10 PM

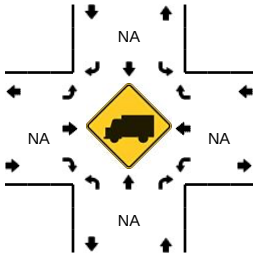


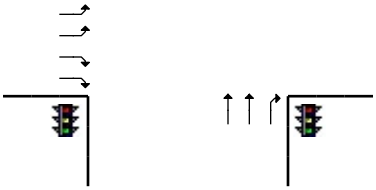


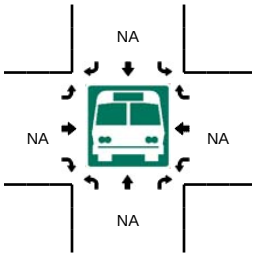












5-Min Count Period Beginning At	12 - Isabel Ave (Northbound)				12 - Isabel Ave (Southbound)				I-580 EB On/Off Ramps (Eastbound)				I-580 EB On/Off Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	61	58	0	0	87	30	0	11	0	29	0	0	0	0	0	276	
4:05 PM	0	65	79	0	0	63	39	0	7	0	22	0	0	0	0	0	275	
4:10 PM	0	67	83	0	0	79	19	0	10	0	29	0	0	0	0	0	287	
4:15 PM	0	71	99	0	0	78	21	0	18	0	34	0	0	0	0	0	321	
4:20 PM	0	59	77	0	0	81	21	0	6	0	27	0	0	0	0	0	271	
4:25 PM	0	54	55	0	0	91	15	0	15	0	31	0	0	0	0	0	261	
4:30 PM	0	75	86	0	0	74	23	0	7	0	22	0	0	0	0	0	287	
4:35 PM	0	43	72	0	0	77	32	0	9	0	27	0	0	0	0	0	260	
4:40 PM	0	68	92	0	0	94	19	0	11	0	28	0	0	0	0	0	312	
4:45 PM	0	58	70	0	0	81	24	0	13	0	25	0	0	0	0	0	271	
4:50 PM	0	80	42	0	0	75	27	0	14	0	29	0	0	0	0	0	267	
4:55 PM	0	69	56	0	0	106	29	0	20	0	28	0	0	0	0	0	308	3396
5:00 PM	0	56	58	0	0	74	27	0	16	0	34	0	0	0	0	0	265	3385
5:05 PM	0	69	85	0	0	82	31	0	15	0	27	0	0	0	0	0	309	3419
5:10 PM	0	69	73	0	0	90	27	0	13	0	33	0	0	0	0	0	305	3437
5:15 PM	0	47	80	0	0	69	18	0	17	0	36	0	0	0	0	0	267	3383
5:20 PM	0	83	53	0	0	87	34	0	12	0	28	0	0	0	0	0	297	3409
5:25 PM	0	65	72	0	0	90	31	0	25	0	27	0	0	0	0	0	310	3458
5:30 PM	0	54	58	0	0	67	19	0	16	0	31	0	0	0	0	0	245	3416
5:35 PM	0	81	48	0	0	74	17	0	22	0	35	0	0	0	0	0	277	3433
5:40 PM	0	59	43	0	0	71	18	0	20	0	39	0	0	0	0	0	250	3371
5:45 PM	0	62	58	0	0	67	21	0	22	0	34	0	0	0	0	0	264	3364
5:50 PM	0	59	61	0	0	83	19	0	20	0	36	0	0	0	0	0	278	3375
5:55 PM	0	47	40	0	0	61	17	0	29	0	36	0	0	0	0	0	230	3297

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	776	796	0	0	1048	348	0	204	0	356	0	0	0	0	0	3528
Heavy Trucks	0	32	48		0	52	8		4	0	24		0	0	0		168
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/6/2017 4:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

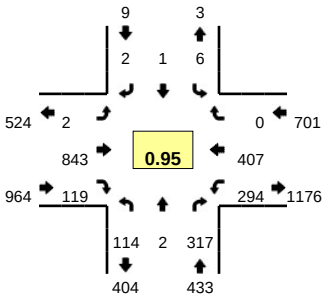
Type of peak hour being reported: Intersection Peak

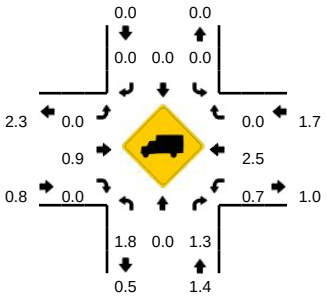
Method for determining peak hour: Total Entering Volume

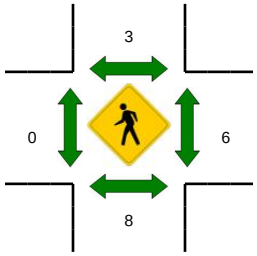
LOCATION: 13 - Murrieta Blvd -- Portola Ave
CITY/STATE: Alameda, CA

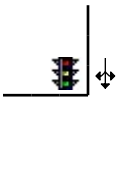
QC JOB #: 13967620
DATE: Tue, Feb 14 2017

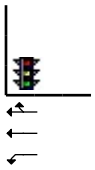
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

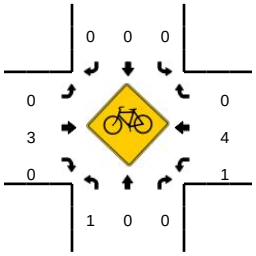


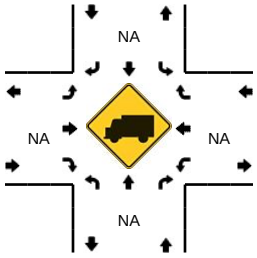


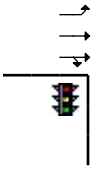


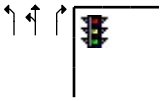


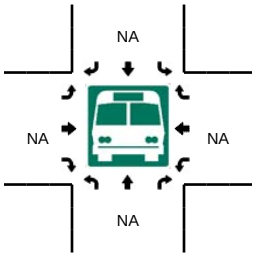












5-Min Count Period Beginning At	13 - Murrieta Blvd (Northbound)				13 - Murrieta Blvd (Southbound)				Portola Ave (Eastbound)				Portola Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	0	25	0	0	2	1	0	0	33	7	0	22	28	0	0	127	
4:05 PM	5	0	26	0	0	0	0	0	0	53	4	0	19	25	0	2	134	
4:10 PM	10	0	20	0	0	0	0	0	0	81	15	0	16	27	0	0	169	
4:15 PM	13	1	25	0	0	1	0	0	0	43	10	0	20	29	0	3	145	
4:20 PM	8	0	28	0	0	0	0	0	0	52	7	0	24	32	0	0	151	
4:25 PM	7	1	25	0	0	0	0	0	0	65	9	0	19	36	0	2	164	
4:30 PM	10	0	35	0	0	1	0	0	0	70	12	0	15	36	0	0	179	
4:35 PM	6	0	30	0	2	0	1	0	0	59	11	0	14	30	0	2	155	
4:40 PM	10	0	26	0	1	0	0	0	0	66	10	0	15	50	0	0	178	
4:45 PM	16	0	32	0	0	0	0	0	0	57	10	0	12	26	0	2	155	
4:50 PM	6	0	31	0	2	1	0	0	0	42	13	0	26	19	0	1	141	
4:55 PM	7	0	18	0	1	0	0	0	0	73	9	0	36	37	0	1	182	1880
5:00 PM	5	0	28	0	3	0	0	0	0	72	18	0	20	28	0	1	175	1928
5:05 PM	13	0	29	0	0	1	0	0	0	74	12	0	20	32	0	0	181	1975
5:10 PM	9	0	29	0	0	0	0	0	0	91	8	0	16	40	0	3	196	2002
5:15 PM	8	0	19	0	0	0	0	0	0	85	10	0	21	27	0	0	170	2027
5:20 PM	10	0	27	0	0	0	0	0	0	70	12	1	25	35	0	0	180	2056
5:25 PM	8	0	35	0	0	0	0	0	0	67	9	0	28	41	0	1	189	2081
5:30 PM	10	1	37	0	0	0	1	0	0	65	11	0	21	26	0	3	175	2077
5:35 PM	15	0	22	0	0	0	0	0	1	56	6	0	18	32	0	1	151	2073
5:40 PM	3	0	28	0	2	0	0	0	0	48	9	0	32	36	0	0	158	2053
5:45 PM	11	0	21	0	0	0	1	0	0	78	8	0	29	37	0	0	185	2083
5:50 PM	15	1	24	0	0	0	0	0	0	64	7	0	18	36	0	0	165	2107
5:55 PM	7	0	27	0	1	0	0	0	0	44	9	0	22	36	0	2	148	2073

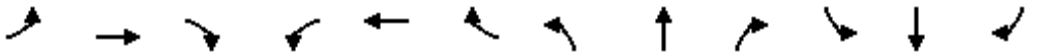
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	108	0	344	0	12	4	0	0	0	948	152	0	224	400	0	16	2208
Heavy Trucks	0	0	4		0	0	0		0	4	0		0	12	0		20
Pedestrians		20				0				0				16			36
Bicycles	0	0	0		0	0	0		0	0	0		1	2	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/17/2017 3:55 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

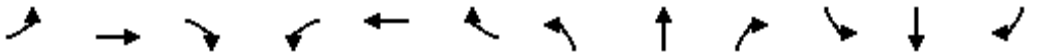
Appendix 2
Existing Level of Service Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	309	102	268	466	55	136	620	151	15	421	72
Future Volume (vph)	116	309	102	268	466	55	136	620	151	15	421	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	4988	2565	3467	4908		4802	3539	2739	3099	5085	1489
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	4988	2565	3467	4908		4802	3539	2739	3099	5085	1489
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	125	332	110	288	501	59	146	667	162	16	453	77
RTOR Reduction (vph)	0	0	87	0	11	0	0	0	103	0	0	55
Lane Group Flow (vph)	125	332	23	288	549	0	146	667	59	16	453	22
Confl. Peds. (#/hr)			8			14			7			2
Heavy Vehicles (%)	3%	4%	9%	1%	4%	2%	6%	2%	2%	13%	2%	7%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	8.2	16.1	16.1	12.0	19.9		7.6	28.4	28.4	1.7	22.5	22.5
Effective Green, g (s)	8.2	16.1	16.1	12.0	19.9		7.6	28.4	28.4	1.7	22.5	22.5
Actuated g/C Ratio	0.10	0.21	0.21	0.15	0.25		0.10	0.36	0.36	0.02	0.29	0.29
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	356	1026	528	532	1248		466	1285	994	67	1463	428
v/s Ratio Prot	0.04	0.07		c0.08	c0.11		c0.03	c0.19		0.01	0.09	
v/s Ratio Perm			0.01						0.02			0.01
v/c Ratio	0.35	0.32	0.04	0.54	0.44		0.31	0.52	0.06	0.24	0.31	0.05
Uniform Delay, d1	32.5	26.4	24.9	30.6	24.5		32.9	19.5	16.2	37.6	21.8	20.1
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	0.2	0.2	0.0	0.6	0.3		0.1	0.4	0.0	0.7	0.1	0.1
Delay (s)	32.7	26.6	24.9	31.2	24.8		33.0	20.0	16.2	38.3	21.9	20.2
Level of Service	C	C	C	C	C		C	B	B	D	C	C
Approach Delay (s)		27.6			26.9			21.3			22.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

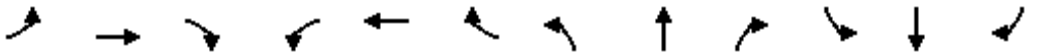
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	135	130	471	460	29	249	490	128	21	1007	88
Future Volume (vph)	101	135	130	471	460	29	249	490	128	21	1007	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.95	0.88	0.94	0.95		0.94	0.95	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3374	2760	4990	3477		4894	3471	1563	3072	6408	2733
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3374	2760	4990	3477		4894	3471	1563	3072	6408	2733
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	107	144	138	501	489	31	265	521	136	22	1071	94
RTOR Reduction (vph)	0	0	115	0	4	0	0	0	78	0	0	62
Lane Group Flow (vph)	107	144	23	501	516	0	265	521	58	22	1071	32
Confl. Peds. (#/hr)						4			1			
Heavy Vehicles (%)	3%	7%	3%	2%	3%	0%	4%	4%	2%	14%	2%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	7.6	15.4	15.4	13.9	21.7		9.7	38.9	38.9	2.0	31.2	31.2
Effective Green, g (s)	7.6	15.4	15.4	13.9	21.7		9.7	38.9	38.9	2.0	31.2	31.2
Actuated g/C Ratio	0.08	0.17	0.17	0.15	0.24		0.11	0.42	0.42	0.02	0.34	0.34
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	281	566	463	755	821		517	1470	662	66	2177	928
v/s Ratio Prot	0.03	0.04		c0.10	c0.15		c0.05	0.15		0.01	c0.17	
v/s Ratio Perm			0.01						0.04			0.01
v/c Ratio	0.38	0.25	0.05	0.66	0.63		0.51	0.35	0.09	0.33	0.49	0.03
Uniform Delay, d1	39.9	33.2	32.1	36.7	31.4		38.8	17.9	15.8	44.2	24.0	20.2
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	0.3	0.2	0.0	1.7	1.5		0.4	0.2	0.1	1.1	0.2	0.0
Delay (s)	40.2	33.4	32.1	38.5	33.0		39.2	18.1	15.9	45.3	24.3	20.3
Level of Service	D	C	C	D	C		D	B	B	D	C	C
Approach Delay (s)		34.8			35.7			23.9			24.3	
Approach LOS		C			D			C			C	

Intersection Summary					
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.58				
Actuated Cycle Length (s)	91.8	Sum of lost time (s)	21.6		
Intersection Capacity Utilization	56.8%	ICU Level of Service	B		
Analysis Period (min)	15				

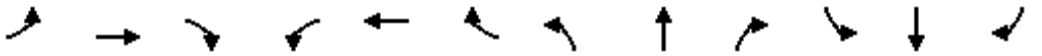
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	0	140	0	0	0	326	529	0	0	960	162
Future Volume (vph)	68	0	140	0	0	0	326	529	0	0	960	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3				5.3	4.9			4.9	4.9
Lane Util. Factor	0.95	0.95	0.88				1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00				1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1681	2608				1736	3471			3574	1579
Flt Permitted	0.95	0.55	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	976	2608				1736	3471			3574	1579
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	0	147	0	0	0	343	557	0	0	1011	171
RTOR Reduction (vph)	0	0	63	0	0	0	0	0	0	0	0	116
Lane Group Flow (vph)	36	36	84	0	0	0	343	557	0	0	1011	55
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	2%	0%	9%	2%	2%	2%	4%	4%	0%	0%	1%	1%
Turn Type	Prot	NA	pt+ov	Prot			Prot	NA		Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	11.3	30.8	56.3				20.2	57.3			31.8	31.8
Effective Green, g (s)	11.3	30.8	56.3				20.2	57.3			31.8	31.8
Actuated g/C Ratio	0.11	0.31	0.57				0.21	0.58			0.32	0.32
Clearance Time (s)	5.3	5.3					5.3	4.9			4.9	4.9
Vehicle Extension (s)	2.0	4.0					2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	193	386	1493				356	2023			1156	510
v/s Ratio Prot	c0.02	0.01	0.03				c0.20	0.16			c0.28	
v/s Ratio Perm		c0.02										0.04
v/c Ratio	0.19	0.09	0.06				0.96	0.28			0.87	0.11
Uniform Delay, d1	39.3	23.9	9.3				38.7	10.2			31.4	23.3
Progression Factor	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2	0.2	0.1	0.0				37.6	0.1			7.8	0.1
Delay (s)	39.5	24.0	9.3				76.3	10.3			39.2	23.4
Level of Service	D	C	A				E	B			D	C
Approach Delay (s)		16.7			0.0			35.5			36.9	
Approach LOS		B			A			D			D	

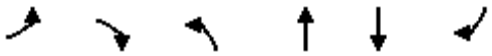
Intersection Summary					
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.65				
Actuated Cycle Length (s)	98.3	Sum of lost time (s)	19.5		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C		
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	230	62	654	0	477	0	0	545	497
Future Volume (vph)	0	0	0	230	62	654	0	477	0	0	545	497
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		1.00			0.95	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1633	1691	2760		1845			3505	1599
Flt Permitted				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1633	1691	2760		1845			3505	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	237	64	674	0	492	0	0	562	512
RTOR Reduction (vph)	0	0	0	0	0	230	0	0	0	0	0	220
Lane Group Flow (vph)	0	0	0	149	152	444	0	492	0	0	562	292
Heavy Vehicles (%)	0%	0%	0%	5%	2%	3%	0%	3%	20%	0%	3%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				16.0	16.0	26.2		22.3			32.5	32.5
Effective Green, g (s)				16.0	16.0	26.2		22.3			32.5	32.5
Actuated g/C Ratio				0.28	0.28	0.46		0.39			0.57	0.57
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				458	474	1268		721			1998	911
v/s Ratio Prot				0.09	0.09	c0.16		c0.27			0.16	
v/s Ratio Perm												0.18
v/c Ratio				0.33	0.32	0.35		0.68			0.28	0.32
Uniform Delay, d1				16.2	16.2	9.9		14.4			6.3	6.4
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				0.6	0.5	0.2		2.9			0.1	0.1
Delay (s)				16.8	16.7	10.1		17.3			6.3	6.6
Level of Service				B	B	B		B			A	A
Approach Delay (s)		0.0			12.2			17.3			6.5	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	57.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	246	256	0	463	539	0
Future Volume (vph)	246	256	0	463	539	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3367	2409		3223	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3367	2409		3223	3406	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	265	275	0	498	580	0
RTOR Reduction (vph)	0	212	0	0	0	0
Lane Group Flow (vph)	265	63	0	498	580	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	4%	18%	0%	12%	6%	2%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.5	5.5		10.6	10.6	
Effective Green, g (s)	5.5	5.5		10.6	10.6	
Actuated g/C Ratio	0.23	0.23		0.44	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	768	549		1417	1498	
v/s Ratio Prot	c0.08			0.15	c0.17	
v/s Ratio Perm		0.03				
v/c Ratio	0.35	0.11		0.35	0.39	
Uniform Delay, d1	7.8	7.4		4.5	4.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.0		0.1	0.1	
Delay (s)	7.9	7.4		4.5	4.6	
Level of Service	A	A		A	A	
Approach Delay (s)	7.6			4.5	4.6	
Approach LOS	A			A	A	

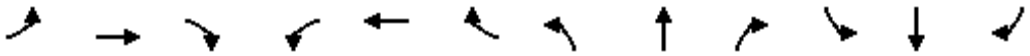
Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	24.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	666	230	155	14	53	90	19	271	180	64	92	0
Future Volume (vph)	666	230	155	14	53	90	19	271	180	64	92	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1827	1538	1687	1681	1599	1719	3229		1719	3438	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1827	1538	1687	1681	1599	1719	3229		1719	3438	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	740	256	172	16	59	100	21	301	200	71	102	0
RTOR Reduction (vph)	0	0	123	0	0	76	0	100	0	0	0	0
Lane Group Flow (vph)	740	256	49	16	59	24	21	401	0	71	102	0
Confl. Peds. (#/hr)									4			
Heavy Vehicles (%)	2%	4%	5%	7%	13%	1%	5%	4%	4%	5%	5%	3%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	29.9	29.9	29.9	11.2	11.2	25.3	3.2	37.0		9.2	43.5	
Effective Green, g (s)	29.9	29.9	29.9	11.2	11.2	25.3	3.2	37.0		9.2	43.5	
Actuated g/C Ratio	0.28	0.28	0.28	0.11	0.11	0.24	0.03	0.35		0.09	0.41	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	977	520	437	179	179	385	52	1137		150	1424	
v/s Ratio Prot	c0.22	0.14		0.01	c0.04	0.02	0.01	c0.12		c0.04	0.03	
v/s Ratio Perm			0.03									
v/c Ratio	0.76	0.49	0.11	0.09	0.33	0.06	0.40	0.35		0.47	0.07	
Uniform Delay, d1	34.2	31.2	27.7	42.3	43.4	30.7	50.0	25.1		45.6	18.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.77	0.72	
Incremental Delay, d2	3.4	0.7	0.1	0.2	1.1	0.1	5.1	0.9		2.3	0.1	
Delay (s)	37.6	32.0	27.9	42.5	44.5	30.8	55.0	26.0		37.5	13.4	
Level of Service	D	C	C	D	D	C	E	C		D	B	
Approach Delay (s)		35.0			36.5			27.2			23.3	
Approach LOS		C			D			C			C	

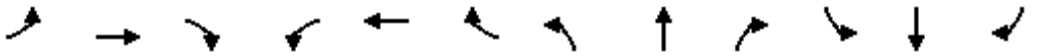
Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



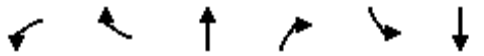
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	49	5	92	0	922	0	0	189	0
Future Volume (vph)	0	0	0	49	5	92	0	922	0	0	189	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1681	1646	2632		3539			4988	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1681	1646	2632		3539			4988	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	57	6	107	0	1072	0	0	220	0
RTOR Reduction (vph)	0	0	0	0	0	90	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	32	17	0	1072	0	0	220	0
Heavy Vehicles (%)	0%	0%	0%	2%	20%	8%	0%	2%	6%	0%	4%	3%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				7.6	7.6	17.1		79.6			88.1	
Effective Green, g (s)				7.6	7.6	17.1		79.6			88.1	
Actuated g/C Ratio				0.07	0.07	0.16		0.76			0.84	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				121	119	428		2682			4185	
v/s Ratio Prot				0.02	c0.02	c0.01		c0.30			0.04	
v/s Ratio Perm												
v/c Ratio				0.26	0.27	0.04		0.40			0.05	
Uniform Delay, d1				46.0	46.1	37.0		4.4			1.4	
Progression Factor				1.00	1.00	1.00		0.20			0.24	
Incremental Delay, d2				1.1	1.2	0.0		0.4			0.0	
Delay (s)				47.2	47.3	37.1		1.2			0.4	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			40.8			1.2			0.4	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
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												
Traffic Volume (vph)	0	11	30	486	14	0	119	0	912	0	0	0
Future Volume (vph)	0	11	30	486	14	0	119	0	912	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	1.00			1.00	0.88			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	1900			1787	2787			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	1900			1787	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	13	36	579	17	0	142	0	1086	0	0	0
RTOR Reduction (vph)	0	0	31	0	0	0	0	0	273	0	0	0
Lane Group Flow (vph)	0	13	5	579	17	0	0	142	813	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		14.4	14.4	54.0	74.4			20.4	78.6			
Effective Green, g (s)		14.4	14.4	54.0	74.4			20.4	78.6			
Actuated g/C Ratio		0.14	0.14	0.51	0.71			0.19	0.75			
Clearance Time (s)		6.0	6.0	6.0	6.0			4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		454	201	1731	1346			347	2086			
v/s Ratio Prot		c0.00		0.17	0.01			0.08	c0.29			
v/s Ratio Perm			0.00									
v/c Ratio		0.03	0.02	0.33	0.01			0.41	0.39			
Uniform Delay, d1		39.2	39.2	15.0	4.5			37.0	4.7			
Progression Factor		1.00	1.00	1.00	1.00			1.14	13.43			
Incremental Delay, d2		0.0	0.0	0.5	0.0			0.7	0.1			
Delay (s)		39.3	39.3	15.5	4.5			43.0	63.0			
Level of Service		D	D	B	A			D	E			
Approach Delay (s)		39.3			15.2			60.7			0.0	
Approach LOS		D			B			E			A	

Intersection Summary			
HCM 2000 Control Delay	45.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



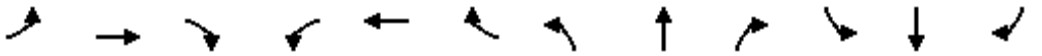
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	21	11	0	19	16	0
Future Volume (Veh/h)	21	11	0	19	16	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	25	13	0	23	19	0
Pedestrians	3		3			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)		30				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	56	16			26	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	56	16			26	
tC, single (s)	6.4	6.2			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	97	99			99	
cM capacity (veh/h)	941	1066			1522	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	23	19
Volume Left	25	0	19
Volume Right	13	23	0
cSH	1430	1700	1522
Volume to Capacity	0.03	0.01	0.01
Queue Length 95th (ft)	2	0	1
Control Delay (s)	8.8	0.0	7.4
Lane LOS	A		A
Approach Delay (s)	8.8	0.0	7.4
Approach LOS	A		

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

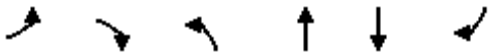
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	154	209	305	374	168	474	500	32	44	110	0
Future Volume (vph)	5	154	209	305	374	168	474	500	32	44	110	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Lane Util. Factor	1.00	1.00	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1881	2779	4990	3408		3433	3574	1482	1656	3610	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1881	2779	4990	3408		3433	3574	1482	1656	3610	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	7	205	279	407	499	224	632	667	43	59	147	0
RTOR Reduction (vph)	0	0	209	0	35	0	0	0	29	0	0	0
Lane Group Flow (vph)	7	205	70	407	688	0	632	667	14	59	147	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	1%	2%	0%	2%	2%	1%	9%	9%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.3	22.3	22.3	12.0	33.0		20.8	28.3	28.3	7.7	15.6	
Effective Green, g (s)	1.3	22.3	22.3	12.0	33.0		20.8	28.3	28.3	7.7	15.6	
Actuated g/C Ratio	0.01	0.25	0.25	0.13	0.37		0.23	0.32	0.32	0.09	0.18	
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	26	471	697	673	1265		803	1137	471	143	633	
v/s Ratio Prot	0.00	0.11		c0.08	c0.20		c0.18	c0.19		0.04	0.04	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.27	0.44	0.10	0.60	0.54		0.79	0.59	0.03	0.41	0.23	
Uniform Delay, d1	43.3	28.0	25.6	36.2	22.0		32.0	25.4	20.8	38.5	31.5	
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	2.0	0.6	0.1	1.1	0.5		4.7	0.8	0.0	0.7	0.2	
Delay (s)	45.4	28.7	25.7	37.3	22.5		36.7	26.2	20.9	39.2	31.7	
Level of Service	D	C	C	D	C		D	C	C	D	C	
Approach Delay (s)		27.2			27.8			31.0			33.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	18.6
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1066	0	520	0	489	0	0	327	303
Future Volume (vph)	0	0	0	1066	0	520	0	489	0	0	327	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3242		1599		3539			3539	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3242		1599		3539			3539	1863
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	1300	0	634	0	596	0	0	399	370
RTOR Reduction (vph)	0	0	0	0	0	38	0	0	0	0	0	235
Lane Group Flow (vph)	0	0	0	1300	0	596	0	596	0	0	399	135
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	8%	0%	1%	0%	2%	6%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				35.1		45.1		15.5			26.1	26.1
Effective Green, g (s)				35.1		45.1		15.5			26.1	26.1
Actuated g/C Ratio				0.49		0.63		0.22			0.36	0.36
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1589		1007		766			1290	679
v/s Ratio Prot				c0.40		c0.37		c0.17			0.11	
v/s Ratio Perm												0.07
v/c Ratio				0.82		0.59		0.78			0.31	0.20
Uniform Delay, d1				15.5		7.8		26.4			16.3	15.6
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				3.2		0.6		4.6			0.0	0.1
Delay (s)				18.8		8.4		31.0			16.3	15.6
Level of Service				B		A		C			B	B
Approach Delay (s)		0.0			15.4			31.0			16.0	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	71.6	Sum of lost time (s)	15.7
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

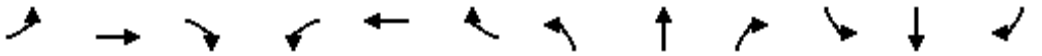


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	201	346	0	842	1298	0
Future Volume (vph)	201	346	0	842	1298	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	2632		3471	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	2632		3471	3406	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	226	389	0	946	1458	0
RTOR Reduction (vph)	0	2	0	0	0	0
Lane Group Flow (vph)	226	387	0	946	1458	0
Heavy Vehicles (%)	2%	8%	0%	4%	6%	6%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	8.5	27.6		70.2	50.1	
Effective Green, g (s)	8.5	21.8		70.2	50.1	
Actuated g/C Ratio	0.10	0.24		0.79	0.56	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	327	643		2731	1913	
v/s Ratio Prot	c0.07	c0.15		0.27	c0.43	
v/s Ratio Perm						
v/c Ratio	0.69	0.60		0.35	0.76	
Uniform Delay, d1	39.1	29.9		2.8	15.0	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.0	1.1		0.0	1.7	
Delay (s)	44.1	31.0		2.8	16.6	
Level of Service	D	C		A	B	
Approach Delay (s)	35.8			2.8	16.6	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	17.3
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

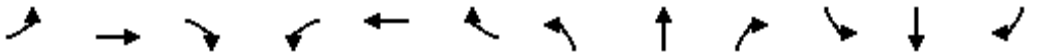
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	297	87	276	955	3	171	0	203	1	0	3
Future Volume (vph)	6	297	87	276	955	3	171	0	203	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1805	3361		1752	3534		1698	1698	1539		1653	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3361		1752	3534		1698	1698	1539		1674	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	326	96	303	1049	3	188	0	223	1	0	3
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	198	0	4	0
Lane Group Flow (vph)	7	406	0	303	1052	0	94	94	25	0	0	0
Confl. Peds. (#/hr)			4						5			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	0%	3%	2%	33%	1%	0%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.2	58.9		24.1	81.8		12.6	12.6	12.6		0.9	
Effective Green, g (s)	1.2	58.9		24.1	81.8		12.6	12.6	12.6		0.9	
Actuated g/C Ratio	0.01	0.52		0.21	0.72		0.11	0.11	0.11		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	19	1736		370	2535		187	187	170		13	
v/s Ratio Prot	0.00	0.12		c0.17	c0.30		c0.06	0.06				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.37	0.23		0.82	0.41		0.50	0.50	0.14		0.00	
Uniform Delay, d1	56.0	15.1		42.9	6.5		47.7	47.7	45.8		56.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.4	0.3		12.5	0.5		0.8	0.8	0.1		0.0	
Delay (s)	60.4	15.5		55.4	7.0		48.5	48.5	46.0		56.1	
Level of Service	E	B		E	A		D	D	D		E	
Approach Delay (s)		16.2			17.8			47.1			56.1	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



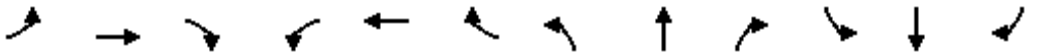
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	960	181	217	478	19	163	507	378	59	501	57
Future Volume (vph)	169	960	181	217	478	19	163	507	378	59	501	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	5136	2751	3502	5095		5040	3610	2801	3502	5136	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	5136	2751	3502	5095		5040	3610	2801	3502	5136	1553
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)	184	1043	197	236	520	21	177	551	411	64	545	62
RTOR Reduction (vph)	0	0	131	0	3	0	0	0	295	0	0	46
Lane Group Flow (vph)	184	1043	66	236	538	0	177	551	116	64	545	16
Confl. Peds. (#/hr)			1			3			3			
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	1%	1%	2%	0%	1%	5%	1%	0%	0%	0%	1%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	9.9	31.5	31.5	11.3	32.9		8.1	26.7	26.7	5.1	23.7	23.7
Effective Green, g (s)	9.9	31.5	31.5	11.3	32.9		8.1	26.7	26.7	5.1	23.7	23.7
Actuated g/C Ratio	0.10	0.33	0.33	0.12	0.35		0.09	0.28	0.28	0.05	0.25	0.25
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	362	1710	916	418	1771		431	1018	790	188	1286	389
v/s Ratio Prot	0.05	c0.20		c0.07	0.11		c0.04	c0.15		0.02	0.11	
v/s Ratio Perm			0.02						0.04			0.01
v/c Ratio	0.51	0.61	0.07	0.56	0.30		0.41	0.54	0.15	0.34	0.42	0.04
Uniform Delay, d1	40.0	26.4	21.6	39.3	22.5		41.0	28.8	25.4	43.1	29.7	26.8
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	0.4	0.7	0.0	1.0	0.1		0.2	0.7	0.1	0.4	0.3	0.1
Delay (s)	40.5	27.1	21.6	40.4	22.6		41.2	29.4	25.5	43.5	30.0	26.9
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		28.0			28.0			29.8			31.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	94.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	283	739	505	224	249	31	404	648	357	74	720	118
Future Volume (vph)	283	739	505	224	249	31	404	648	357	74	720	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.95	0.88	0.94	0.95		0.94	0.95	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3574	2777	5090	3483		5090	3610	1599	3502	6408	2775
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3574	2777	5090	3483		5090	3610	1599	3502	6408	2775
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	295	770	526	233	259	32	421	675	372	77	750	123
RTOR Reduction (vph)	0	0	359	0	7	0	0	0	254	0	0	93
Lane Group Flow (vph)	295	770	167	233	284	0	421	675	118	77	750	30
Confl. Peds. (#/hr)						1						2
Confl. Bikes (#/hr)			2			2						
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	0%	0%	1%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	13.3	31.6	31.6	9.4	27.7		13.1	31.6	31.6	5.6	24.1	24.1
Effective Green, g (s)	13.3	31.6	31.6	9.4	27.7		13.1	31.6	31.6	5.6	24.1	24.1
Actuated g/C Ratio	0.13	0.32	0.32	0.09	0.28		0.13	0.32	0.32	0.06	0.24	0.24
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	466	1131	879	479	966		668	1143	506	196	1547	670
v/s Ratio Prot	c0.08	c0.22		0.05	0.08		c0.08	c0.19		0.02	0.12	
v/s Ratio Perm			0.06						0.07			0.01
v/c Ratio	0.63	0.68	0.19	0.49	0.29		0.63	0.59	0.23	0.39	0.48	0.04
Uniform Delay, d1	40.9	29.7	24.8	42.9	28.4		41.1	28.7	25.2	45.5	32.5	29.0
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	2.1	1.7	0.1	0.3	0.2		1.4	1.0	0.3	0.5	0.3	0.0
Delay (s)	43.0	31.4	24.9	43.2	28.5		42.5	29.6	25.5	45.9	32.8	29.1
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		31.4			35.0			32.3			33.4	
Approach LOS		C			D			C			C	

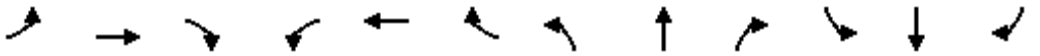
Intersection Summary			
HCM 2000 Control Delay	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	99.8	Sum of lost time (s)	21.6
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	1	370	0	1	0	130	783	0	0	653	94
Future Volume (vph)	221	1	370	0	1	0	130	783	0	0	653	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3		4.0		5.3	4.9			4.9	4.9
Lane Util. Factor	0.95	0.95	0.88		1.00		1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1715	1720	2760		1863		1752	3574			3539	1594
Flt Permitted	0.95	0.50	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1715	912	2760		1863		1752	3574			3539	1594
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	243	1	407	0	1	0	143	860	0	0	718	103
RTOR Reduction (vph)	0	0	170	0	0	0	0	0	0	0	0	72
Lane Group Flow (vph)	121	123	237	0	1	0	143	860	0	0	718	31
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	21.0	34.1	50.8		9.1		11.4	42.8			26.1	26.1
Effective Green, g (s)	21.0	34.1	50.8		9.1		11.4	42.8			26.1	26.1
Actuated g/C Ratio	0.24	0.39	0.58		0.10		0.13	0.49			0.30	0.30
Clearance Time (s)	5.3	5.3			4.0		5.3	4.9			4.9	4.9
Vehicle Extension (s)	2.0	4.0			2.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	413	551	1609		194		229	1756			1060	477
v/s Ratio Prot	c0.07	0.05	0.09		0.00		c0.08	0.24			c0.20	
v/s Ratio Perm		c0.03										0.02
v/c Ratio	0.29	0.22	0.15		0.01		0.62	0.49			0.68	0.06
Uniform Delay, d1	27.0	17.7	8.3		34.9		35.8	14.8			26.8	21.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.1	0.3	0.1		0.0		3.8	0.3			1.9	0.1
Delay (s)	27.1	18.0	8.3		34.9		39.6	15.1			28.7	21.9
Level of Service	C	B	A		C		D	B			C	C
Approach Delay (s)		13.6			34.9			18.6			27.8	
Approach LOS		B			C			B			C	

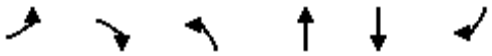
Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	87.1	Sum of lost time (s)	19.5
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	209	2	462	0	589	0	0	835	371
Future Volume (vph)	0	0	0	209	2	462	0	589	0	0	835	371
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		1.00			0.95	1.00
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1715	1721	2814		1900			3539	1599
Flt Permitted				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1715	1721	2814		1900			3539	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	220	2	486	0	620	0	0	879	391
RTOR Reduction (vph)	0	0	0	0	0	170	0	0	0	0	0	148
Lane Group Flow (vph)	0	0	0	110	112	316	0	620	0	0	879	243
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%	2%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				13.1	13.1	22.8		25.6			35.3	35.3
Effective Green, g (s)				13.1	13.1	22.8		25.6			35.3	35.3
Actuated g/C Ratio				0.23	0.23	0.40		0.45			0.62	0.62
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				394	396	1127		854			2195	991
v/s Ratio Prot				0.06	0.07	c0.11		c0.33			c0.25	
v/s Ratio Perm												0.15
v/c Ratio				0.28	0.28	0.28		0.73			0.40	0.24
Uniform Delay, d1				18.0	18.0	11.5		12.8			5.5	4.8
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				0.5	0.5	0.2		3.3			0.1	0.1
Delay (s)				18.5	18.6	11.7		16.1			5.5	4.9
Level of Service				B	B	B		B			A	A
Approach Delay (s)		0.0			13.9			16.1			5.4	
Approach LOS		A			B			B			A	

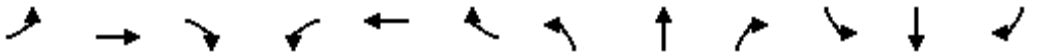
Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	56.9	Sum of lost time (s)	12.2
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	517	257	0	611	562	0
Future Volume (vph)	517	257	0	611	562	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3502	2787		3610	3430	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3502	2787		3610	3430	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	568	282	0	671	618	0
RTOR Reduction (vph)	0	199	0	0	0	0
Lane Group Flow (vph)	568	83	0	671	618	0
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%
Parking (#/hr)					0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.3	8.3		11.8	11.8	
Effective Green, g (s)	8.3	8.3		11.8	11.8	
Actuated g/C Ratio	0.30	0.30		0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	1034	823		1515	1440	
v/s Ratio Prot	c0.16			c0.19	0.18	
v/s Ratio Perm		0.03				
v/c Ratio	0.55	0.10		0.44	0.43	
Uniform Delay, d1	8.3	7.2		5.8	5.8	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.0		0.1	0.1	
Delay (s)	8.6	7.2		5.9	5.8	
Level of Service	A	A		A	A	
Approach Delay (s)	8.2			5.9	5.8	
Approach LOS	A			A	A	

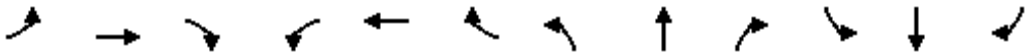
Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	28.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	513	193	299	22	114	189	41	157	102	114	102	0
Future Volume (vph)	513	193	299	22	114	189	41	157	102	114	102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1900	1599	1805	1863	1568	1805	3306		1736	3396	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1900	1599	1805	1863	1568	1805	3306		1736	3396	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	540	203	315	23	120	199	43	165	107	120	107	0
RTOR Reduction (vph)	0	0	242	0	0	141	0	69	0	0	0	0
Lane Group Flow (vph)	540	203	74	23	120	58	43	203	0	120	107	0
Confl. Peds. (#/hr)									2			
Heavy Vehicles (%)	2%	0%	1%	0%	2%	3%	0%	3%	0%	4%	1%	1%
Parking (#/hr)											0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	24.5	24.5	24.5	14.3	14.3	30.8	5.4	36.9		11.6	43.6	
Effective Green, g (s)	24.5	24.5	24.5	14.3	14.3	30.8	5.4	36.9		11.6	43.6	
Actuated g/C Ratio	0.23	0.23	0.23	0.14	0.14	0.29	0.05	0.35		0.11	0.42	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	801	443	373	245	253	459	92	1161		191	1410	
v/s Ratio Prot	c0.16	0.11		0.01	c0.06	0.04	0.02	c0.06		c0.07	0.03	
v/s Ratio Perm			0.05									
v/c Ratio	0.67	0.46	0.20	0.09	0.47	0.13	0.47	0.17		0.63	0.08	
Uniform Delay, d1	36.6	34.6	32.3	39.7	41.9	27.2	48.4	23.5		44.6	18.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.51	0.88	
Incremental Delay, d2	2.3	0.8	0.3	0.2	1.4	0.1	3.7	0.3		6.3	0.1	
Delay (s)	38.9	35.3	32.6	39.8	43.3	27.4	52.1	23.9		29.0	16.4	
Level of Service	D	D	C	D	D	C	D	C		C	B	
Approach Delay (s)		36.3			33.8			27.7			23.1	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



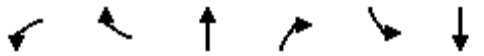
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	43	2	162	0	645	0	0	242	0
Future Volume (vph)	0	0	0	43	2	162	0	645	0	0	242	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1715	1726	2814		3539			4893	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1715	1726	2814		3539			4893	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	47	2	178	0	709	0	0	266	0
RTOR Reduction (vph)	0	0	0	0	0	150	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	24	25	28	0	709	0	0	266	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	3%	0%	6%	2%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				7.1	7.1	16.6		80.1			88.6	
Effective Green, g (s)				7.1	7.1	16.6		80.1			88.6	
Actuated g/C Ratio				0.07	0.07	0.16		0.76			0.84	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				115	116	444		2699			4128	
v/s Ratio Prot				0.01	c0.01	c0.01		c0.20			0.05	
v/s Ratio Perm												
v/c Ratio				0.21	0.22	0.06		0.26			0.06	
Uniform Delay, d1				46.3	46.3	37.6		3.7			1.4	
Progression Factor				1.00	1.00	1.00		0.80			0.14	
Incremental Delay, d2				0.9	0.9	0.1		0.2			0.0	
Delay (s)				47.2	47.3	37.6		3.2			0.2	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			39.7			3.2			0.2	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	7	99	842	11	1	151	0	645	0	1	0
Future Volume (vph)	0	7	99	842	11	1	151	0	645	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	1.00	1.00		1.00	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	1.00		1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	1900	1615		1752	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	1900	1615		1752	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	8	109	925	12	1	166	0	709	0	1	0
RTOR Reduction (vph)	0	0	81	0	0	0	0	0	298	0	0	0
Lane Group Flow (vph)	0	8	28	925	12	1	0	166	411	0	1	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		27.0	27.0	38.5	71.5	71.5		18.1	60.8		1.2	
Effective Green, g (s)		27.0	27.0	38.5	71.5	71.5		18.1	60.8		1.2	
Actuated g/C Ratio		0.26	0.26	0.37	0.68	0.68		0.17	0.58		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		814	398	1271	1293	1099		302	1629		21	
v/s Ratio Prot		0.00		c0.27	0.01			c0.09	0.15		c0.00	
v/s Ratio Perm			c0.02			0.00						
v/c Ratio		0.01	0.07	0.73	0.01	0.00		0.55	0.25		0.05	
Uniform Delay, d1		29.0	29.5	28.7	5.4	5.3		39.7	10.9		51.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.04	9.52		1.00	
Incremental Delay, d2		0.0	0.1	3.7	0.0	0.0		2.0	0.1		0.9	
Delay (s)		29.0	29.6	32.4	5.4	5.3		43.3	103.8		52.3	
Level of Service		C	C	C	A	A		D	F		D	
Approach Delay (s)		29.5			32.0			92.3			52.3	
Approach LOS		C			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	59.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



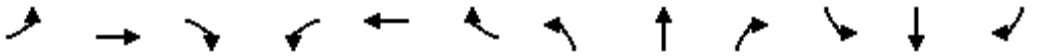
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	45	22	2	27	15	0
Future Volume (Veh/h)	45	22	2	27	15	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	59	29	3	36	20	0
Pedestrians	3		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	0		0			
Right turn flare (veh)		30				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	65	24			42	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65	24			42	
tC, single (s)	6.4	6.2			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	94	97			99	
cM capacity (veh/h)	920	1044			1532	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	88	39	20
Volume Left	59	0	20
Volume Right	29	36	0
cSH	1373	1700	1532
Volume to Capacity	0.06	0.02	0.01
Queue Length 95th (ft)	5	0	1
Control Delay (s)	9.0	0.0	7.4
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	7.4
Approach LOS	A		

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	312	411	190	146	139	239	318	121	121	243	14
Future Volume (vph)	10	312	411	190	146	139	239	318	121	121	243	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	1.00	1.00	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	2779	5090	3260		3433	3610	1583	1736	3610	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	1900	2779	5090	3260		3433	3610	1583	1736	3610	1615
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)	11	339	447	207	159	151	260	346	132	132	264	15
RTOR Reduction (vph)	0	0	304	0	87	0	0	0	108	0	0	12
Lane Group Flow (vph)	11	339	143	207	223	0	260	346	24	132	264	3
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	0%	0%	1%	0%	1%	3%	2%	0%	2%	4%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.4	25.6	25.6	9.6	33.8		11.2	14.7	14.7	11.5	15.4	15.4
Effective Green, g (s)	1.4	25.6	25.6	9.6	33.8		11.2	14.7	14.7	11.5	15.4	15.4
Actuated g/C Ratio	0.02	0.32	0.32	0.12	0.42		0.14	0.18	0.18	0.14	0.19	0.19
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	31	608	889	610	1377		480	663	290	249	694	310
v/s Ratio Prot	0.01	c0.18		c0.04	0.07		0.08	c0.10		c0.08	0.07	
v/s Ratio Perm			0.05						0.02			0.00
v/c Ratio	0.35	0.56	0.16	0.34	0.16		0.54	0.52	0.08	0.53	0.38	0.01
Uniform Delay, d1	38.9	22.5	19.5	32.3	14.3		32.0	29.5	27.1	31.7	28.1	26.1
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	2.5	1.1	0.1	0.1	0.1		0.7	0.7	0.1	1.1	0.3	0.0
Delay (s)	41.4	23.6	19.6	32.4	14.4		32.7	30.2	27.2	32.8	28.5	26.1
Level of Service	D	C	B	C	B		C	C	C	C	C	C
Approach Delay (s)		21.6			21.6			30.5			29.8	
Approach LOS		C			C			C			C	

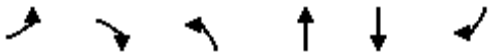
Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	698	0	248	0	438	0	0	552	295
Future Volume (vph)	0	0	0	698	0	248	0	438	0	0	552	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3335		1599		3574			3574	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3335		1599		3574			3574	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	0	0	0	751	0	267	0	471	0	0	594	321
RTOR Reduction (vph)	0	0	0	0	0	88	0	0	0	0	0	167
Lane Group Flow (vph)	0	0	0	751	0	179	0	471	0	0	594	154
Heavy Vehicles (%)	2%	2%	2%	5%	2%	1%	2%	1%	2%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				13.6		22.3		12.7			22.0	22.0
Effective Green, g (s)				13.6		22.3		12.7			22.0	22.0
Actuated g/C Ratio				0.30		0.48		0.28			0.48	0.48
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				986		775		986			1709	891
v/s Ratio Prot				c0.23		0.11		c0.13			c0.17	
v/s Ratio Perm												0.08
v/c Ratio				0.76		0.23		0.48			0.35	0.17
Uniform Delay, d1				14.7		6.9		13.9			7.5	6.8
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				3.2		0.1		0.1			0.0	0.0
Delay (s)				17.9		6.9		14.0			7.6	6.9
Level of Service				B		A		B			A	A
Approach Delay (s)		0.0			15.0			14.0			7.3	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	46.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

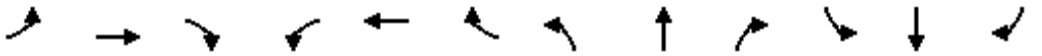


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	172	344	0	782	999	0
Future Volume (vph)	172	344	0	782	999	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	2733		3539	3505	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	2733		3539	3505	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	176	351	0	798	1019	0
RTOR Reduction (vph)	0	13	0	0	0	0
Lane Group Flow (vph)	176	338	0	798	1019	0
Heavy Vehicles (%)	1%	4%	0%	2%	3%	1%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	7.2	20.9		38.6	23.9	
Effective Green, g (s)	7.2	15.1		38.6	23.9	
Actuated g/C Ratio	0.13	0.27		0.69	0.42	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	443	733		2426	1487	
v/s Ratio Prot	0.05	c0.12		0.23	c0.29	
v/s Ratio Perm						
v/c Ratio	0.40	0.46		0.33	0.69	
Uniform Delay, d1	22.6	17.2		3.6	13.1	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2		0.0	1.1	
Delay (s)	22.8	17.4		3.6	14.2	
Level of Service	C	B		A	B	
Approach Delay (s)	19.2			3.6	14.2	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	17.3
Intersection Capacity Utilization	49.2%	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												
Traffic Volume (vph)	2	843	119	294	407	0	114	2	317	6	1	2
Future Volume (vph)	2	843	119	294	407	0	114	2	317	6	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.97	
Satd. Flow (prot)	1805	3495		1787	3539		1681	1689	1565		1784	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3495		1787	3539		1681	1689	1565		1843	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	887	125	309	428	0	120	2	334	6	1	2
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	304	0	2	0
Lane Group Flow (vph)	2	1006	0	309	428	0	61	61	30	0	7	0
Confl. Peds. (#/hr)			8			3			6			
Confl. Bikes (#/hr)			3			4						
Heavy Vehicles (%)	0%	1%	0%	1%	2%	0%	2%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.1	72.6		26.8	98.3		11.5	11.5	11.5		1.6	
Effective Green, g (s)	1.1	72.6		26.8	98.3		11.5	11.5	11.5		1.6	
Actuated g/C Ratio	0.01	0.56		0.21	0.76		0.09	0.09	0.09		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	15	1951		368	2676		148	149	138		22	
v/s Ratio Prot	0.00	c0.29		c0.17	0.12		c0.04	0.04				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.13	0.52		0.84	0.16		0.41	0.41	0.21		0.32	
Uniform Delay, d1	64.0	17.8		49.5	4.4		56.1	56.0	55.1		63.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.5	1.0		14.8	0.1		0.7	0.7	0.3		3.0	
Delay (s)	65.4	18.8		64.3	4.5		56.7	56.7	55.3		66.7	
Level of Service	E	B		E	A		E	E	E		E	
Approach Delay (s)		18.9			29.6			55.7			66.7	
Approach LOS		B			C			E			E	

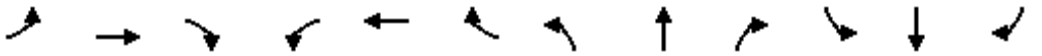
Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	310	102	334	675	58	132	617	151	15	420	73
Future Volume (vph)	116	310	102	334	675	58	132	617	151	15	420	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	4988	2564	3467	4928		4802	3539	2738	3099	5085	1489
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	4988	2564	3467	4928		4802	3539	2738	3099	5085	1489
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	125	333	110	359	726	62	142	663	162	16	452	78
RTOR Reduction (vph)	0	0	85	0	7	0	0	0	106	0	0	57
Lane Group Flow (vph)	125	333	25	359	781	0	142	663	56	16	452	21
Confl. Peds. (#/hr)			8			14			7			2
Heavy Vehicles (%)	3%	4%	9%	1%	4%	2%	6%	2%	2%	13%	2%	7%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	8.2	19.0	19.0	13.7	24.5		7.6	28.4	28.4	1.7	22.5	22.5
Effective Green, g (s)	8.2	19.0	19.0	13.7	24.5		7.6	28.4	28.4	1.7	22.5	22.5
Actuated g/C Ratio	0.10	0.23	0.23	0.17	0.30		0.09	0.34	0.34	0.02	0.27	0.27
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	336	1144	588	573	1458		440	1213	939	63	1381	404
v/s Ratio Prot	0.04	0.07		c0.10	c0.16		c0.03	c0.19		0.01	0.09	
v/s Ratio Perm			0.01						0.02			0.01
v/c Ratio	0.37	0.29	0.04	0.63	0.54		0.32	0.55	0.06	0.25	0.33	0.05
Uniform Delay, d1	34.9	26.3	24.8	32.2	24.4		35.2	22.0	18.2	39.9	24.1	22.3
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	0.3	0.2	0.0	1.5	0.4		0.2	0.6	0.0	0.8	0.2	0.1
Delay (s)	35.1	26.5	24.9	33.7	24.8		35.3	22.6	18.3	40.7	24.3	22.3
Level of Service	D	C	C	C	C		D	C	B	D	C	C
Approach Delay (s)		28.1			27.6			23.7			24.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	82.8	Sum of lost time (s)	20.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

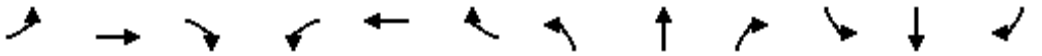
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	136	130	516	759	30	221	488	128	22	996	96
Future Volume (vph)	101	136	130	516	759	30	221	488	128	22	996	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.95	0.88	0.94	0.95		0.94	0.95	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3374	2760	4990	3487		4894	3471	1563	3072	6408	2733
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3374	2760	4990	3487		4894	3471	1563	3072	6408	2733
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	107	145	138	549	807	32	235	519	136	23	1060	102
RTOR Reduction (vph)	0	0	106	0	2	0	0	0	84	0	0	70
Lane Group Flow (vph)	107	145	32	549	837	0	235	519	52	23	1060	32
Confl. Peds. (#/hr)						4			1			
Heavy Vehicles (%)	3%	7%	3%	2%	3%	0%	4%	4%	2%	14%	2%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	7.8	23.3	23.3	15.6	31.1		9.5	39.1	39.1	2.1	31.7	31.7
Effective Green, g (s)	7.8	23.3	23.3	15.6	31.1		9.5	39.1	39.1	2.1	31.7	31.7
Actuated g/C Ratio	0.08	0.23	0.23	0.15	0.31		0.09	0.38	0.38	0.02	0.31	0.31
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	260	773	632	765	1066		457	1334	600	63	1997	851
v/s Ratio Prot	0.03	0.04		c0.11	c0.24		c0.05	0.15		0.01	c0.17	
v/s Ratio Perm			0.01						0.03			0.01
v/c Ratio	0.41	0.19	0.05	0.72	0.79		0.51	0.39	0.09	0.37	0.53	0.04
Uniform Delay, d1	44.8	31.6	30.6	41.0	32.2		43.9	22.7	19.9	49.1	28.9	24.4
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	0.4	0.1	0.0	2.7	3.9		0.4	0.3	0.1	1.3	0.3	0.0
Delay (s)	45.1	31.7	30.6	43.6	36.1		44.3	22.9	20.0	50.5	29.2	24.4
Level of Service	D	C	C	D	D		D	C	C	D	C	C
Approach Delay (s)		35.0			39.1			28.1			29.2	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	101.7	Sum of lost time (s)	21.6
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

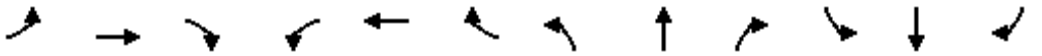
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	17	127	45	968	98	499	431	315	28	938	161
Future Volume (vph)	68	17	127	45	968	98	499	431	315	28	938	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9		5.3	4.9	4.9
Lane Util. Factor	0.95	0.95	0.88	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1732	2608	1770	1837		1736	3305		1805	3574	1579
Flt Permitted	0.95	0.36	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	633	2608	1770	1837		1736	3305		1805	3574	1579
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	18	134	47	1019	103	525	454	332	29	987	169
RTOR Reduction (vph)	0	0	68	0	3	0	0	90	0	0	0	113
Lane Group Flow (vph)	45	45	66	47	1119	0	525	696	0	29	987	56
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	2%	0%	9%	2%	2%	2%	4%	4%	0%	0%	1%	1%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	4.5	31.1	52.3	4.4	26.5		20.4	53.3		2.6	35.5	35.5
Effective Green, g (s)	4.5	31.1	52.3	4.4	26.5		20.4	53.3		2.6	35.5	35.5
Actuated g/C Ratio	0.04	0.29	0.49	0.04	0.25		0.19	0.50		0.02	0.33	0.33
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9		5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	71	231	1281	73	457		332	1655		44	1192	526
v/s Ratio Prot	c0.03	0.01	0.03	0.03	c0.61		c0.30	0.21		0.02	c0.28	
v/s Ratio Perm		0.05										0.04
v/c Ratio	0.63	0.19	0.05	0.64	2.45		1.58	0.42		0.66	0.83	0.11
Uniform Delay, d1	50.1	28.3	14.1	50.2	40.0		43.0	16.8		51.5	32.6	24.5
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	12.8	0.6	0.0	13.6	658.4		275.6	0.2		23.9	5.1	0.1
Delay (s)	62.9	28.8	14.1	63.9	698.4		318.6	17.0		75.4	37.7	24.6
Level of Service	E	C	B	E	F		F	B		E	D	C
Approach Delay (s)		26.9			672.9			137.8			36.8	
Approach LOS		C			F			F			D	

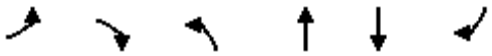
Intersection Summary					
HCM 2000 Control Delay	261.5	HCM 2000 Level of Service	F		
HCM 2000 Volume to Capacity ratio	1.49				
Actuated Cycle Length (s)	106.4	Sum of lost time (s)	19.5		
Intersection Capacity Utilization	122.2%	ICU Level of Service	H		
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	220	62	654	0	279	0	0	458	502
Future Volume (vph)	0	0	0	220	62	654	0	279	0	0	458	502
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		1.00			0.95	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1633	1693	2760		1845			3505	1599
Flt Permitted				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1633	1693	2760		1845			3505	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	227	64	674	0	288	0	0	472	518
RTOR Reduction (vph)	0	0	0	0	0	368	0	0	0	0	0	246
Lane Group Flow (vph)	0	0	0	143	148	306	0	288	0	0	472	272
Heavy Vehicles (%)	0%	0%	0%	5%	2%	3%	0%	3%	20%	0%	3%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				9.8	9.8	17.5		12.5			20.2	20.2
Effective Green, g (s)				9.8	9.8	17.5		12.5			20.2	20.2
Actuated g/C Ratio				0.25	0.25	0.45		0.32			0.52	0.52
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				415	430	1254		599			1838	838
v/s Ratio Prot				c0.09	0.09	0.11		c0.16			0.13	
v/s Ratio Perm												c0.17
v/c Ratio				0.34	0.34	0.24		0.48			0.26	0.32
Uniform Delay, d1				11.7	11.7	6.4		10.4			5.0	5.2
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				0.7	0.7	0.1		0.8			0.1	0.2
Delay (s)				12.4	12.4	6.6		11.2			5.1	5.4
Level of Service				B	B	A		B			A	A
Approach Delay (s)		0.0			8.3			11.2			5.3	
Approach LOS		A			A			B			A	

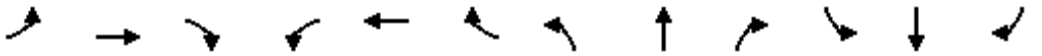
Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	38.5	Sum of lost time (s)	12.2
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	254	256	0	421	536	0
Future Volume (vph)	254	256	0	421	536	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3367	2409		3223	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3367	2409		3223	3406	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	273	275	0	453	576	0
RTOR Reduction (vph)	0	211	0	0	0	0
Lane Group Flow (vph)	273	64	0	453	576	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	4%	18%	0%	12%	6%	2%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.6	5.6		10.6	10.6	
Effective Green, g (s)	5.6	5.6		10.6	10.6	
Actuated g/C Ratio	0.23	0.23		0.44	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	779	557		1411	1491	
v/s Ratio Prot	c0.08			0.14	c0.17	
v/s Ratio Perm		0.03				
v/c Ratio	0.35	0.11		0.32	0.39	
Uniform Delay, d1	7.8	7.3		4.4	4.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.0		0.0	0.1	
Delay (s)	7.9	7.4		4.5	4.7	
Level of Service	A	A		A	A	
Approach Delay (s)	7.6			4.5	4.7	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	24.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		

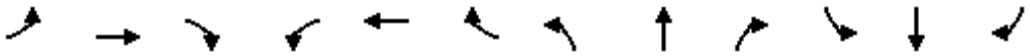
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	609	227	151	14	52	102	19	580	178	67	103	0
Future Volume (vph)	609	227	151	14	52	102	19	580	178	67	103	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1827	1538	1687	1681	1599	1719	3328		1719	3438	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1827	1538	1687	1681	1599	1719	3328		1719	3438	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	677	252	168	16	58	113	21	644	198	74	114	0
RTOR Reduction (vph)	0	0	124	0	0	44	0	26	0	0	0	0
Lane Group Flow (vph)	677	252	44	16	58	69	21	816	0	74	114	0
Confl. Peds. (#/hr)									4			
Heavy Vehicles (%)	2%	4%	5%	7%	13%	1%	5%	4%	4%	5%	5%	3%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	27.7	27.7	27.7	14.0	14.0	28.2	3.2	36.3		9.3	42.9	
Effective Green, g (s)	27.7	27.7	27.7	14.0	14.0	28.2	3.2	36.3		9.3	42.9	
Actuated g/C Ratio	0.26	0.26	0.26	0.13	0.13	0.27	0.03	0.35		0.09	0.41	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	905	481	405	224	224	429	52	1150		152	1404	
v/s Ratio Prot	c0.20	0.14		0.01	c0.03	0.04	0.01	c0.25		c0.04	0.03	
v/s Ratio Perm			0.03									
v/c Ratio	0.75	0.52	0.11	0.07	0.26	0.16	0.40	0.71		0.49	0.08	
Uniform Delay, d1	35.4	33.0	29.3	39.8	40.8	29.4	50.0	29.8		45.6	19.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.56	0.95	
Incremental Delay, d2	3.4	1.0	0.1	0.1	0.6	0.2	5.1	3.7		2.4	0.1	
Delay (s)	38.9	34.0	29.4	39.9	41.5	29.5	55.0	33.5		28.2	18.2	
Level of Service	D	C	C	D	D	C	E	C		C	B	
Approach Delay (s)		36.3			34.1			34.0			22.2	
Approach LOS		D			C			C			C	

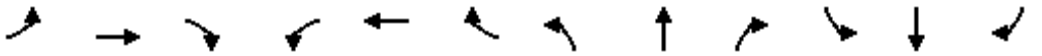
Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



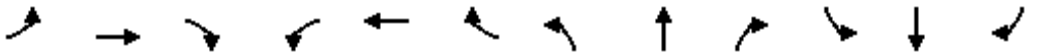
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	49	5	446	0	1215	0	0	228	0
Future Volume (vph)	0	0	0	49	5	446	0	1215	0	0	228	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1681	1646	2632		3539			4988	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1681	1646	2632		3539			4988	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	57	6	519	0	1413	0	0	265	0
RTOR Reduction (vph)	0	0	0	0	0	79	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	32	440	0	1413	0	0	265	0
Heavy Vehicles (%)	0%	0%	0%	2%	20%	8%	0%	2%	6%	0%	4%	3%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				16.6	16.6	27.9		68.8			79.1	
Effective Green, g (s)				16.6	16.6	27.9		68.8			79.1	
Actuated g/C Ratio				0.16	0.16	0.27		0.66			0.75	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				265	260	699		2318			3757	
v/s Ratio Prot				0.02	0.02	c0.17		c0.40			0.05	
v/s Ratio Perm												
v/c Ratio				0.12	0.12	0.63		0.61			0.07	
Uniform Delay, d1				37.9	38.0	34.0		10.4			3.4	
Progression Factor				1.00	1.00	1.00		1.39			0.27	
Incremental Delay, d2				0.2	0.2	1.9		0.9			0.0	
Delay (s)				38.1	38.2	35.9		15.4			0.9	
Level of Service				D	D	D		B			A	
Approach Delay (s)		0.0			36.1			15.4			0.9	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	65	66	230	439	0	810	0	871	0	0	0
Future Volume (vph)	0	65	66	230	439	0	810	0	871	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	1.00			1.00	0.88			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	1900			1787	2787			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	1900			1787	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	77	79	274	523	0	964	0	1037	0	0	0
RTOR Reduction (vph)	0	0	65	0	0	0	0	0	234	0	0	0
Lane Group Flow (vph)	0	77	14	274	523	0	0	964	803	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		19.2	19.2	28.8	54.0			40.8	73.8			
Effective Green, g (s)		19.2	19.2	28.8	54.0			40.8	73.8			
Actuated g/C Ratio		0.18	0.18	0.27	0.51			0.39	0.70			
Clearance Time (s)		6.0	6.0	6.0	6.0			4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		605	268	923	977			694	1958			
v/s Ratio Prot		0.02		0.08	c0.28			c0.54	0.29			
v/s Ratio Perm			0.01									
v/c Ratio		0.13	0.05	0.30	0.54			1.39	0.41			
Uniform Delay, d1		35.9	35.4	30.1	17.1			32.1	6.5			
Progression Factor		1.00	1.00	1.00	1.00			1.15	4.03			
Incremental Delay, d2		0.1	0.1	0.8	2.1			182.4	0.1			
Delay (s)		36.0	35.5	30.9	19.2			219.2	26.4			
Level of Service		D	D	C	B			F	C			
Approach Delay (s)		35.7			23.2			119.2			0.0	
Approach LOS		D			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	88.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



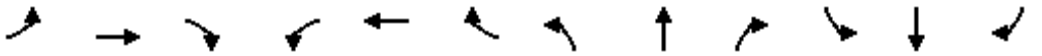
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	103	0	21	1128	10	0	0	19	16	0	0
Future Volume (vph)	1	103	0	21	1128	10	0	0	19	16	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.86			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	
Satd. Flow (prot)	1770	3539		1798	3534			1339			1608	
Flt Permitted	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (perm)	1770	3539		1798	3534			1339			1693	
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.92	0.83	0.92	0.83	0.83	0.83	0.83	0.92
Adj. Flow (vph)	1	112	0	25	1226	12	0	0	23	19	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	0	21	0	0	0	0
Lane Group Flow (vph)	1	112	0	25	1237	0	0	2	0	0	19	0
Confl. Peds. (#/hr)				3		1			3	3		
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	0%	21%	12%	0%	2%
Turn Type	Prot	NA		Prot	NA			NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.4	38.1		0.5	38.2			3.9			3.9	
Effective Green, g (s)	0.4	38.1		0.5	38.2			3.9			3.9	
Actuated g/C Ratio	0.01	0.70		0.01	0.70			0.07			0.07	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	12	2474		16	2477			95			121	
v/s Ratio Prot	0.00	0.03		c0.01	c0.35			0.00				
v/s Ratio Perm											c0.01	
v/c Ratio	0.08	0.05		1.56	0.50			0.02			0.16	
Uniform Delay, d1	26.9	2.5		27.0	3.8			23.5			23.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.0	0.0		435.0	0.2			0.1			0.6	
Delay (s)	29.8	2.6		462.0	3.9			23.6			24.4	
Level of Service	C	A		F	A			C			C	
Approach Delay (s)		2.8			13.0			23.6			24.4	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

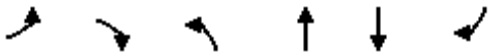
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	154	209	256	524	166	480	498	32	44	109	0
Future Volume (vph)	5	154	209	256	524	166	480	498	32	44	109	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3574	2779	4990	3453		3433	3574	1482	1656	3610	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	3574	2779	4990	3453		3433	3574	1482	1656	3610	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	7	205	279	341	699	221	640	664	43	59	145	0
RTOR Reduction (vph)	0	0	203	0	20	0	0	0	30	0	0	0
Lane Group Flow (vph)	7	205	76	341	900	0	640	664	13	59	145	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	1%	2%	0%	2%	2%	1%	9%	9%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.3	24.1	24.1	10.8	33.6		20.6	27.4	27.4	7.8	15.0	
Effective Green, g (s)	1.3	24.1	24.1	10.8	33.6		20.6	27.4	27.4	7.8	15.0	
Actuated g/C Ratio	0.01	0.27	0.27	0.12	0.38		0.23	0.31	0.31	0.09	0.17	
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	26	971	755	607	1308		797	1104	457	145	610	
v/s Ratio Prot	0.00	0.06		c0.07	c0.26		c0.19	c0.19		0.04	0.04	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.27	0.21	0.10	0.56	0.69		0.80	0.60	0.03	0.41	0.24	
Uniform Delay, d1	43.2	25.0	24.2	36.7	23.1		32.1	26.0	21.4	38.3	31.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	0.1	0.1	0.7	1.5		5.5	0.9	0.0	0.7	0.2	
Delay (s)	45.3	25.1	24.2	37.4	24.7		37.7	26.9	21.4	38.9	32.1	
Level of Service	D	C	C	D	C		D	C	C	D	C	
Approach Delay (s)		24.9			28.1			31.9			34.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1040	0	526	0	490	0	0	317	255
Future Volume (vph)	0	0	0	1040	0	526	0	490	0	0	317	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3242		1599		3539			3539	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3242		1599		3539			3539	1863
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	1268	0	641	0	598	0	0	387	311
RTOR Reduction (vph)	0	0	0	0	0	38	0	0	0	0	0	197
Lane Group Flow (vph)	0	0	0	1268	0	603	0	598	0	0	387	114
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	8%	0%	1%	0%	2%	6%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				35.2		45.4		15.6			26.4	26.4
Effective Green, g (s)				35.2		45.4		15.6			26.4	26.4
Actuated g/C Ratio				0.49		0.63		0.22			0.37	0.37
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1584		1008		766			1297	683
v/s Ratio Prot				c0.39		c0.38		c0.17			0.11	
v/s Ratio Perm												0.06
v/c Ratio				0.80		0.60		0.78			0.30	0.17
Uniform Delay, d1				15.5		7.9		26.6			16.2	15.4
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				2.8		0.6		4.8			0.0	0.0
Delay (s)				18.3		8.5		31.4			16.3	15.4
Level of Service				B		A		C			B	B
Approach Delay (s)		0.0			15.0			31.4			15.9	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

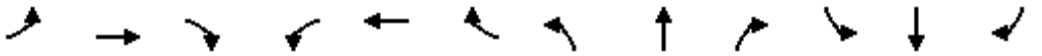


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	195	338	0	723	1263	0
Future Volume (vph)	195	338	0	723	1263	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	2632		3471	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	2632		3471	3406	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	219	380	0	812	1419	0
RTOR Reduction (vph)	0	2	0	0	0	0
Lane Group Flow (vph)	219	378	0	812	1419	0
Heavy Vehicles (%)	2%	8%	0%	4%	6%	6%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	8.4	27.2		69.9	50.1	
Effective Green, g (s)	8.4	21.4		69.9	50.1	
Actuated g/C Ratio	0.09	0.24		0.79	0.56	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	324	634		2732	1921	
v/s Ratio Prot	c0.06	c0.14		0.23	c0.42	
v/s Ratio Perm						
v/c Ratio	0.68	0.60		0.30	0.74	
Uniform Delay, d1	38.9	29.9		2.6	14.5	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.3	1.0		0.0	1.3	
Delay (s)	43.2	30.9		2.6	15.8	
Level of Service	D	C		A	B	
Approach Delay (s)	35.4			2.6	15.8	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	17.3
Intersection Capacity Utilization	56.3%	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												
Traffic Volume (vph)	6	295	85	268	1115	3	158	0	203	1	0	3
Future Volume (vph)	6	295	85	268	1115	3	158	0	203	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1805	3363		1752	3535		1698	1698	1539		1653	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3363		1752	3535		1698	1698	1539		1674	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	324	93	295	1225	3	174	0	223	1	0	3
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	199	0	4	0
Lane Group Flow (vph)	7	402	0	295	1228	0	87	87	24	0	0	0
Confl. Peds. (#/hr)			4						5			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	0%	3%	2%	33%	1%	0%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.2	59.7		23.6	82.1		12.3	12.3	12.3		0.9	
Effective Green, g (s)	1.2	59.7		23.6	82.1		12.3	12.3	12.3		0.9	
Actuated g/C Ratio	0.01	0.52		0.21	0.72		0.11	0.11	0.11		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	19	1761		362	2545		183	183	166		13	
v/s Ratio Prot	0.00	0.12		c0.17	c0.35		c0.05	0.05				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.37	0.23		0.81	0.48		0.48	0.48	0.14		0.00	
Uniform Delay, d1	56.0	14.7		43.1	6.8		47.8	47.8	46.1		56.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.4	0.3		12.5	0.7		0.7	0.7	0.1		0.0	
Delay (s)	60.4	15.0		55.6	7.5		48.5	48.5	46.2		56.1	
Level of Service	E	B		E	A		D	D	D		E	
Approach Delay (s)		15.7			16.8			47.2			56.1	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	58	7	5	1089	27	1	0	0	56	0	177
Future Volume (vph)	54	58	7	5	1089	27	1	0	0	56	0	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00			1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00			1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95			0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770			1770	1583	
Flt Permitted	0.95	1.00	1.00	0.71	1.00	1.00	0.53			0.76	1.00	
Satd. Flow (perm)	1770	3539	1583	1330	3539	1583	980			1410	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)	59	63	8	5	1184	29	1	0	0	61	0	192
RTOR Reduction (vph)	0	0	2	0	0	13	0	0	0	0	141	0
Lane Group Flow (vph)	59	63	6	5	1184	16	1	0	0	61	51	0
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm			Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		
Actuated Green, G (s)	3.2	40.2	40.2	33.0	33.0	33.0	10.1			10.1	10.1	
Effective Green, g (s)	3.2	40.2	40.2	33.0	33.0	33.0	10.1			10.1	10.1	
Actuated g/C Ratio	0.05	0.69	0.69	0.57	0.57	0.57	0.17			0.17	0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	97	2440	1091	752	2003	896	169			244	274	
v/s Ratio Prot	c0.03	0.02			c0.33						0.03	
v/s Ratio Perm			0.00	0.00		0.01	0.00			c0.04		
v/c Ratio	0.61	0.03	0.01	0.01	0.59	0.02	0.01			0.25	0.19	
Uniform Delay, d1	26.9	2.9	2.8	5.5	8.3	5.5	19.9			20.8	20.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2	10.3	0.0	0.0	0.0	0.5	0.0	0.0			0.5	0.3	
Delay (s)	37.3	2.9	2.8	5.5	8.7	5.6	20.0			21.4	20.9	
Level of Service	D	A	A	A	A	A	B			C	C	
Approach Delay (s)		18.5			8.6			20.0			21.0	
Approach LOS		B			A			B			C	

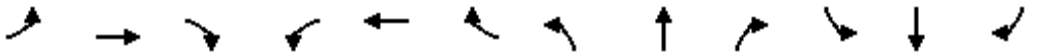
Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	449	454	173	1331	125	16
Future Volume (vph)	449	454	173	1331	125	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.92		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	4702		1770	5085	1757	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	4702		1770	5085	1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	488	493	188	1447	136	17
RTOR Reduction (vph)	265	0	0	0	10	0
Lane Group Flow (vph)	716	0	188	1447	143	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	17.6		6.2	27.8	9.2	
Effective Green, g (s)	17.6		6.2	27.8	9.2	
Actuated g/C Ratio	0.39		0.14	0.62	0.20	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1839		243	3141	359	
v/s Ratio Prot	0.15		c0.11	c0.28	c0.08	
v/s Ratio Perm						
v/c Ratio	0.39		0.77	0.46	0.40	
Uniform Delay, d1	9.8		18.7	4.6	15.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		14.2	0.1	0.7	
Delay (s)	10.0		32.9	4.7	16.2	
Level of Service	A		C	A	B	
Approach Delay (s)	10.0			7.9	16.2	
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	0.54		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

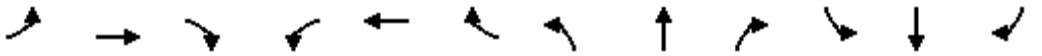
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1051	172	217	478	19	163	508	396	64	496	57
Future Volume (vph)	170	1051	172	217	478	19	163	508	396	64	496	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	5136	2751	3502	5095		5040	3610	2801	3502	5136	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	5136	2751	3502	5095		5040	3610	2801	3502	5136	1553
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)	185	1142	187	236	520	21	177	552	430	70	539	62
RTOR Reduction (vph)	0	0	118	0	3	0	0	0	311	0	0	47
Lane Group Flow (vph)	185	1142	69	236	538	0	177	552	119	70	539	15
Confl. Peds. (#/hr)			1			3			3			
Heavy Vehicles (%)	1%	1%	2%	0%	1%	5%	1%	0%	0%	0%	1%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	9.9	33.3	33.3	11.3	34.7		8.1	26.7	26.7	5.2	23.8	23.8
Effective Green, g (s)	9.9	33.3	33.3	11.3	34.7		8.1	26.7	26.7	5.2	23.8	23.8
Actuated g/C Ratio	0.10	0.35	0.35	0.12	0.36		0.08	0.28	0.28	0.05	0.25	0.25
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	355	1772	949	410	1832		423	998	774	188	1266	383
v/s Ratio Prot	0.05	c0.22		c0.07	0.11		c0.04	c0.15		0.02	0.10	
v/s Ratio Perm			0.03						0.04			0.01
v/c Ratio	0.52	0.64	0.07	0.58	0.29		0.42	0.55	0.15	0.37	0.43	0.04
Uniform Delay, d1	41.1	26.6	21.2	40.3	22.1		42.0	29.8	26.4	44.1	30.6	27.7
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	0.6	0.8	0.0	1.2	0.1		0.2	0.7	0.1	0.5	0.3	0.1
Delay (s)	41.7	27.5	21.3	41.5	22.2		42.2	30.5	26.5	44.5	30.9	27.7
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		28.4			28.1			30.8			32.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	96.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

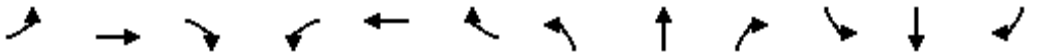
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	283	882	476	214	249	31	404	645	407	75	714	118
Future Volume (vph)	283	882	476	214	249	31	404	645	407	75	714	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.95	0.88	0.94	0.95		0.94	0.95	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3574	2814	5090	3483		5090	3610	1599	3502	6408	2774
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3574	2814	5090	3483		5090	3610	1599	3502	6408	2774
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	295	919	496	223	259	32	421	672	424	78	744	123
RTOR Reduction (vph)	0	0	275	0	7	0	0	0	294	0	0	94
Lane Group Flow (vph)	295	919	221	223	284	0	421	672	130	78	744	29
Confl. Peds. (#/hr)						1						2
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	0%	0%	1%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	13.4	35.9	35.9	9.2	31.7		13.2	31.8	31.8	5.6	24.2	24.2
Effective Green, g (s)	13.4	35.9	35.9	9.2	31.7		13.2	31.8	31.8	5.6	24.2	24.2
Actuated g/C Ratio	0.13	0.34	0.34	0.09	0.30		0.13	0.31	0.31	0.05	0.23	0.23
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	450	1232	970	449	1060		645	1102	488	188	1489	644
v/s Ratio Prot	c0.08	c0.26		0.04	0.08		c0.08	c0.19		0.02	0.12	
v/s Ratio Perm			0.08						0.08			0.01
v/c Ratio	0.66	0.75	0.23	0.50	0.27		0.65	0.61	0.27	0.41	0.50	0.04
Uniform Delay, d1	43.2	30.1	24.2	45.2	27.4		43.3	30.9	27.3	47.7	34.7	31.0
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	2.6	2.5	0.1	0.3	0.1		1.8	1.1	0.4	0.5	0.4	0.0
Delay (s)	45.8	32.6	24.4	45.6	27.6		45.1	32.0	27.7	48.2	35.1	31.0
Level of Service	D	C	C	D	C		D	C	C	D	D	C
Approach Delay (s)		32.5			35.4			34.4			35.6	
Approach LOS		C			D			C			D	

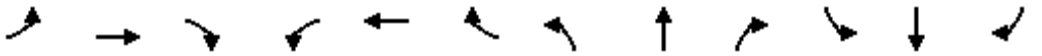
Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	104.1	Sum of lost time (s)	21.6
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	458	120	114	4	2	130	782	3	80	601	94
Future Volume (vph)	222	458	120	114	4	2	130	782	3	80	601	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9		5.3	4.9	4.9
Lane Util. Factor	0.95	0.95	0.88	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1715	1801	2760	1770	1770		1752	3573		1805	3539	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1715	1805	2760	1770	1770		1752	3573		1805	3539	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	244	503	132	125	4	2	143	859	3	88	660	103
RTOR Reduction (vph)	0	0	67	0	2	0	0	0	0	0	0	75
Lane Group Flow (vph)	220	527	65	125	4	0	143	862	0	88	660	28
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	40.5	48.2	51.8	10.4	3.7		12.7	33.7		7.6	28.6	28.6
Effective Green, g (s)	40.5	48.2	51.8	10.4	3.7		12.7	33.7		7.6	28.6	28.6
Actuated g/C Ratio	0.39	0.46	0.49	0.10	0.04		0.12	0.32		0.07	0.27	0.27
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9		5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	661	828	1361	175	62		211	1146		130	963	439
v/s Ratio Prot	0.13	c0.25	0.02	0.07	0.00		c0.08	c0.24		0.05	0.19	
v/s Ratio Perm		c0.05										0.02
v/c Ratio	0.33	0.64	0.05	0.71	0.07		0.68	0.75		0.68	0.69	0.06
Uniform Delay, d1	22.7	21.7	13.8	45.9	49.0		44.2	31.9		47.5	34.2	28.3
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	0.1	1.8	0.0	10.9	0.2		6.6	3.0		10.4	2.2	0.1
Delay (s)	22.8	23.5	13.8	56.8	49.1		50.8	34.9		57.9	36.4	28.4
Level of Service	C	C	B	E	D		D	C		E	D	C
Approach Delay (s)		21.9			56.4			37.2			37.6	
Approach LOS		C			E			D			D	

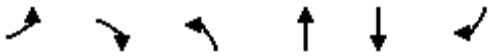
Intersection Summary			
HCM 2000 Control Delay	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	210	2	398	0	652	0	0	479	373
Future Volume (vph)	0	0	0	210	2	398	0	652	0	0	479	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		1.00			0.95	1.00
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1715	1720	2814		1900			3539	1599
Flt Permitted				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1715	1720	2814		1900			3539	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	221	2	419	0	686	0	0	504	393
RTOR Reduction (vph)	0	0	0	0	0	126	0	0	0	0	0	161
Lane Group Flow (vph)	0	0	0	110	113	293	0	686	0	0	504	232
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%	2%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				10.5	10.5	18.3		19.7			27.5	27.5
Effective Green, g (s)				10.5	10.5	18.3		19.7			27.5	27.5
Actuated g/C Ratio				0.23	0.23	0.39		0.42			0.59	0.59
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				387	388	1107		804			2092	945
v/s Ratio Prot				0.06	0.07	c0.10		c0.36			0.14	
v/s Ratio Perm												0.15
v/c Ratio				0.28	0.29	0.26		0.85			0.24	0.25
Uniform Delay, d1				14.9	14.9	9.5		12.1			4.5	4.5
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				0.6	0.6	0.2		9.0			0.0	0.1
Delay (s)				15.4	15.5	9.7		21.1			4.6	4.6
Level of Service				B	B	A		C			A	A
Approach Delay (s)		0.0			11.7			21.1			4.6	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	46.5	Sum of lost time (s)	12.2
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

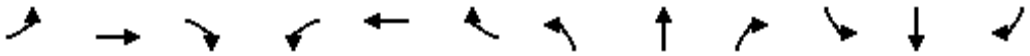


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	517	351	0	665	443	0
Future Volume (vph)	517	351	0	665	443	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3502	2787		3610	3430	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3502	2787		3610	3430	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	568	386	0	731	487	0
RTOR Reduction (vph)	0	272	0	0	0	0
Lane Group Flow (vph)	568	114	0	731	487	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%
Parking (#/hr)					0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.6	8.6		12.6	12.6	
Effective Green, g (s)	8.6	8.6		12.6	12.6	
Actuated g/C Ratio	0.29	0.29		0.43	0.43	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	1031	820		1557	1480	
v/s Ratio Prot	c0.16			c0.20	0.14	
v/s Ratio Perm		0.04				
v/c Ratio	0.55	0.14		0.47	0.33	
Uniform Delay, d1	8.7	7.6		5.9	5.5	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.0		0.1	0.0	
Delay (s)	9.0	7.6		6.0	5.5	
Level of Service	A	A		A	A	
Approach Delay (s)	8.5			6.0	5.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	29.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	183	270	24	116	189	40	161	101	131	172	0
Future Volume (vph)	268	183	270	24	116	189	40	161	101	131	172	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1900	1599	1805	1863	1568	1805	3310		1736	3396	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1900	1599	1805	1863	1568	1805	3310		1736	3396	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	282	193	284	25	122	199	42	169	106	138	181	0
RTOR Reduction (vph)	0	0	235	0	0	139	0	63	0	0	0	0
Lane Group Flow (vph)	282	193	49	25	122	60	42	212	0	138	181	0
Confl. Peds. (#/hr)									2			
Heavy Vehicles (%)	2%	0%	1%	0%	2%	3%	0%	3%	0%	4%	1%	1%
Parking (#/hr)											0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	18.1	18.1	18.1	14.4	14.4	31.8	5.4	42.3		12.5	49.9	
Effective Green, g (s)	18.1	18.1	18.1	14.4	14.4	31.8	5.4	42.3		12.5	49.9	
Actuated g/C Ratio	0.17	0.17	0.17	0.14	0.14	0.30	0.05	0.40		0.12	0.48	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	591	327	275	247	255	474	92	1333		206	1613	
v/s Ratio Prot	0.08	c0.10		0.01	c0.07	0.04	0.02	c0.06		c0.08	0.05	
v/s Ratio Perm			0.03									
v/c Ratio	0.48	0.59	0.18	0.10	0.48	0.13	0.46	0.16		0.67	0.11	
Uniform Delay, d1	39.2	40.0	37.1	39.6	41.8	26.5	48.4	20.0		44.3	15.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.72	0.75	
Incremental Delay, d2	0.6	2.8	0.3	0.2	1.4	0.1	3.6	0.3		8.0	0.1	
Delay (s)	39.8	42.9	37.4	39.8	43.2	26.7	51.9	20.3		39.7	11.6	
Level of Service	D	D	D	D	D	C	D	C		D	B	
Approach Delay (s)		39.7			33.5			24.5			23.7	
Approach LOS		D			C			C			C	

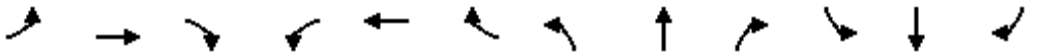
Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	42	2	190	0	412	0	0	436	0
Future Volume (vph)	0	0	0	42	2	190	0	412	0	0	436	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1715	1726	2814		3539			4893	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1715	1726	2814		3539			4893	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	46	2	209	0	453	0	0	479	0
RTOR Reduction (vph)	0	0	0	0	0	176	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	24	24	33	0	453	0	0	479	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	3%	0%	6%	2%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				7.1	7.1	16.6		80.1			88.6	
Effective Green, g (s)				7.1	7.1	16.6		80.1			88.6	
Actuated g/C Ratio				0.07	0.07	0.16		0.76			0.84	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				115	116	444		2699			4128	
v/s Ratio Prot				c0.01	0.01	0.01		c0.13			c0.10	
v/s Ratio Perm												
v/c Ratio				0.21	0.21	0.07		0.17			0.12	
Uniform Delay, d1				46.3	46.3	37.7		3.4			1.4	
Progression Factor				1.00	1.00	1.00		0.80			0.22	
Incremental Delay, d2				0.9	0.9	0.1		0.1			0.0	
Delay (s)				47.2	47.2	37.7		2.8			0.4	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			39.5			2.8			0.4	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
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												
Traffic Volume (vph)	0	470	277	836	29	1	190	0	412	0	1	0
Future Volume (vph)	0	470	277	836	29	1	190	0	412	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	1.00	1.00		1.00	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	1.00		1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	1900	1615		1752	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	1900	1615		1752	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	516	304	919	32	1	209	0	453	0	1	0
RTOR Reduction (vph)	0	0	226	0	0	0	0	0	191	0	0	0
Lane Group Flow (vph)	0	516	78	919	32	1	0	209	262	0	1	0
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		27.0	27.0	37.2	70.2	70.2		19.4	60.8		1.2	
Effective Green, g (s)		27.0	27.0	37.2	70.2	70.2		19.4	60.8		1.2	
Actuated g/C Ratio		0.26	0.26	0.35	0.67	0.67		0.18	0.58		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		814	398	1228	1270	1079		323	1629		21	
v/s Ratio Prot		c0.16		c0.27	0.02			c0.12	0.09		c0.00	
v/s Ratio Perm			0.05			0.00						
v/c Ratio		0.63	0.20	0.75	0.03	0.00		0.65	0.16		0.05	
Uniform Delay, d1		34.6	30.5	29.8	5.9	5.8		39.6	10.3		51.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.04	3.81		1.00	
Incremental Delay, d2		1.6	0.2	4.2	0.0	0.0		4.4	0.0		0.9	
Delay (s)		36.2	30.8	34.0	5.9	5.8		45.7	39.2		52.3	
Level of Service		D	C	C	A	A		D	D		D	
Approach Delay (s)		34.2			33.0			41.2			52.3	
Approach LOS		C			C			D			D	

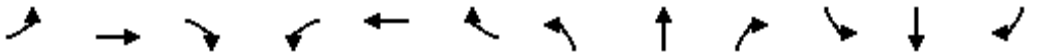
Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	662	0	45	69	21	2	2	27	15	0	0
Future Volume (vph)	1	662	0	45	69	21	2	2	27	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.96			0.88			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	
Satd. Flow (prot)	1770	3539		1805	3405			1386			1609	
Flt Permitted	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (perm)	1770	3539		1805	3405			1360			1694	
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.92	0.83	0.92	0.83	0.83	0.83	0.83	0.92
Adj. Flow (vph)	1	720	0	54	75	25	2	2	33	18	0	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	30	0	0	0	0
Lane Group Flow (vph)	1	720	0	54	90	0	0	7	0	0	18	0
Confl. Peds. (#/hr)				3		1			3	3		
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	0%	21%	12%	0%	2%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.5	25.9		1.2	26.6			4.0			4.0	
Effective Green, g (s)	0.5	25.9		1.2	26.6			4.0			4.0	
Actuated g/C Ratio	0.01	0.60		0.03	0.62			0.09			0.09	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	20	2126		50	2101			126			157	
v/s Ratio Prot	0.00	c0.20		c0.03	0.03							
v/s Ratio Perm								0.01			c0.01	
v/c Ratio	0.05	0.34		1.08	0.04			0.06			0.11	
Uniform Delay, d1	21.1	4.3		20.9	3.2			17.8			17.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.0	0.1		151.5	0.0			0.2			0.3	
Delay (s)	22.1	4.4		172.4	3.3			18.0			18.3	
Level of Service	C	A		F	A			B			B	
Approach Delay (s)		4.4			62.6			18.0			18.3	
Approach LOS		A			E			B			B	

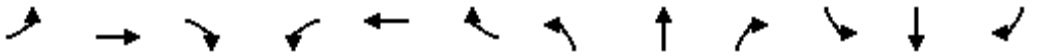
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	43.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



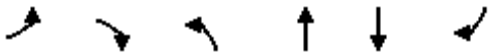
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	503	419	182	145	138	235	311	84	118	244	14
Future Volume (vph)	10	503	419	182	145	138	235	311	84	118	244	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	2814	5090	3260		3433	3610	1583	1736	3610	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3610	2814	5090	3260		3433	3610	1583	1736	3610	1615
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)	11	547	455	198	158	150	255	338	91	128	265	15
RTOR Reduction (vph)	0	0	309	0	87	0	0	0	75	0	0	12
Lane Group Flow (vph)	11	547	146	198	221	0	255	338	16	128	265	3
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	1%	0%	1%	3%	2%	0%	2%	4%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.4	25.2	25.2	9.5	33.3		11.0	14.1	14.1	11.3	14.8	14.8
Effective Green, g (s)	1.4	25.2	25.2	9.5	33.3		11.0	14.1	14.1	11.3	14.8	14.8
Actuated g/C Ratio	0.02	0.32	0.32	0.12	0.42		0.14	0.18	0.18	0.14	0.19	0.19
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	32	1155	901	614	1379		479	646	283	249	678	303
v/s Ratio Prot	0.01	c0.15		c0.04	0.07		c0.07	c0.09		0.07	0.07	
v/s Ratio Perm			0.05						0.01			0.00
v/c Ratio	0.34	0.47	0.16	0.32	0.16		0.53	0.52	0.06	0.51	0.39	0.01
Uniform Delay, d1	38.2	21.4	19.2	31.7	14.0		31.5	29.3	26.8	31.2	28.0	26.0
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	2.3	0.3	0.1	0.1	0.1		0.6	0.8	0.1	0.7	0.4	0.0
Delay (s)	40.5	21.7	19.3	31.8	14.1		32.0	30.0	26.9	31.9	28.4	26.0
Level of Service	D	C	B	C	B		C	C	C	C	C	C
Approach Delay (s)		20.8			21.0			30.4			29.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	18.6
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	706	0	249	0	386	0	0	565	287
Future Volume (vph)	0	0	0	706	0	249	0	386	0	0	565	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3335		1599		3574			3574	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3335		1599		3574			3574	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	0	0	0	759	0	268	0	415	0	0	608	312
RTOR Reduction (vph)	0	0	0	0	0	111	0	0	0	0	0	163
Lane Group Flow (vph)	0	0	0	759	0	157	0	415	0	0	608	149
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	2%	2%	2%	5%	2%	1%	2%	1%	2%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				13.3		22.0		12.4			21.7	21.7
Effective Green, g (s)				13.3		22.0		12.4			21.7	21.7
Actuated g/C Ratio				0.29		0.48		0.27			0.48	0.48
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				976		774		976			1708	890
v/s Ratio Prot				c0.23		0.10		0.12			c0.17	
v/s Ratio Perm												0.08
v/c Ratio				0.78		0.20		0.43			0.36	0.17
Uniform Delay, d1				14.7		6.7		13.6			7.5	6.7
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				3.6		0.0		0.1			0.0	0.0
Delay (s)				18.3		6.7		13.7			7.5	6.8
Level of Service				B		A		B			A	A
Approach Delay (s)		0.0			15.3			13.7			7.2	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	45.4	Sum of lost time (s)	15.7
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

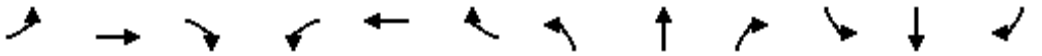


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	139	312	0	756	1010	0
Future Volume (vph)	139	312	0	756	1010	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	2733		3539	3505	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	2733		3539	3505	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	142	318	0	771	1031	0
RTOR Reduction (vph)	0	13	0	0	0	0
Lane Group Flow (vph)	142	305	0	771	1031	0
Heavy Vehicles (%)	1%	4%	0%	2%	3%	1%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	6.6	19.8		38.5	24.3	
Effective Green, g (s)	6.6	14.0		38.5	24.3	
Actuated g/C Ratio	0.12	0.25		0.69	0.44	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	411	688		2450	1531	
v/s Ratio Prot	0.04	c0.11		0.22	c0.29	
v/s Ratio Perm						
v/c Ratio	0.35	0.44		0.31	0.67	
Uniform Delay, d1	22.5	17.5		3.4	12.5	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2		0.0	0.9	
Delay (s)	22.7	17.7		3.4	13.4	
Level of Service	C	B		A	B	
Approach Delay (s)	19.2			3.4	13.4	
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	0.59		
Actuated Cycle Length (s)	55.6	Sum of lost time (s)	17.3
Intersection Capacity Utilization	48.4%	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												
Traffic Volume (vph)	2	999	114	294	398	0	112	2	284	6	1	2
Future Volume (vph)	2	999	114	294	398	0	112	2	284	6	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.97	
Satd. Flow (prot)	1805	3509		1787	3539		1681	1689	1565		1784	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3509		1787	3539		1681	1689	1565		1843	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	1052	120	309	419	0	118	2	299	6	1	2
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	273	0	2	0
Lane Group Flow (vph)	2	1168	0	309	419	0	60	60	26	0	7	0
Confl. Peds. (#/hr)			8			3			6			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	0%	1%	2%	0%	2%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.1	72.7		26.8	98.4		11.4	11.4	11.4		1.6	
Effective Green, g (s)	1.1	72.7		26.8	98.4		11.4	11.4	11.4		1.6	
Actuated g/C Ratio	0.01	0.56		0.21	0.76		0.09	0.09	0.09		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	15	1962		368	2678		147	148	137		22	
v/s Ratio Prot	0.00	c0.33		c0.17	0.12		c0.04	0.04				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.13	0.60		0.84	0.16		0.41	0.41	0.19		0.32	
Uniform Delay, d1	64.0	18.9		49.5	4.4		56.1	56.1	55.0		63.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.5	1.3		14.8	0.1		0.7	0.7	0.2		3.0	
Delay (s)	65.4	20.3		64.3	4.5		56.8	56.8	55.3		66.7	
Level of Service	E	C		E	A		E	E	E		E	
Approach Delay (s)		20.3			29.9			55.7			66.7	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	614	4	2	15	57	9	0	5	42	0	101
Future Volume (vph)	176	614	4	2	15	57	9	0	5	42	0	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.85		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	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583		1770	1583	
Flt Permitted	0.95	1.00	1.00	0.40	1.00	1.00	0.69	1.00		0.75	1.00	
Satd. Flow (perm)	1770	3539	1583	742	3539	1583	1278	1583		1405	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)	191	667	4	2	16	62	10	0	5	46	0	110
RTOR Reduction (vph)	0	0	2	0	0	44	0	4	0	0	92	0
Lane Group Flow (vph)	191	667	2	2	16	18	10	1	0	46	18	0
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		
Actuated Green, G (s)	7.9	22.9	22.9	11.0	11.0	11.0	6.1	6.1		6.1	6.1	
Effective Green, g (s)	7.9	22.9	22.9	11.0	11.0	11.0	6.1	6.1		6.1	6.1	
Actuated g/C Ratio	0.21	0.62	0.62	0.30	0.30	0.30	0.16	0.16		0.16	0.16	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	377	2190	979	220	1052	470	210	260		231	260	
v/s Ratio Prot	c0.11	c0.19			0.00			0.00			0.01	
v/s Ratio Perm			0.00	0.00		0.01	0.01			c0.03		
v/c Ratio	0.51	0.30	0.00	0.01	0.02	0.04	0.05	0.00		0.20	0.07	
Uniform Delay, d1	12.8	3.3	2.7	9.2	9.2	9.2	13.0	12.9		13.3	13.1	
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	1.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0		0.4	0.1	
Delay (s)	13.9	3.4	2.7	9.2	9.2	9.3	13.1	12.9		13.8	13.2	
Level of Service	B	A	A	A	A	A	B	B		B	B	
Approach Delay (s)		5.7			9.3			13.0			13.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	37.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1341	98	38	452	201	91
Future Volume (vph)	1341	98	38	452	201	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.99		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	5033		1770	5085	1725	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	5033		1770	5085	1725	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1458	107	41	491	218	99
RTOR Reduction (vph)	8	0	0	0	23	0
Lane Group Flow (vph)	1557	0	41	491	294	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	32.8		2.1	38.9	16.4	
Effective Green, g (s)	32.8		2.1	38.9	16.4	
Actuated g/C Ratio	0.52		0.03	0.61	0.26	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2607		58	3124	446	
v/s Ratio Prot	c0.31		c0.02	0.10	c0.17	
v/s Ratio Perm						
v/c Ratio	0.60		0.71	0.16	0.66	
Uniform Delay, d1	10.6		30.3	5.2	21.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.4		32.4	0.0	3.5	
Delay (s)	11.0		62.7	5.2	24.5	
Level of Service	B		E	A	C	
Approach Delay (s)	11.0			9.7	24.5	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix 3
Existing 95th Percentile Queue Length

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	125	332	110	288	560	146	667	162	16	453	77
v/c Ratio	0.35	0.32	0.18	0.53	0.44	0.31	0.51	0.15	0.07	0.36	0.18
Control Delay	41.2	27.6	7.1	37.5	24.5	40.2	23.1	4.8	46.7	25.6	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	27.6	7.1	37.5	24.5	40.2	23.1	4.8	46.7	25.6	5.0
Queue Length 50th (ft)	22	39	0	50	63	18	94	0	3	53	0
Queue Length 95th (ft)	85	100	23	165	148	65	308	27	19	140	25
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	988	2590	1380	1007	2608	1395	1839	1497	900	2609	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.13	0.08	0.29	0.21	0.10	0.36	0.11	0.02	0.17	0.10

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	144	138	501	520	265	521	136	22	1071	94
v/c Ratio	0.37	0.25	0.23	0.64	0.61	0.50	0.34	0.18	0.12	0.54	0.10
Control Delay	46.5	34.3	7.2	41.1	33.4	43.4	20.1	5.0	48.2	27.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	34.3	7.2	41.1	33.4	43.4	20.1	5.0	48.2	27.6	5.1
Queue Length 50th (ft)	28	36	0	90	133	48	84	0	5	135	0
Queue Length 95th (ft)	70	74	27	168	217	99	213	43	22	244	18
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	791	1375	1206	1162	1448	1139	1550	773	715	2611	1176
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.10	0.11	0.43	0.36	0.23	0.34	0.18	0.03	0.41	0.08

Intersection Summary

Lane Group	EBL	EBT	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	36	36	147	343	557	1011	171
v/c Ratio	0.14	0.18	0.10	0.92	0.26	0.83	0.25
Control Delay	31.6	27.6	2.1	68.5	9.5	36.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	27.6	2.1	68.5	9.5	36.5	2.3
Queue Length 50th (ft)	22	~48	0	206	83	306	0
Queue Length 95th (ft)	44	44	15	#419	111	386	22
Internal Link Dist (ft)		734			641	612	
Turn Bay Length (ft)	340			380			215
Base Capacity (vph)	430	203	1502	374	2125	1212	678
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.18	0.10	0.92	0.26	0.83	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

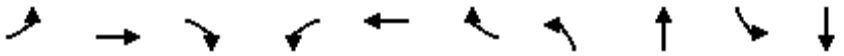
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	149	152	674	492	562	512
v/c Ratio	0.33	0.32	0.45	0.69	0.28	0.45
Control Delay	20.8	20.6	5.4	20.8	7.0	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	20.6	5.4	20.8	7.0	2.1
Queue Length 50th (ft)	41	42	26	141	50	0
Queue Length 95th (ft)	107	109	80	247	78	32
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	596	618	1860	1179	3125	1481
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.25	0.36	0.42	0.18	0.35

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	265	275	498	580
v/c Ratio	0.34	0.36	0.35	0.39
Control Delay	9.2	3.0	5.5	5.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.2	3.0	5.5	5.6
Queue Length 50th (ft)	12	0	15	18
Queue Length 95th (ft)	28	13	34	40
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	3314	2376	3223	3406
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.12	0.15	0.17

Intersection Summary

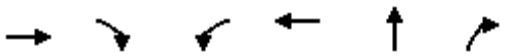


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	740	256	172	16	59	100	21	501	71	102
v/c Ratio	0.76	0.49	0.31	0.07	0.26	0.22	0.19	0.40	0.47	0.07
Control Delay	39.5	34.3	5.8	40.9	44.4	7.1	49.7	20.2	45.0	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	34.3	5.8	40.9	44.4	7.1	49.7	20.2	45.0	15.6
Queue Length 50th (ft)	226	138	0	10	36	0	14	97	47	22
Queue Length 95th (ft)	302	222	49	30	76	39	38	145	93	53
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	1033	550	583	245	244	429	163	1300	171	1537
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.47	0.30	0.07	0.24	0.23	0.13	0.39	0.42	0.07

Intersection Summary

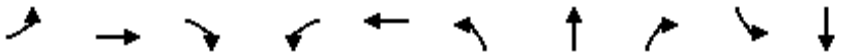
Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	31	32	107	1072	220
v/c Ratio	0.26	0.27	0.22	0.40	0.05
Control Delay	50.6	51.1	8.6	1.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	51.1	8.6	1.3	0.4
Queue Length 50th (ft)	21	22	0	13	0
Queue Length 95th (ft)	49	50	23	27	0
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	192	188	637	2683	4187
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.17	0.40	0.05

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	13	36	579	17	142	1086
v/c Ratio	0.02	0.10	0.32	0.01	0.41	0.44
Control Delay	31.9	0.6	19.1	6.4	43.7	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	0.6	19.1	6.4	43.7	6.0
Queue Length 50th (ft)	3	0	136	3	98	9
Queue Length 95th (ft)	11	0	195	12	149	194
Internal Link Dist (ft)	552			505	527	
Turn Bay Length (ft)						
Base Capacity (vph)	757	425	1808	1346	394	2441
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.08	0.32	0.01	0.36	0.44

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	205	279	407	723	632	667	43	59	147
v/c Ratio	0.04	0.50	0.34	0.58	0.53	0.75	0.56	0.08	0.31	0.24
Control Delay	43.4	33.2	4.5	39.3	20.3	39.1	29.0	0.3	44.4	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	33.2	4.5	39.3	20.3	39.1	29.0	0.3	44.4	33.7
Queue Length 50th (ft)	3	89	0	65	123	141	145	0	26	33
Queue Length 95th (ft)	17	146	12	115	197	#298	256	0	72	67
Internal Link Dist (ft)		924			708		1923			661
Turn Bay Length (ft)			350	420		300		300	195	
Base Capacity (vph)	551	727	1244	1524	1442	839	1366	622	405	1341
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.28	0.22	0.27	0.50	0.75	0.49	0.07	0.15	0.11

Intersection Summary

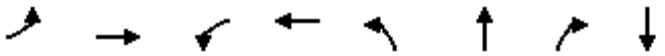
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1300	634	596	399	370
v/c Ratio	0.82	0.61	0.78	0.31	0.41
Control Delay	22.3	10.2	34.3	16.7	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	10.2	34.3	16.7	3.2
Queue Length 50th (ft)	228	112	131	64	0
Queue Length 95th (ft)	343	225	167	85	31
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1589	1458	1883	3367	1790
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.82	0.43	0.32	0.12	0.21

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	226	389	946	1458
v/c Ratio	0.69	0.48	0.35	0.76
Control Delay	50.9	26.7	3.3	19.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	50.9	26.7	3.3	19.2
Queue Length 50th (ft)	64	99	62	308
Queue Length 95th (ft)	104	142	96	462
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	1927	2040	3471	1912
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.19	0.27	0.76

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	7	422	303	1052	94	94	223	4
v/c Ratio	0.09	0.23	0.82	0.38	0.50	0.50	0.61	0.02
Control Delay	54.2	15.9	60.3	6.9	54.8	54.8	12.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	15.9	60.3	6.9	54.8	54.8	12.7	0.2
Queue Length 50th (ft)	5	68	213	77	70	70	0	0
Queue Length 95th (ft)	20	164	290	319	111	111	63	0
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	142	1845	491	2733	393	393	527	246
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.23	0.62	0.38	0.24	0.24	0.42	0.02

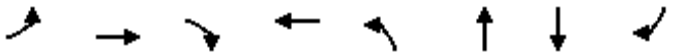
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	184	1043	197	236	541	177	551	411	64	545	62
v/c Ratio	0.51	0.61	0.19	0.56	0.30	0.41	0.54	0.38	0.27	0.45	0.14
Control Delay	48.4	28.7	4.3	47.6	23.5	47.4	32.8	4.2	50.3	32.5	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	28.7	4.3	47.6	23.5	47.4	32.8	4.2	50.3	32.5	2.9
Queue Length 50th (ft)	55	186	0	70	83	36	152	0	19	102	0
Queue Length 95th (ft)	108	293	28	132	140	72	248	40	48	165	13
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	769	2054	1218	777	2073	1119	1402	1338	777	1995	662
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.51	0.16	0.30	0.26	0.16	0.39	0.31	0.08	0.27	0.09

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	295	770	526	233	291	421	675	372	77	750	123
v/c Ratio	0.63	0.68	0.42	0.49	0.30	0.63	0.59	0.49	0.32	0.51	0.17
Control Delay	49.4	33.3	3.5	49.2	29.2	47.2	33.0	5.6	52.9	35.9	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	33.3	3.5	49.2	29.2	47.2	33.0	5.6	52.9	35.9	7.3
Queue Length 50th (ft)	90	217	0	49	72	89	191	0	24	118	0
Queue Length 95th (ft)	168	342	40	95	131	155	322	73	58	194	27
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	731	1370	1388	1063	1306	1063	1341	827	731	2342	1091
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.56	0.38	0.22	0.22	0.40	0.50	0.45	0.11	0.32	0.11

Intersection Summary



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	121	123	407	1	143	860	718	103
v/c Ratio	0.26	0.28	0.23	0.00	0.60	0.47	0.65	0.16
Control Delay	28.0	28.1	1.6	40.0	46.2	13.5	27.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	28.1	1.6	40.0	46.2	13.5	27.9	0.5
Queue Length 50th (ft)	44	44	0	1	70	141	167	0
Queue Length 95th (ft)	134	136	24	6	146	181	244	0
Internal Link Dist (ft)		734		89		641	612	
Turn Bay Length (ft)	340				380			215
Base Capacity (vph)	542	432	1987	547	425	1918	1345	740
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.28	0.20	0.00	0.34	0.45	0.53	0.14

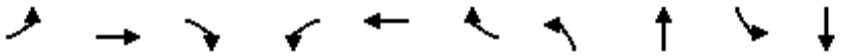
Intersection Summary

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	110	112	486	620	879	391
v/c Ratio	0.28	0.28	0.37	0.74	0.40	0.34
Control Delay	21.8	21.9	6.5	19.7	6.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	21.9	6.5	19.7	6.6	1.6
Queue Length 50th (ft)	32	32	24	161	67	0
Queue Length 95th (ft)	82	83	65	322	131	29
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	626	628	1723	1214	3169	1472
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.18	0.28	0.51	0.28	0.27

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	568	282	671	618
v/c Ratio	0.55	0.28	0.45	0.43
Control Delay	10.9	2.4	7.2	7.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.9	2.4	7.2	7.2
Queue Length 50th (ft)	31	0	31	27
Queue Length 95th (ft)	71	15	66	62
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	3196	2568	3610	3429
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.11	0.19	0.18

Intersection Summary

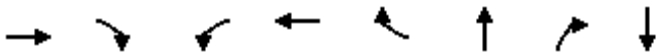


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	540	203	315	23	120	199	43	272	120	107
v/c Ratio	0.68	0.46	0.51	0.09	0.47	0.34	0.32	0.22	0.62	0.07
Control Delay	40.8	37.5	6.8	40.6	48.7	5.6	51.8	16.1	37.0	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	37.5	6.8	40.6	48.7	5.6	51.8	16.1	37.0	18.6
Queue Length 50th (ft)	168	116	0	14	76	0	28	40	61	32
Queue Length 95th (ft)	221	182	66	37	133	51	62	75	147	68
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	897	496	651	263	271	573	171	1246	219	1458
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.41	0.48	0.09	0.44	0.35	0.25	0.22	0.55	0.07

Intersection Summary

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	24	25	178	709	266
v/c Ratio	0.21	0.22	0.31	0.26	0.06
Control Delay	49.9	50.1	7.4	3.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	50.1	7.4	3.3	0.2
Queue Length 50th (ft)	16	16	0	20	0
Queue Length 95th (ft)	44	45	32	51	1
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	294	295	732	2699	4129
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08	0.24	0.26	0.06

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	8	109	925	12	1	166	709	1
v/c Ratio	0.01	0.23	0.67	0.01	0.00	0.55	0.35	0.01
Control Delay	29.1	6.4	31.2	7.5	0.0	46.9	8.2	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	6.4	31.2	7.5	0.0	46.9	8.2	47.0
Queue Length 50th (ft)	2	0	248	2	0	110	33	1
Queue Length 95th (ft)	8	38	#489	12	0	179	175	7
Internal Link Dist (ft)	552			505		527		495
Turn Bay Length (ft)					200			
Base Capacity (vph)	814	484	1378	1352	1165	336	2024	289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.23	0.67	0.01	0.00	0.49	0.35	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	339	447	207	310	260	346	132	132	264	15
v/c Ratio	0.05	0.62	0.40	0.33	0.20	0.52	0.50	0.32	0.51	0.37	0.04
Control Delay	38.1	29.7	3.5	35.6	8.3	36.6	32.4	8.7	40.4	29.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	29.7	3.5	35.6	8.3	36.6	32.4	8.7	40.4	29.9	0.2
Queue Length 50th (ft)	5	133	0	31	20	57	75	0	57	55	0
Queue Length 95th (ft)	24	261	35	69	66	121	151	49	138	114	0
Internal Link Dist (ft)		924			708		1923			661	
Turn Bay Length (ft)			350	420		300		300	195		190
Base Capacity (vph)	604	784	1408	1706	1555	920	1452	715	465	1471	712
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.43	0.32	0.12	0.20	0.28	0.24	0.18	0.28	0.18	0.02

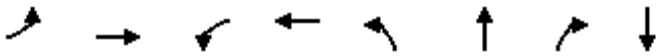
Intersection Summary

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	751	267	471	594	321
v/c Ratio	0.76	0.31	0.48	0.35	0.30
Control Delay	20.4	3.9	16.6	8.9	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	3.9	16.6	8.9	2.2
Queue Length 50th (ft)	89	12	53	46	0
Queue Length 95th (ft)	147	44	102	93	34
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	2557	1521	2976	3574	1863
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.18	0.16	0.17	0.17

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	176	351	798	1019
v/c Ratio	0.40	0.34	0.33	0.69
Control Delay	26.7	13.7	4.1	16.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.7	13.7	4.1	16.3
Queue Length 50th (ft)	28	45	43	136
Queue Length 95th (ft)	59	82	73	225
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	3074	2733	3539	3192
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.13	0.23	0.32

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	2	1012	309	428	61	61	334	9
v/c Ratio	0.03	0.50	0.84	0.15	0.41	0.41	0.76	0.11
Control Delay	61.0	20.3	68.7	4.9	61.7	61.6	16.5	53.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	20.3	68.7	4.9	61.7	61.6	16.5	53.7
Queue Length 50th (ft)	2	223	252	22	53	53	0	6
Queue Length 95th (ft)	11	497	334	117	90	90	86	25
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	138	2041	481	2851	354	355	593	115
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.50	0.64	0.15	0.17	0.17	0.56	0.08

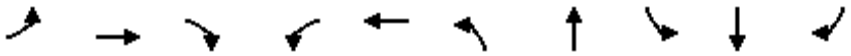
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	125	333	110	359	788	142	663	162	16	452	78
v/c Ratio	0.36	0.29	0.16	0.62	0.53	0.32	0.54	0.15	0.08	0.38	0.18
Control Delay	43.5	27.4	6.9	39.8	25.1	42.5	25.4	4.9	48.7	27.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	27.4	6.9	39.8	25.1	42.5	25.4	4.9	48.7	27.7	5.3
Queue Length 50th (ft)	25	42	0	70	97	19	110	0	3	60	0
Queue Length 95th (ft)	85	101	23	203	213	64	309	27	19	141	26
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	919	2414	1294	937	2449	1298	1714	1406	838	2430	761
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.14	0.09	0.38	0.32	0.11	0.39	0.12	0.02	0.19	0.10

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	145	138	549	839	235	519	136	23	1060	102
v/c Ratio	0.40	0.18	0.18	0.70	0.76	0.50	0.38	0.19	0.14	0.58	0.12
Control Delay	51.2	32.3	6.5	45.9	36.3	48.5	24.3	5.3	52.0	32.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	32.3	6.5	45.9	36.3	48.5	24.3	5.3	52.0	32.3	6.0
Queue Length 50th (ft)	34	37	0	117	243	51	113	0	7	167	0
Queue Length 95th (ft)	70	74	27	183	372	90	213	43	23	239	21
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	703	1222	1087	1033	1293	1012	1387	706	635	2321	1057
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.12	0.13	0.53	0.65	0.23	0.37	0.19	0.04	0.46	0.10

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	45	45	134	47	1122	525	786	29	987	169
v/c Ratio	0.40	0.59	0.10	0.39	2.31	1.50	0.43	0.27	0.87	0.26
Control Delay	59.1	79.1	3.0	58.6	617.3	269.1	14.5	56.1	43.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	79.1	3.0	58.6	617.3	269.1	14.5	56.1	43.9	2.5
Queue Length 50th (ft)	31	31	0	31	~1239	~513	125	19	350	0
Queue Length 95th (ft)	74	74	18	73	#1670	#808	231	52	452	21
Internal Link Dist (ft)		734			1066		641		612	
Turn Bay Length (ft)	340					380		130		215
Base Capacity (vph)	340	76	1404	215	527	351	1832	219	1134	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.59	0.10	0.22	2.13	1.50	0.43	0.13	0.87	0.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	143	148	674	288	472	518
v/c Ratio	0.34	0.34	0.42	0.48	0.26	0.48
Control Delay	15.4	15.3	1.8	13.6	5.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	15.3	1.8	13.6	5.5	2.3
Queue Length 50th (ft)	25	26	0	49	25	0
Queue Length 95th (ft)	70	72	24	95	42	27
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	439	455	1609	1373	3268	1526
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.33	0.42	0.21	0.14	0.34

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	273	275	453	576
v/c Ratio	0.35	0.36	0.32	0.39
Control Delay	9.3	3.0	5.3	5.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.3	3.0	5.3	5.7
Queue Length 50th (ft)	12	0	14	18
Queue Length 95th (ft)	29	13	31	40
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	3310	2373	3223	3406
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.12	0.14	0.17

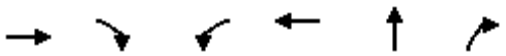
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	677	252	168	16	58	113	21	842	74	114
v/c Ratio	0.75	0.52	0.32	0.07	0.26	0.25	0.19	0.72	0.49	0.08
Control Delay	41.0	36.9	6.2	40.9	44.3	16.5	49.7	33.6	36.2	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	36.9	6.2	40.9	44.3	16.5	49.7	33.6	36.2	19.6
Queue Length 50th (ft)	208	140	0	10	36	27	14	255	49	30
Queue Length 95th (ft)	272	219	49	30	75	71	38	338	96	68
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	980	522	559	245	244	425	163	1177	171	1473
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.48	0.30	0.07	0.24	0.27	0.13	0.72	0.43	0.08

Intersection Summary

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	31	32	519	1413	265
v/c Ratio	0.12	0.12	0.69	0.61	0.07
Control Delay	39.8	39.9	32.8	16.0	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	39.9	32.8	16.0	1.0
Queue Length 50th (ft)	17	18	136	251	3
Queue Length 95th (ft)	48	48	192	558	2
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	266	260	867	2344	3976
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.12	0.60	0.60	0.07

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	77	79	274	523	964	1037
v/c Ratio	0.12	0.20	0.29	0.54	1.39	0.46
Control Delay	32.9	3.6	32.9	19.6	213.5	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	3.6	32.9	19.6	213.5	7.2
Queue Length 50th (ft)	21	0	79	225	~866	137
Queue Length 95th (ft)	38	12	109	291	#1039	199
Internal Link Dist (ft)	552			505	527	
Turn Bay Length (ft)						
Base Capacity (vph)	757	425	961	977	694	2265
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.19	0.29	0.54	1.39	0.46

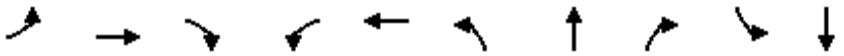
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1	112	25	1238	23	19
v/c Ratio	0.01	0.04	0.12	0.41	0.02	0.06
Control Delay	33.0	4.4	31.1	5.1	0.1	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	4.4	31.1	5.1	0.1	21.7
Queue Length 50th (ft)	0	0	4	0	0	3
Queue Length 95th (ft)	6	27	36	303	0	23
Internal Link Dist (ft)		1242		627	261	357
Turn Bay Length (ft)	150		135			
Base Capacity (vph)	169	3157	215	3175	1133	970
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.04	0.12	0.39	0.02	0.02

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	205	279	341	920	640	664	43	59	145
v/c Ratio	0.04	0.24	0.32	0.54	0.66	0.77	0.57	0.08	0.31	0.24
Control Delay	41.6	26.4	4.3	39.5	23.5	39.0	28.9	0.3	43.0	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	26.4	4.3	39.5	23.5	39.0	28.9	0.3	43.0	33.3
Queue Length 50th (ft)	3	43	0	54	176	141	142	0	26	32
Queue Length 95th (ft)	17	69	12	98	271	#296	250	0	72	66
Internal Link Dist (ft)		924			708		1923			661
Turn Bay Length (ft)			350	420		300		300	195	
Base Capacity (vph)	549	1376	1241	1517	1386	835	1356	618	402	1334
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.15	0.22	0.22	0.66	0.77	0.49	0.07	0.15	0.11

Intersection Summary

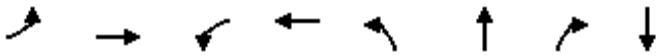
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1268	641	598	387	311
v/c Ratio	0.80	0.61	0.78	0.30	0.35
Control Delay	21.8	10.4	34.3	16.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	10.4	34.3	16.5	3.1
Queue Length 50th (ft)	220	115	131	62	0
Queue Length 95th (ft)	337	233	168	82	30
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1583	1453	1876	3357	1783
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.44	0.32	0.12	0.17

Intersection Summary

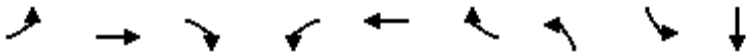
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	219	380	812	1419
v/c Ratio	0.68	0.47	0.30	0.74
Control Delay	50.4	26.7	3.0	18.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	50.4	26.7	3.0	18.2
Queue Length 50th (ft)	62	96	49	290
Queue Length 95th (ft)	101	139	78	435
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	1937	2043	3471	1922
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.11	0.19	0.23	0.74

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	7	417	295	1228	87	87	223	4
v/c Ratio	0.09	0.22	0.81	0.45	0.48	0.48	0.61	0.02
Control Delay	54.2	15.5	60.3	7.5	54.3	54.3	13.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	15.5	60.3	7.5	54.3	54.3	13.0	0.2
Queue Length 50th (ft)	5	65	208	94	65	65	0	0
Queue Length 95th (ft)	20	161	284	397	104	104	63	0
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	142	1871	491	2744	393	393	527	246
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.22	0.60	0.45	0.22	0.22	0.42	0.02

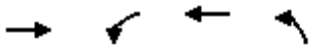
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBT
Lane Group Flow (vph)	59	63	8	5	1184	29	1	61	192
v/c Ratio	0.30	0.03	0.01	0.01	0.58	0.03	0.01	0.24	0.46
Control Delay	34.7	4.1	2.3	8.6	11.0	0.9	23.0	25.0	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	4.1	2.3	8.6	11.0	0.9	23.0	25.0	9.9
Queue Length 50th (ft)	17	2	0	1	130	0	0	17	6
Queue Length 95th (ft)	#79	13	4	7	309	4	4	58	59
Internal Link Dist (ft)		598			4088				1450
Turn Bay Length (ft)	210		250	150		250	150	150	
Base Capacity (vph)	202	3248	1454	1116	2971	1338	465	670	841
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.02	0.01	0.00	0.40	0.02	0.00	0.09	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	981	188	1447	153
v/c Ratio	0.46	0.76	0.44	0.36
Control Delay	7.5	46.9	6.7	15.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.5	46.9	6.7	15.1
Queue Length 50th (ft)	32	42	55	28
Queue Length 95th (ft)	91	#186	175	66
Internal Link Dist (ft)	1066		843	293
Turn Bay Length (ft)		150		
Base Capacity (vph)	2350	247	3576	988
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.76	0.40	0.15

Intersection Summary

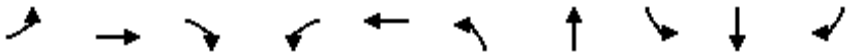
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	185	1142	187	236	541	177	552	430	70	539	62
v/c Ratio	0.52	0.64	0.17	0.57	0.29	0.42	0.55	0.40	0.29	0.45	0.14
Control Delay	49.4	29.3	4.9	48.6	23.3	48.3	33.7	4.2	51.0	33.2	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	29.3	4.9	48.6	23.3	48.3	33.7	4.2	51.0	33.2	2.9
Queue Length 50th (ft)	57	210	1	72	84	37	158	0	21	104	0
Queue Length 95th (ft)	109	327	29	132	141	72	250	41	52	163	13
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	749	2002	1182	757	2034	1089	1366	1325	757	1943	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.57	0.16	0.31	0.27	0.16	0.40	0.32	0.09	0.28	0.10

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	295	919	496	223	291	421	672	424	78	744	123
v/c Ratio	0.65	0.74	0.40	0.50	0.27	0.65	0.60	0.54	0.34	0.52	0.17
Control Delay	51.7	34.8	5.9	51.1	28.4	49.3	34.8	5.9	54.1	37.5	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	34.8	5.9	51.1	28.4	49.3	34.8	5.9	54.1	37.5	7.3
Queue Length 50th (ft)	95	276	18	50	73	93	200	0	25	123	0
Queue Length 95th (ft)	167	422	65	92	131	155	320	79	59	193	27
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	692	1303	1292	1007	1240	1007	1271	837	692	2219	1040
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.71	0.38	0.22	0.23	0.42	0.53	0.51	0.11	0.34	0.12

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	220	527	132	125	6	143	862	88	660	103
v/c Ratio	0.32	0.73	0.09	0.69	0.04	0.65	0.72	0.55	0.69	0.17
Control Delay	28.5	36.0	3.2	66.0	37.8	57.6	34.1	60.1	37.2	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	36.0	3.2	66.0	37.8	57.6	34.1	60.1	37.2	0.6
Queue Length 50th (ft)	90	265	0	77	3	89	268	55	201	0
Queue Length 95th (ft)	#295	#869	18	#183	15	169	349	120	286	0
Internal Link Dist (ft)		734			1066		641		612	
Turn Bay Length (ft)	340					380		130		215
Base Capacity (vph)	690	725	1599	214	394	353	1416	218	1119	659
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.73	0.08	0.58	0.02	0.41	0.61	0.40	0.59	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

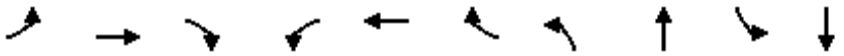
Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	110	113	419	686	504	393
v/c Ratio	0.28	0.29	0.34	0.86	0.24	0.36
Control Delay	17.0	17.1	5.7	27.1	5.3	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	17.1	5.7	27.1	5.3	1.8
Queue Length 50th (ft)	26	27	20	160	29	0
Queue Length 95th (ft)	60	61	45	#358	53	27
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	493	494	1217	838	2156	1128
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.23	0.34	0.82	0.23	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	568	386	731	487
v/c Ratio	0.56	0.36	0.47	0.33
Control Delay	11.5	2.5	7.4	6.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	11.5	2.5	7.4	6.5
Queue Length 50th (ft)	32	0	34	21
Queue Length 95th (ft)	79	20	77	51
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	3101	2512	3610	3429
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.15	0.20	0.14

Intersection Summary



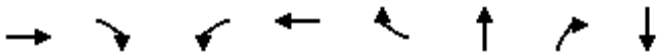
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	282	193	284	25	122	199	42	275	138	181
v/c Ratio	0.48	0.59	0.56	0.10	0.48	0.33	0.31	0.20	0.67	0.11
Control Delay	40.7	46.3	8.5	40.5	48.6	5.4	51.6	14.5	47.8	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	46.3	8.5	40.5	48.6	5.4	51.6	14.5	47.8	13.5
Queue Length 50th (ft)	89	121	0	15	77	0	27	37	61	32
Queue Length 95th (ft)	117	175	64	40	133	51	61	76	#169	97
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	882	488	622	265	273	579	171	1395	226	1660
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.40	0.46	0.09	0.45	0.34	0.25	0.20	0.61	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	24	24	209	453	479
v/c Ratio	0.21	0.21	0.35	0.17	0.12
Control Delay	49.9	49.8	7.2	2.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	49.8	7.2	2.9	0.4
Queue Length 50th (ft)	16	16	0	18	3
Queue Length 95th (ft)	44	43	34	50	3
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	294	295	756	2699	4129
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08	0.28	0.17	0.12

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	516	304	919	32	1	209	453	1
v/c Ratio	0.63	0.49	0.69	0.02	0.00	0.65	0.23	0.01
Control Delay	38.8	6.6	32.4	7.4	0.0	49.9	4.1	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	6.6	32.4	7.4	0.0	49.9	4.1	47.0
Queue Length 50th (ft)	162	0	254	5	0	128	0	1
Queue Length 95th (ft)	220	66	#492	23	0	213	88	7
Internal Link Dist (ft)	552			505		527		495
Turn Bay Length (ft)					200			
Base Capacity (vph)	814	623	1335	1329	1146	348	1920	289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.49	0.69	0.02	0.00	0.60	0.24	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1	720	54	100	37	18
v/c Ratio	0.00	0.27	0.25	0.04	0.11	0.05
Control Delay	23.0	7.0	25.3	5.2	7.2	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	7.0	25.3	5.2	7.2	13.1
Queue Length 50th (ft)	0	0	8	0	1	2
Queue Length 95th (ft)	5	160	#55	23	15	15
Internal Link Dist (ft)		1242		627	261	357
Turn Bay Length (ft)	150		135			
Base Capacity (vph)	212	2784	217	2682	991	1222
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.26	0.25	0.04	0.04	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	547	455	198	308	255	338	91	128	265	15
v/c Ratio	0.05	0.53	0.40	0.31	0.20	0.51	0.50	0.25	0.49	0.38	0.04
Control Delay	37.1	24.7	3.4	34.6	8.1	35.7	32.2	9.5	39.4	29.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	24.7	3.4	34.6	8.1	35.7	32.2	9.5	39.4	29.8	0.2
Queue Length 50th (ft)	4	105	0	28	18	54	72	0	53	54	0
Queue Length 95th (ft)	24	185	34	66	64	118	146	42	133	114	0
Internal Link Dist (ft)		924			708		1923			661	
Turn Bay Length (ft)			350	420		300		300	195		190
Base Capacity (vph)	614	1515	1445	1732	1555	934	1474	700	472	1493	721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.36	0.31	0.11	0.20	0.27	0.23	0.13	0.27	0.18	0.02

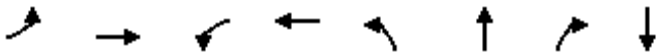
Intersection Summary

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	759	268	415	608	312
v/c Ratio	0.78	0.30	0.43	0.36	0.30
Control Delay	20.7	2.9	16.0	8.9	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	2.9	16.0	8.9	2.2
Queue Length 50th (ft)	90	7	45	46	0
Queue Length 95th (ft)	143	34	89	93	33
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	2582	1530	3004	3574	1863
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.18	0.14	0.17	0.17

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	142	318	771	1031
v/c Ratio	0.35	0.32	0.32	0.67
Control Delay	26.0	13.7	3.8	15.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.0	13.7	3.8	15.4
Queue Length 50th (ft)	23	40	38	131
Queue Length 95th (ft)	48	73	64	216
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	3131	2733	3539	3165
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.05	0.12	0.22	0.33

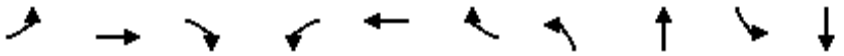
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	2	1172	309	419	60	60	299	9
v/c Ratio	0.03	0.57	0.84	0.15	0.41	0.41	0.73	0.11
Control Delay	61.0	21.6	68.7	4.9	61.6	61.5	16.3	53.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	21.6	68.7	4.9	61.6	61.5	16.3	53.7
Queue Length 50th (ft)	2	276	252	21	52	52	0	6
Queue Length 95th (ft)	11	#660	334	114	88	88	80	25
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	138	2051	481	2852	354	355	565	115
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.57	0.64	0.15	0.17	0.17	0.53	0.08

Intersection Summary

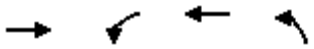
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	191	667	4	2	16	62	10	5	46	110
v/c Ratio	0.49	0.27	0.00	0.01	0.02	0.12	0.03	0.01	0.13	0.09
Control Delay	24.5	5.7	1.2	14.0	13.7	3.3	10.3	0.0	11.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	5.7	1.2	14.0	13.7	3.3	10.3	0.0	11.1	0.2
Queue Length 50th (ft)	27	25	0	0	1	0	1	0	6	0
Queue Length 95th (ft)	#177	118	2	5	8	15	9	0	26	0
Internal Link Dist (ft)		598			4088			531		1450
Turn Bay Length (ft)	210		250	150		250	150		150	
Base Capacity (vph)	389	3041	1363	391	1870	879	948	1215	1043	1441
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.22	0.00	0.01	0.01	0.07	0.01	0.00	0.04	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

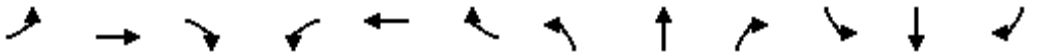


Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1565	41	491	317
v/c Ratio	0.58	0.34	0.16	0.66
Control Delay	12.1	41.8	6.0	26.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.1	41.8	6.0	26.7
Queue Length 50th (ft)	152	17	26	106
Queue Length 95th (ft)	243	#57	51	192
Internal Link Dist (ft)	1066		843	293
Turn Bay Length (ft)		150		
Base Capacity (vph)	3187	120	3883	1102
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.34	0.13	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

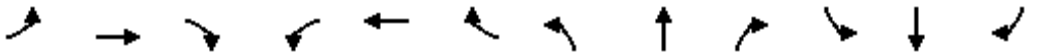
Appendix 4
2025 Near-Term Level of Service Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	361	124	268	466	86	161	666	157	19	421	76
Future Volume (vph)	128	361	124	268	466	86	161	666	157	19	421	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	4988	2565	3467	4870		4802	3539	2739	3099	5085	1489
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	4988	2565	3467	4870		4802	3539	2739	3099	5085	1489
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	138	388	133	288	501	92	173	716	169	20	453	82
RTOR Reduction (vph)	0	0	105	0	21	0	0	0	107	0	0	59
Lane Group Flow (vph)	138	388	28	288	572	0	173	716	62	20	453	23
Confl. Peds. (#/hr)			8			14			7			2
Heavy Vehicles (%)	3%	4%	9%	1%	4%	2%	6%	2%	2%	13%	2%	7%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	8.6	17.2	17.2	12.2	20.8		8.1	29.3	29.3	1.8	23.0	23.0
Effective Green, g (s)	8.6	17.2	17.2	12.2	20.8		8.1	29.3	29.3	1.8	23.0	23.0
Actuated g/C Ratio	0.11	0.21	0.21	0.15	0.26		0.10	0.36	0.36	0.02	0.29	0.29
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	363	1065	548	525	1258		483	1288	996	69	1452	425
v/s Ratio Prot	0.04	0.08		c0.08	c0.12		c0.04	c0.20		0.01	0.09	
v/s Ratio Perm			0.01						0.02			0.02
v/c Ratio	0.38	0.36	0.05	0.55	0.45		0.36	0.56	0.06	0.29	0.31	0.06
Uniform Delay, d1	33.5	27.0	25.2	31.6	25.1		33.8	20.4	16.7	38.7	22.5	20.9
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	0.2	0.3	0.0	0.6	0.3		0.2	0.6	0.0	0.8	0.1	0.1
Delay (s)	33.7	27.2	25.2	32.2	25.4		33.9	21.0	16.7	39.6	22.7	20.9
Level of Service	C	C	C	C	C		C	C	B	D	C	C
Approach Delay (s)		28.2			27.6			22.4			23.0	
Approach LOS		C			C			C			C	

Intersection Summary					
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.54				
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	20.0		
Intersection Capacity Utilization	62.3%	ICU Level of Service	B		
Analysis Period (min)	15				

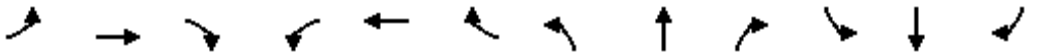
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	182	130	568	460	43	249	490	397	55	1007	88
Future Volume (vph)	106	182	130	568	460	43	249	490	397	55	1007	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.95	0.88	0.94	0.95		0.94	0.95	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3374	2760	4990	3464		4894	3471	1563	3072	6408	2733
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3374	2760	4990	3464		4894	3471	1563	3072	6408	2733
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	113	194	138	604	489	46	265	521	422	59	1071	94
RTOR Reduction (vph)	0	0	116	0	5	0	0	0	265	0	0	64
Lane Group Flow (vph)	113	194	22	604	530	0	265	521	157	59	1071	30
Confl. Peds. (#/hr)						4			1			
Heavy Vehicles (%)	3%	7%	3%	2%	3%	0%	4%	4%	2%	14%	2%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	7.8	14.6	14.6	15.5	22.3		9.8	33.6	33.6	5.2	29.0	29.0
Effective Green, g (s)	7.8	14.6	14.6	15.5	22.3		9.8	33.6	33.6	5.2	29.0	29.0
Actuated g/C Ratio	0.09	0.16	0.16	0.17	0.25		0.11	0.37	0.37	0.06	0.32	0.32
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	293	544	445	854	853		529	1288	580	176	2053	875
v/s Ratio Prot	0.03	0.06		c0.12	c0.15		c0.05	c0.15		0.02	c0.17	
v/s Ratio Perm			0.01						0.10			0.01
v/c Ratio	0.39	0.36	0.05	0.71	0.62		0.50	0.40	0.27	0.34	0.52	0.03
Uniform Delay, d1	39.1	33.8	32.1	35.4	30.3		38.0	21.0	19.9	41.0	25.1	21.1
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	0.3	0.4	0.0	2.2	1.4		0.3	0.3	0.3	0.4	0.3	0.0
Delay (s)	39.4	34.2	32.1	37.6	31.8		38.3	21.3	20.2	41.4	25.4	21.2
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		34.9			34.8			24.7			25.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	21.6
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

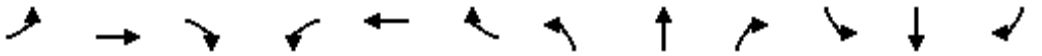
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	12	169	92	146	2	326	590	98	4	1035	162
Future Volume (vph)	68	12	169	92	146	2	326	590	98	4	1035	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9		5.3	4.9	4.9
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1900	2608	1770	1859		3367	3416		1805	3574	1579
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1900	2608	1770	1859		3367	3416		1805	3574	1579
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	13	178	97	154	2	343	621	103	4	1089	171
RTOR Reduction (vph)	0	0	51	0	1	0	0	9	0	0	0	85
Lane Group Flow (vph)	72	13	127	97	155	0	343	715	0	4	1089	86
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	2%	0%	9%	2%	2%	2%	4%	4%	0%	0%	1%	1%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	5.0	16.5	34.4	7.7	19.2		12.6	51.9		0.9	40.2	40.2
Effective Green, g (s)	5.0	16.5	34.4	7.7	19.2		12.6	51.9		0.9	40.2	40.2
Actuated g/C Ratio	0.05	0.17	0.36	0.08	0.20		0.13	0.54		0.01	0.42	0.42
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9		5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	177	324	929	141	369		439	1837		16	1488	657
v/s Ratio Prot	0.02	0.01	0.05	c0.05	c0.08		c0.10	0.21		0.00	c0.30	
v/s Ratio Perm												0.05
v/c Ratio	0.41	0.04	0.14	0.69	0.42		0.78	0.39		0.25	0.73	0.13
Uniform Delay, d1	44.3	33.4	21.0	43.2	33.8		40.6	13.0		47.5	23.6	17.4
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	0.6	0.1	0.1	10.6	0.3		8.1	0.2		3.0	2.0	0.1
Delay (s)	44.9	33.5	21.1	53.8	34.1		48.7	13.2		50.4	25.6	17.5
Level of Service	D	C	C	D	C		D	B		D	C	B
Approach Delay (s)		28.2			41.6			24.6			24.6	
Approach LOS		C			D			C			C	

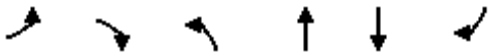
Intersection Summary					
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	96.5	Sum of lost time (s)	19.5		
Intersection Capacity Utilization	69.4%	ICU Level of Service	C		
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	256	62	654	0	601	0	0	681	497
Future Volume (vph)	0	0	0	256	62	654	0	601	0	0	681	497
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		1.00			0.95	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1633	1687	2760		1845			3505	1599
Flt Permitted				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1633	1687	2760		1845			3505	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	264	64	674	0	620	0	0	702	512
RTOR Reduction (vph)	0	0	0	0	0	254	0	0	0	0	0	195
Lane Group Flow (vph)	0	0	0	164	164	420	0	620	0	0	702	317
Heavy Vehicles (%)	0%	0%	0%	5%	2%	3%	0%	3%	20%	0%	3%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				9.9	9.9	17.7		22.0			29.8	29.8
Effective Green, g (s)				9.9	9.9	17.7		22.0			29.8	29.8
Actuated g/C Ratio				0.21	0.21	0.37		0.46			0.62	0.62
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				335	346	1013		842			2166	988
v/s Ratio Prot				c0.10	0.10	c0.15		c0.34			0.20	
v/s Ratio Perm												0.20
v/c Ratio				0.49	0.47	0.41		0.74			0.32	0.32
Uniform Delay, d1				16.9	16.9	11.4		10.7			4.4	4.4
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				1.5	1.4	0.4		3.6			0.1	0.1
Delay (s)				18.5	18.3	11.8		14.3			4.5	4.5
Level of Service				B	B	B		B			A	A
Approach Delay (s)		0.0			13.9			14.3			4.5	
Approach LOS		A			B			B			A	

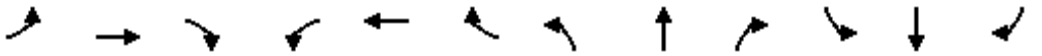
Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	12.2
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	280	480	0	544	595	0
Future Volume (vph)	280	480	0	544	595	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3367	2409		3223	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3367	2409		3223	3406	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	301	516	0	585	640	0
RTOR Reduction (vph)	0	311	0	0	0	0
Lane Group Flow (vph)	301	205	0	585	640	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	4%	18%	0%	12%	6%	2%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.1	6.1		11.1	11.1	
Effective Green, g (s)	6.1	6.1		11.1	11.1	
Actuated g/C Ratio	0.24	0.24		0.44	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	815	583		1419	1500	
v/s Ratio Prot	c0.09			0.18	c0.19	
v/s Ratio Perm		0.09				
v/c Ratio	0.37	0.35		0.41	0.43	
Uniform Delay, d1	7.9	7.9		4.8	4.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.1	0.1	
Delay (s)	8.1	8.0		4.9	4.9	
Level of Service	A	A		A	A	
Approach Delay (s)	8.0			4.9	4.9	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	25.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		

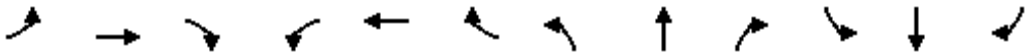
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	784	238	155	14	54	90	19	271	180	64	92	0
Future Volume (vph)	784	238	155	14	54	90	19	271	180	64	92	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1827	1538	1687	1681	1599	1719	3229		1719	3438	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1827	1538	1687	1681	1599	1719	3229		1719	3438	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	871	264	172	16	60	100	21	301	200	71	102	0
RTOR Reduction (vph)	0	0	116	0	0	73	0	110	0	0	0	0
Lane Group Flow (vph)	871	264	56	16	60	27	21	391	0	71	102	0
Confl. Peds. (#/hr)									4			
Heavy Vehicles (%)	2%	4%	5%	7%	13%	1%	5%	4%	4%	5%	5%	3%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	34.2	34.2	34.2	14.0	14.0	28.1	3.2	29.9		9.2	36.4	
Effective Green, g (s)	34.2	34.2	34.2	14.0	14.0	28.1	3.2	29.9		9.2	36.4	
Actuated g/C Ratio	0.33	0.33	0.33	0.13	0.13	0.27	0.03	0.28		0.09	0.35	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1118	595	500	224	224	427	52	919		150	1191	
v/s Ratio Prot	c0.25	0.14		0.01	c0.04	0.02	0.01	c0.12		c0.04	0.03	
v/s Ratio Perm			0.04									
v/c Ratio	0.78	0.44	0.11	0.07	0.27	0.06	0.40	0.43		0.47	0.09	
Uniform Delay, d1	32.0	27.9	24.8	39.8	40.9	28.6	50.0	30.6		45.6	23.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.73	0.70	
Incremental Delay, d2	3.5	0.5	0.1	0.1	0.6	0.1	5.1	1.4		2.3	0.1	
Delay (s)	35.5	28.4	24.9	39.9	41.5	28.7	55.0	32.0		35.7	16.3	
Level of Service	D	C	C	D	D	C	E	C		D	B	
Approach Delay (s)		32.7			34.1			32.9			24.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

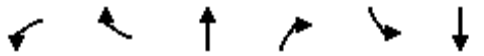


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	49	5	92	0	982	0	0	192	0
Future Volume (vph)	0	0	0	49	5	92	0	982	0	0	192	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1681	1646	2632		3539			4988	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1681	1646	2632		3539			4988	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	57	6	107	0	1142	0	0	223	0
RTOR Reduction (vph)	0	0	0	0	0	90	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	32	17	0	1142	0	0	223	0
Heavy Vehicles (%)	0%	0%	0%	2%	20%	8%	0%	2%	6%	0%	4%	3%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				7.6	7.6	17.1		79.6			88.1	
Effective Green, g (s)				7.6	7.6	17.1		79.6			88.1	
Actuated g/C Ratio				0.07	0.07	0.16		0.76			0.84	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				121	119	428		2682			4185	
v/s Ratio Prot				0.02	c0.02	c0.01		c0.32			0.04	
v/s Ratio Perm												
v/c Ratio				0.26	0.27	0.04		0.43			0.05	
Uniform Delay, d1				46.0	46.1	37.0		4.5			1.4	
Progression Factor				1.00	1.00	1.00		0.14			0.24	
Incremental Delay, d2				1.1	1.2	0.0		0.4			0.0	
Delay (s)				47.2	47.3	37.1		1.0			0.4	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			40.8			1.0			0.4	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	38.2%	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												
Traffic Volume (vph)	0	11	31	534	18	0	138	0	912	0	0	0
Future Volume (vph)	0	11	31	534	18	0	138	0	912	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	1.00			1.00	0.88			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	1900			1787	2787			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	1900			1787	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	13	37	636	21	0	164	0	1086	0	0	0
RTOR Reduction (vph)	0	0	32	0	0	0	0	0	273	0	0	0
Lane Group Flow (vph)	0	13	5	636	21	0	0	164	813	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		14.4	14.4	52.2	72.6			22.2	78.6			
Effective Green, g (s)		14.4	14.4	52.2	72.6			22.2	78.6			
Actuated g/C Ratio		0.14	0.14	0.50	0.69			0.21	0.75			
Clearance Time (s)		6.0	6.0	6.0	6.0			4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		454	201	1673	1313			377	2086			
v/s Ratio Prot		c0.00		0.19	0.01			c0.09	c0.29			
v/s Ratio Perm			0.00									
v/c Ratio		0.03	0.03	0.38	0.02			0.44	0.39			
Uniform Delay, d1		39.2	39.2	16.4	5.1			36.0	4.7			
Progression Factor		1.00	1.00	1.00	1.00			1.13	14.80			
Incremental Delay, d2		0.0	0.1	0.7	0.0			0.8	0.1			
Delay (s)		39.3	39.3	17.0	5.1			41.4	69.5			
Level of Service		D	D	B	A			D	E			
Approach Delay (s)		39.3			16.6			65.8			0.0	
Approach LOS		D			B			E			A	

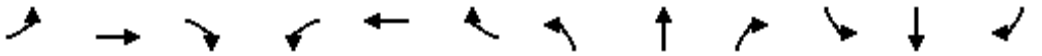
Intersection Summary			
HCM 2000 Control Delay	48.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	21	28	0	19	16	0
Future Volume (Veh/h)	21	28	0	19	16	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	25	34	0	23	19	0
Pedestrians	3		3			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	56	16			26	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	56	16			26	
tC, single (s)	6.4	6.2			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	97	97			99	
cM capacity (veh/h)	941	1066			1522	

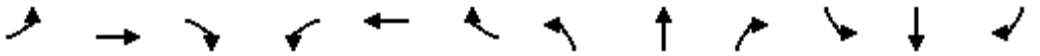
Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	25	34	23	19
Volume Left	25	0	0	19
Volume Right	0	34	23	0
cSH	941	1066	1700	1522
Volume to Capacity	0.03	0.03	0.01	0.01
Queue Length 95th (ft)	2	2	0	1
Control Delay (s)	8.9	8.5	0.0	7.4
Lane LOS	A	A		A
Approach Delay (s)	8.7		0.0	7.4
Approach LOS	A			

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		



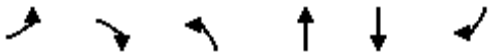
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	154	246	485	381	168	593	500	44	44	143	0
Future Volume (vph)	5	154	246	485	381	168	593	500	44	44	143	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3574	2779	4990	3410		3433	3574	1482	1656	3610	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	3574	2779	4990	3410		3433	3574	1482	1656	3610	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	7	205	328	647	508	224	791	667	59	59	191	0
RTOR Reduction (vph)	0	0	255	0	33	0	0	0	41	0	0	0
Lane Group Flow (vph)	7	205	73	647	699	0	791	667	18	59	191	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	1%	2%	0%	2%	2%	1%	9%	9%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.2	20.3	20.3	16.2	35.3		20.9	28.4	28.4	7.8	15.7	
Effective Green, g (s)	1.2	20.3	20.3	16.2	35.3		20.9	28.4	28.4	7.8	15.7	
Actuated g/C Ratio	0.01	0.22	0.22	0.18	0.39		0.23	0.31	0.31	0.09	0.17	
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	23	794	617	885	1318		785	1111	460	141	620	
v/s Ratio Prot	0.00	0.06		c0.13	c0.20		c0.23	c0.19		0.04	0.05	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.30	0.26	0.12	0.73	0.53		1.01	0.60	0.04	0.42	0.31	
Uniform Delay, d1	44.6	29.3	28.4	35.5	21.6		35.2	26.6	21.9	39.6	33.1	
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	2.7	0.2	0.1	2.7	0.4		34.0	0.9	0.0	0.7	0.3	
Delay (s)	47.4	29.5	28.4	38.2	22.0		69.2	27.6	22.0	40.3	33.3	
Level of Service	D	C	C	D	C		E	C	C	D	C	
Approach Delay (s)		29.1			29.6			49.1			35.0	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	91.3	Sum of lost time (s)	18.6
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1095	0	520	0	489	0	0	439	509
Future Volume (vph)	0	0	0	1095	0	520	0	489	0	0	439	509
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3242		1599		3539			3539	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3242		1599		3539			3539	1863
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	1335	0	634	0	596	0	0	535	621
RTOR Reduction (vph)	0	0	0	0	0	38	0	0	0	0	0	395
Lane Group Flow (vph)	0	0	0	1335	0	596	0	596	0	0	535	226
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	8%	0%	1%	0%	2%	6%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				35.1		45.1		15.5			26.1	26.1
Effective Green, g (s)				35.1		45.1		15.5			26.1	26.1
Actuated g/C Ratio				0.49		0.63		0.22			0.36	0.36
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1589		1007		766			1290	679
v/s Ratio Prot				c0.41		c0.37		c0.17			0.15	
v/s Ratio Perm												0.12
v/c Ratio				0.84		0.59		0.78			0.41	0.33
Uniform Delay, d1				15.8		7.8		26.4			17.0	16.5
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				4.0		0.6		4.6			0.1	0.1
Delay (s)				19.8		8.4		31.0			17.1	16.6
Level of Service				B		A		C			B	B
Approach Delay (s)		0.0			16.2			31.0			16.8	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	71.6	Sum of lost time (s)	15.7
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

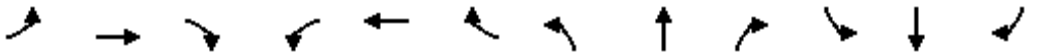


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	201	526	0	942	1383	0
Future Volume (vph)	201	526	0	942	1383	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	2632		3471	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	2632		3471	3406	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	226	591	0	1058	1554	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	226	590	0	1058	1554	0
Heavy Vehicles (%)	2%	8%	0%	4%	6%	6%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	9.0	35.3		77.5	50.2	
Effective Green, g (s)	9.0	29.5		77.5	50.2	
Actuated g/C Ratio	0.09	0.30		0.80	0.52	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	318	800		2773	1762	
v/s Ratio Prot	0.07	c0.22		0.30	c0.46	
v/s Ratio Perm						
v/c Ratio	0.71	0.74		0.38	0.88	
Uniform Delay, d1	42.7	30.3		2.8	20.8	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.1	3.1		0.0	5.4	
Delay (s)	48.8	33.4		2.9	26.2	
Level of Service	D	C		A	C	
Approach Delay (s)	37.6			2.9	26.2	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

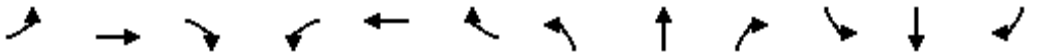
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	297	87	276	955	3	171	0	206	1	0	3
Future Volume (vph)	6	297	87	276	955	3	171	0	206	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1805	3361		1752	3534		1698	1698	1539		1653	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3361		1752	3534		1698	1698	1539		1674	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	326	96	303	1049	3	188	0	226	1	0	3
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	201	0	4	0
Lane Group Flow (vph)	7	406	0	303	1052	0	94	94	25	0	0	0
Confl. Peds. (#/hr)			4						5			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	0%	3%	2%	33%	1%	0%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.2	58.9		24.1	81.8		12.6	12.6	12.6		0.9	
Effective Green, g (s)	1.2	58.9		24.1	81.8		12.6	12.6	12.6		0.9	
Actuated g/C Ratio	0.01	0.52		0.21	0.72		0.11	0.11	0.11		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	19	1736		370	2535		187	187	170		13	
v/s Ratio Prot	0.00	0.12		c0.17	c0.30		c0.06	0.06				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.37	0.23		0.82	0.41		0.50	0.50	0.15		0.00	
Uniform Delay, d1	56.0	15.1		42.9	6.5		47.7	47.7	45.8		56.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.4	0.3		12.5	0.5		0.8	0.8	0.1		0.0	
Delay (s)	60.4	15.5		55.4	7.0		48.5	48.5	46.0		56.1	
Level of Service	E	B		E	A		D	D	D		E	
Approach Delay (s)		16.2			17.8			47.1			56.1	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



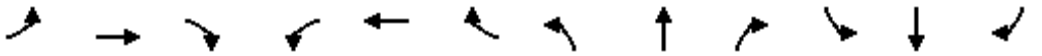
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	960	213	222	511	28	205	523	461	83	562	69
Future Volume (vph)	169	960	213	222	511	28	205	523	461	83	562	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	5136	2751	3502	5082		5040	3610	2801	3502	5136	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	5136	2751	3502	5082		5040	3610	2801	3502	5136	1553
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)	184	1043	232	241	555	30	223	568	501	90	611	75
RTOR Reduction (vph)	0	0	156	0	4	0	0	0	355	0	0	56
Lane Group Flow (vph)	184	1043	76	241	581	0	223	568	146	90	611	19
Confl. Peds. (#/hr)			1			3			3			
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	1%	1%	2%	0%	1%	5%	1%	0%	0%	0%	1%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	10.0	32.5	32.5	11.6	34.1		9.1	28.7	28.7	5.8	25.4	25.4
Effective Green, g (s)	10.0	32.5	32.5	11.6	34.1		9.1	28.7	28.7	5.8	25.4	25.4
Actuated g/C Ratio	0.10	0.33	0.33	0.12	0.35		0.09	0.29	0.29	0.06	0.26	0.26
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	351	1692	906	412	1757		465	1050	815	206	1323	400
v/s Ratio Prot	0.05	c0.20		c0.07	0.11		c0.04	c0.16		0.03	0.12	
v/s Ratio Perm			0.03						0.05			0.01
v/c Ratio	0.52	0.62	0.08	0.58	0.33		0.48	0.54	0.18	0.44	0.46	0.05
Uniform Delay, d1	42.0	27.8	22.8	41.2	23.8		42.5	29.4	26.1	44.8	30.8	27.5
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	0.7	0.7	0.0	1.4	0.1		0.3	0.6	0.1	0.5	0.3	0.1
Delay (s)	42.7	28.5	22.8	42.6	24.0		42.8	30.0	26.3	45.4	31.1	27.6
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		29.4			29.4			30.8			32.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	98.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	739	525	550	278	65	419	648	427	93	720	125
Future Volume (vph)	310	739	525	550	278	65	419	648	427	93	720	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.95	0.88	0.94	0.95		0.94	0.95	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3574	2776	5090	3442		5090	3610	1599	3502	6408	2774
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3574	2776	5090	3442		5090	3610	1599	3502	6408	2774
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	323	770	547	573	290	68	436	675	445	97	750	130
RTOR Reduction (vph)	0	0	378	0	14	0	0	0	307	0	0	101
Lane Group Flow (vph)	323	770	169	573	344	0	436	675	138	97	750	29
Confl. Peds. (#/hr)						1						2
Confl. Bikes (#/hr)			2			2						
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	0%	0%	1%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	14.7	31.7	31.7	16.6	33.6		14.1	30.8	30.8	7.6	24.3	24.3
Effective Green, g (s)	14.7	31.7	31.7	16.6	33.6		14.1	30.8	30.8	7.6	24.3	24.3
Actuated g/C Ratio	0.14	0.29	0.29	0.15	0.31		0.13	0.28	0.28	0.07	0.22	0.22
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	475	1046	812	780	1067		662	1026	454	245	1437	622
v/s Ratio Prot	0.09	c0.22		c0.11	0.10		c0.09	c0.19		0.03	0.12	
v/s Ratio Perm			0.06						0.09			0.01
v/c Ratio	0.68	0.74	0.21	0.73	0.32		0.66	0.66	0.30	0.40	0.52	0.05
Uniform Delay, d1	44.6	34.5	28.9	43.7	28.6		44.8	34.1	30.4	48.2	36.9	32.9
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	3.2	2.7	0.1	3.1	0.2		1.8	1.7	0.5	0.4	0.4	0.0
Delay (s)	47.7	37.3	29.0	46.9	28.8		46.6	35.8	30.9	48.5	37.3	33.0
Level of Service	D	D	C	D	C		D	D	C	D	D	C
Approach Delay (s)		36.6			39.9			37.4			37.9	
Approach LOS		D			D			D			D	

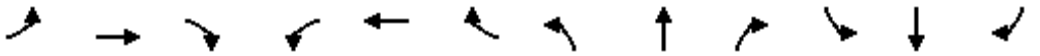
Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	108.3	Sum of lost time (s)	21.6
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	147	370	164	13	4	212	783	104	3	695	95
Future Volume (vph)	221	147	370	164	13	4	212	783	104	3	695	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9		5.3	4.9	4.9
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3502	1900	2760	1770	1801		3400	3516		1805	3539	1595
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3502	1900	2760	1770	1801		3400	3516		1805	3539	1595
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	243	162	407	180	14	4	233	860	114	3	764	104
RTOR Reduction (vph)	0	0	261	0	4	0	0	6	0	0	0	69
Lane Group Flow (vph)	243	162	146	180	14	0	233	968	0	3	764	35
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	25.0	20.3	34.3	14.3	9.6		8.7	40.6		0.6	32.5	32.5
Effective Green, g (s)	25.0	20.3	34.3	14.3	9.6		8.7	40.6		0.6	32.5	32.5
Actuated g/C Ratio	0.26	0.21	0.36	0.15	0.10		0.09	0.43		0.01	0.34	0.34
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9		5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	918	404	993	265	181		310	1497		11	1206	543
v/s Ratio Prot	0.07	c0.09	0.05	c0.10	0.01		c0.07	c0.28		0.00	0.22	
v/s Ratio Perm												0.02
v/c Ratio	0.26	0.40	0.15	0.68	0.08		0.75	0.65		0.27	0.63	0.07
Uniform Delay, d1	27.9	32.3	20.6	38.3	38.8		42.2	21.7		47.1	26.4	21.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.9	0.1	5.4	0.1		8.8	1.1		4.8	1.2	0.1
Delay (s)	27.9	33.2	20.7	43.7	38.9		51.0	22.7		52.0	27.6	21.2
Level of Service	C	C	C	D	D		D	C		D	C	C
Approach Delay (s)		25.4			43.2			28.2			26.9	
Approach LOS		C			D			C			C	

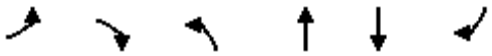
Intersection Summary					
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.62				
Actuated Cycle Length (s)	95.3	Sum of lost time (s)	19.5		
Intersection Capacity Utilization	63.6%	ICU Level of Service	B		
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	314	2	519	0	589	0	0	875	404
Future Volume (vph)	0	0	0	314	2	519	0	589	0	0	875	404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		1.00			0.95	1.00
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1715	1720	2814		1900			3539	1599
Flt Permitted				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1715	1720	2814		1900			3539	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	331	2	546	0	620	0	0	921	425
RTOR Reduction (vph)	0	0	0	0	0	152	0	0	0	0	0	183
Lane Group Flow (vph)	0	0	0	165	168	394	0	620	0	0	921	242
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%	2%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				11.6	11.6	19.5		18.8			26.7	26.7
Effective Green, g (s)				11.6	11.6	19.5		18.8			26.7	26.7
Actuated g/C Ratio				0.25	0.25	0.42		0.40			0.57	0.57
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				425	426	1172		763			2019	912
v/s Ratio Prot				0.10	c0.10	0.14		c0.33			c0.26	
v/s Ratio Perm												0.15
v/c Ratio				0.39	0.39	0.34		0.81			0.46	0.27
Uniform Delay, d1				14.6	14.7	9.3		12.4			5.8	5.1
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				0.8	0.8	0.2		6.9			0.1	0.1
Delay (s)				15.5	15.5	9.5		19.4			6.0	5.2
Level of Service				B	B	A		B			A	A
Approach Delay (s)		0.0			11.8			19.4			5.7	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	46.8	Sum of lost time (s)	12.2
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



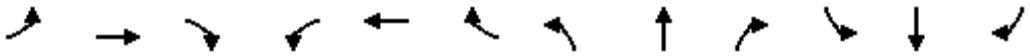
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	517	257	0	928	928	0
Future Volume (vph)	517	257	0	928	928	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3502	2787		3610	3430	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3502	2787		3610	3430	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	568	282	0	1020	1020	0
RTOR Reduction (vph)	0	111	0	0	0	0
Lane Group Flow (vph)	568	171	0	1020	1020	0
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%
Parking (#/hr)					0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	10.3	10.3		17.8	17.8	
Effective Green, g (s)	10.3	10.3		17.8	17.8	
Actuated g/C Ratio	0.29	0.29		0.49	0.49	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	999	795		1780	1691	
v/s Ratio Prot	c0.16			0.28	c0.30	
v/s Ratio Perm		0.06				
v/c Ratio	0.57	0.21		0.57	0.60	
Uniform Delay, d1	11.0	9.8		6.5	6.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.0		0.3	0.4	
Delay (s)	11.4	9.9		6.7	7.0	
Level of Service	B	A		A	A	
Approach Delay (s)	10.9			6.7	7.0	
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	0.59		
Actuated Cycle Length (s)	36.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.1%	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												
Traffic Volume (vph)	597	197	299	22	118	195	41	157	102	118	102	0
Future Volume (vph)	597	197	299	22	118	195	41	157	102	118	102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1900	1599	1805	1863	1568	1805	3306		1736	3396	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1900	1599	1805	1863	1568	1805	3306		1736	3396	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	628	207	315	23	124	205	43	165	107	124	107	0
RTOR Reduction (vph)	0	0	234	0	0	144	0	72	0	0	0	0
Lane Group Flow (vph)	628	207	81	23	124	61	43	200	0	124	107	0
Confl. Peds. (#/hr)									2			
Heavy Vehicles (%)	2%	0%	1%	0%	2%	3%	0%	3%	0%	4%	1%	1%
Parking (#/hr)											0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	26.9	26.9	26.9	14.3	14.3	31.0	5.4	34.3		11.8	41.2	
Effective Green, g (s)	26.9	26.9	26.9	14.3	14.3	31.0	5.4	34.3		11.8	41.2	
Actuated g/C Ratio	0.26	0.26	0.26	0.14	0.14	0.30	0.05	0.33		0.11	0.39	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	879	486	409	245	253	462	92	1079		195	1332	
v/s Ratio Prot	c0.18	0.11		0.01	c0.07	0.04	0.02	c0.06		c0.07	0.03	
v/s Ratio Perm			0.05									
v/c Ratio	0.71	0.43	0.20	0.09	0.49	0.13	0.47	0.19		0.64	0.08	
Uniform Delay, d1	35.6	32.6	30.6	39.7	42.0	27.1	48.4	25.3		44.5	20.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.49	0.87	
Incremental Delay, d2	2.8	0.6	0.2	0.2	1.5	0.1	3.7	0.4		6.6	0.1	
Delay (s)	38.3	33.2	30.8	39.8	43.5	27.3	52.1	25.7		28.6	17.5	
Level of Service	D	C	C	D	D	C	D	C		C	B	
Approach Delay (s)		35.4			33.8			29.3			23.5	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



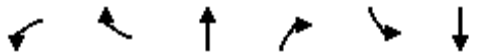
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	43	2	162	0	741	0	0	242	0
Future Volume (vph)	0	0	0	43	2	162	0	741	0	0	242	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1715	1726	2814		3539			4893	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1715	1726	2814		3539			4893	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	47	2	178	0	814	0	0	266	0
RTOR Reduction (vph)	0	0	0	0	0	150	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	24	25	28	0	814	0	0	266	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	3%	0%	6%	2%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				7.1	7.1	16.6		80.1			88.6	
Effective Green, g (s)				7.1	7.1	16.6		80.1			88.6	
Actuated g/C Ratio				0.07	0.07	0.16		0.76			0.84	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				115	116	444		2699			4128	
v/s Ratio Prot				0.01	c0.01	c0.01		c0.23			0.05	
v/s Ratio Perm												
v/c Ratio				0.21	0.22	0.06		0.30			0.06	
Uniform Delay, d1				46.3	46.3	37.6		3.8			1.4	
Progression Factor				1.00	1.00	1.00		0.93			0.19	
Incremental Delay, d2				0.9	0.9	0.1		0.2			0.0	
Delay (s)				47.2	47.3	37.6		3.8			0.3	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			39.7			3.8			0.3	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	7	99	860	11	1	153	0	710	0	1	0
Future Volume (vph)	0	7	99	860	11	1	153	0	710	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	1.00	1.00		1.00	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	1.00		1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	1900	1615		1752	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	1900	1615		1752	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	8	109	945	12	1	168	0	780	0	1	0
RTOR Reduction (vph)	0	0	81	0	0	0	0	0	328	0	0	0
Lane Group Flow (vph)	0	8	28	945	12	1	0	168	452	0	1	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		27.0	27.0	37.5	70.5	70.5		19.1	60.8		1.2	
Effective Green, g (s)		27.0	27.0	37.5	70.5	70.5		19.1	60.8		1.2	
Actuated g/C Ratio		0.26	0.26	0.36	0.67	0.67		0.18	0.58		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		814	398	1238	1275	1084		318	1629		21	
v/s Ratio Prot		0.00		c0.27	0.01			c0.10	0.16		c0.00	
v/s Ratio Perm			c0.02			0.00						
v/c Ratio		0.01	0.07	0.76	0.01	0.00		0.53	0.28		0.05	
Uniform Delay, d1		29.0	29.5	29.8	5.7	5.7		38.9	11.1		51.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.03	12.25		1.00	
Incremental Delay, d2		0.0	0.1	4.5	0.0	0.0		1.5	0.1		0.9	
Delay (s)		29.0	29.6	34.3	5.7	5.7		41.4	135.9		52.3	
Level of Service		C	C	C	A	A		D	F		D	
Approach Delay (s)		29.5			33.9			119.1			52.3	
Approach LOS		C			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	73.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



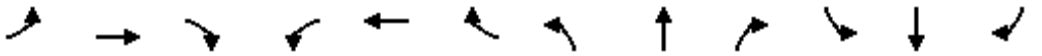
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	45	22	2	27	16	0
Future Volume (Veh/h)	45	22	2	27	16	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	59	29	3	36	21	0
Pedestrians	3		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	67	24			42	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	67	24			42	
tC, single (s)	6.4	6.2			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	94	97			99	
cM capacity (veh/h)	917	1044			1532	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	59	29	39	21
Volume Left	59	0	0	21
Volume Right	0	29	36	0
cSH	917	1044	1700	1532
Volume to Capacity	0.06	0.03	0.02	0.01
Queue Length 95th (ft)	5	2	0	1
Control Delay (s)	9.2	8.5	0.0	7.4
Lane LOS	A	A		A
Approach Delay (s)	9.0		0.0	7.4
Approach LOS	A			

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	312	612	257	146	139	333	343	121	121	243	14
Future Volume (vph)	10	312	612	257	146	139	333	343	121	121	243	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	2778	5090	3260		3433	3610	1583	1736	3610	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3610	2778	5090	3260		3433	3610	1583	1736	3610	1615
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)	11	339	665	279	159	151	362	373	132	132	264	15
RTOR Reduction (vph)	0	0	475	0	91	0	0	0	106	0	0	12
Lane Group Flow (vph)	11	339	190	279	219	0	362	373	26	132	264	3
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	0%	0%	1%	0%	1%	3%	2%	0%	2%	4%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.3	22.0	22.0	10.0	30.7		12.9	15.1	15.1	11.4	14.0	14.0
Effective Green, g (s)	1.3	22.0	22.0	10.0	30.7		12.9	15.1	15.1	11.4	14.0	14.0
Actuated g/C Ratio	0.02	0.29	0.29	0.13	0.40		0.17	0.20	0.20	0.15	0.18	0.18
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	30	1030	792	660	1298		574	707	310	256	655	293
v/s Ratio Prot	0.01	c0.09		c0.05	0.07		c0.11	c0.10		0.08	0.07	
v/s Ratio Perm			0.07						0.02			0.00
v/c Ratio	0.37	0.33	0.24	0.42	0.17		0.63	0.53	0.08	0.52	0.40	0.01
Uniform Delay, d1	37.5	21.7	21.1	30.9	15.0		29.9	27.8	25.3	30.3	27.9	25.9
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	2.8	0.2	0.2	0.2	0.1		1.7	0.7	0.1	0.7	0.4	0.0
Delay (s)	40.2	21.9	21.3	31.1	15.0		31.5	28.5	25.5	31.0	28.3	25.9
Level of Service	D	C	C	C	B		C	C	C	C	C	C
Approach Delay (s)		21.7			22.6			29.3			29.1	
Approach LOS		C			C			C			C	

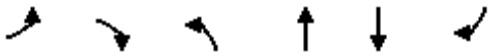
Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	18.6
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1030	0	301	0	585	0	0	763	374
Future Volume (vph)	0	0	0	1030	0	301	0	585	0	0	763	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3335		1599		3574			3574	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3335		1599		3574			3574	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	0	0	0	1108	0	324	0	629	0	0	820	407
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	0	261
Lane Group Flow (vph)	0	0	0	1108	0	290	0	629	0	0	820	146
Heavy Vehicles (%)	2%	2%	2%	5%	2%	1%	2%	1%	2%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				33.6		42.3		15.2			24.5	24.5
Effective Green, g (s)				33.6		42.3		15.2			24.5	24.5
Actuated g/C Ratio				0.49		0.62		0.22			0.36	0.36
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1635		987		793			1278	666
v/s Ratio Prot				c0.33		0.18		c0.18			c0.23	
v/s Ratio Perm												0.08
v/c Ratio				0.68		0.29		0.79			0.64	0.22
Uniform Delay, d1				13.3		6.1		25.2			18.3	15.3
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				0.9		0.1		5.1			0.8	0.1
Delay (s)				14.2		6.2		30.3			19.2	15.4
Level of Service				B		A		C			B	B
Approach Delay (s)		0.0			12.4			30.3			17.9	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	15.7
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

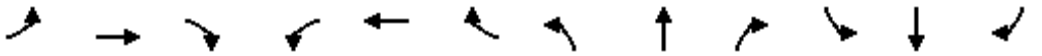


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	189	470	0	1165	1497	0
Future Volume (vph)	189	470	0	1165	1497	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	2733		3539	3505	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	2733		3539	3505	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	193	480	0	1189	1528	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	193	479	0	1189	1528	0
Heavy Vehicles (%)	1%	4%	0%	2%	3%	1%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	7.9	29.5		72.7	50.1	
Effective Green, g (s)	7.9	23.7		72.7	50.1	
Actuated g/C Ratio	0.09	0.26		0.80	0.55	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	300	711		2824	1927	
v/s Ratio Prot	0.06	c0.18		0.34	c0.44	
v/s Ratio Perm						
v/c Ratio	0.64	0.67		0.42	0.79	
Uniform Delay, d1	40.2	30.2		2.8	16.4	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	2.0		0.0	2.2	
Delay (s)	43.8	32.2		2.8	18.5	
Level of Service	D	C		A	B	
Approach Delay (s)	35.5			2.8	18.5	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	91.1	Sum of lost time (s)	17.3
Intersection Capacity Utilization	67.4%	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												
Traffic Volume (vph)	2	843	119	295	424	0	114	2	365	6	1	2
Future Volume (vph)	2	843	119	295	424	0	114	2	365	6	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.97	
Satd. Flow (prot)	1805	3495		1787	3539		1681	1689	1565		1784	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3495		1787	3539		1681	1689	1565		1843	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	887	125	311	446	0	120	2	384	6	1	2
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	349	0	2	0
Lane Group Flow (vph)	2	1006	0	311	446	0	61	61	35	0	7	0
Confl. Peds. (#/hr)			8			3			6			
Confl. Bikes (#/hr)			3			4						
Heavy Vehicles (%)	0%	1%	0%	1%	2%	0%	2%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.1	72.2		27.0	98.1		11.7	11.7	11.7		1.6	
Effective Green, g (s)	1.1	72.2		27.0	98.1		11.7	11.7	11.7		1.6	
Actuated g/C Ratio	0.01	0.56		0.21	0.75		0.09	0.09	0.09		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	15	1941		371	2670		151	152	140		22	
v/s Ratio Prot	0.00	c0.29		c0.17	0.13		c0.04	0.04				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.13	0.52		0.84	0.17		0.40	0.40	0.25		0.32	
Uniform Delay, d1	64.0	18.0		49.4	4.5		55.9	55.8	55.0		63.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.5	1.0		14.5	0.1		0.6	0.6	0.3		3.0	
Delay (s)	65.4	19.0		64.0	4.6		56.5	56.5	55.4		66.7	
Level of Service	E	B		E	A		E	E	E		E	
Approach Delay (s)		19.1			29.0			55.7			66.7	
Approach LOS		B			C			E			E	

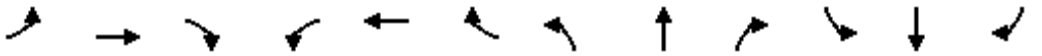
Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	362	124	334	675	89	157	663	157	19	420	77
Future Volume (vph)	128	362	124	334	675	89	157	663	157	19	420	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	4988	2564	3467	4899		4802	3539	2738	3099	5085	1489
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	4988	2564	3467	4899		4802	3539	2738	3099	5085	1489
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	138	389	133	359	726	96	169	713	169	20	452	83
RTOR Reduction (vph)	0	0	102	0	13	0	0	0	111	0	0	61
Lane Group Flow (vph)	138	389	31	359	809	0	169	713	58	20	452	22
Confl. Peds. (#/hr)			8			14			7			2
Heavy Vehicles (%)	3%	4%	9%	1%	4%	2%	6%	2%	2%	13%	2%	7%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	8.6	20.1	20.1	14.0	25.5		8.2	29.5	29.5	1.8	23.1	23.1
Effective Green, g (s)	8.6	20.1	20.1	14.0	25.5		8.2	29.5	29.5	1.8	23.1	23.1
Actuated g/C Ratio	0.10	0.24	0.24	0.16	0.30		0.10	0.35	0.35	0.02	0.27	0.27
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	342	1173	603	568	1462		461	1222	945	65	1375	402
v/s Ratio Prot	0.04	0.08		c0.10	c0.17		c0.04	c0.20		0.01	0.09	
v/s Ratio Perm			0.01						0.02			0.02
v/c Ratio	0.40	0.33	0.05	0.63	0.55		0.37	0.58	0.06	0.31	0.33	0.06
Uniform Delay, d1	36.0	27.1	25.3	33.3	25.2		36.2	22.9	18.7	41.2	24.9	23.1
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	0.3	0.2	0.0	1.7	0.5		0.2	0.8	0.0	1.0	0.2	0.1
Delay (s)	36.3	27.3	25.3	35.0	25.7		36.3	23.7	18.7	42.2	25.1	23.1
Level of Service	D	C	C	C	C		D	C	B	D	C	C
Approach Delay (s)		28.8			28.5			24.9			25.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	85.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

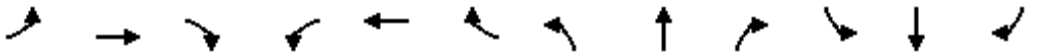
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	183	130	613	759	44	221	488	397	56	996	96
Future Volume (vph)	106	183	130	613	759	44	221	488	397	56	996	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.95	0.88	0.94	0.95		0.94	0.95	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3374	2760	4990	3479		4894	3471	1563	3072	6408	2733
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3374	2760	4990	3479		4894	3471	1563	3072	6408	2733
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	113	195	138	652	807	47	235	519	422	60	1060	102
RTOR Reduction (vph)	0	0	108	0	3	0	0	0	280	0	0	72
Lane Group Flow (vph)	113	195	30	652	851	0	235	519	142	60	1060	30
Confl. Peds. (#/hr)						4			1			
Heavy Vehicles (%)	3%	7%	3%	2%	3%	0%	4%	4%	2%	14%	2%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	7.9	22.2	22.2	17.5	31.8		9.5	33.9	33.9	5.4	29.8	29.8
Effective Green, g (s)	7.9	22.2	22.2	17.5	31.8		9.5	33.9	33.9	5.4	29.8	29.8
Actuated g/C Ratio	0.08	0.22	0.22	0.17	0.32		0.09	0.34	0.34	0.05	0.30	0.30
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	266	744	609	868	1099		462	1169	526	164	1898	809
v/s Ratio Prot	0.03	0.06		c0.13	c0.24		c0.05	c0.15		0.02	c0.17	
v/s Ratio Perm			0.01						0.09			0.01
v/c Ratio	0.42	0.26	0.05	0.75	0.77		0.51	0.44	0.27	0.37	0.56	0.04
Uniform Delay, d1	44.2	32.4	30.9	39.5	31.2		43.3	26.0	24.3	45.9	29.9	25.2
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	0.4	0.2	0.0	3.3	3.5		0.3	0.4	0.4	0.5	0.4	0.0
Delay (s)	44.6	32.6	30.9	42.8	34.6		43.7	26.4	24.7	46.5	30.3	25.2
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		35.1			38.1			29.2			30.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.6	Sum of lost time (s)	21.6
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

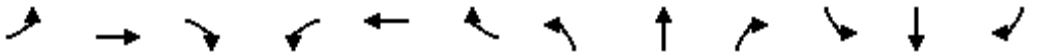
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	29	156	45	1114	100	499	492	413	32	1013	161
Future Volume (vph)	68	29	156	45	1114	100	499	492	413	32	1013	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9		5.3	4.9	4.9
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1900	2608	1770	1840		3367	3291		1805	3574	1579
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1900	2608	1770	1840		3367	3291		1805	3574	1579
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	31	164	47	1173	105	525	518	435	34	1066	169
RTOR Reduction (vph)	0	0	89	0	3	0	0	127	0	0	0	94
Lane Group Flow (vph)	72	31	75	47	1275	0	525	826	0	34	1066	75
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	2%	0%	9%	2%	2%	2%	4%	4%	0%	0%	1%	1%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	5.2	30.5	49.4	5.6	30.9		13.6	48.5		4.4	39.3	39.3
Effective Green, g (s)	5.2	30.5	49.4	5.6	30.9		13.6	48.5		4.4	39.3	39.3
Actuated g/C Ratio	0.05	0.28	0.46	0.05	0.28		0.13	0.45		0.04	0.36	0.36
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9		5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	164	534	1187	91	524		422	1471		73	1294	571
v/s Ratio Prot	0.02	0.02	0.03	c0.03	c0.69		c0.16	0.25		0.02	c0.30	
v/s Ratio Perm												0.05
v/c Ratio	0.44	0.06	0.06	0.52	2.43		1.24	0.56		0.47	0.82	0.13
Uniform Delay, d1	50.2	28.5	16.6	50.1	38.8		47.5	22.2		50.9	31.5	23.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.1	0.0	2.1	650.8		128.4	0.6		1.7	4.6	0.1
Delay (s)	50.9	28.6	16.6	52.2	689.6		175.9	22.8		52.6	36.1	23.3
Level of Service	D	C	B	D	F		F	C		D	D	C
Approach Delay (s)		27.2			667.0			77.1			34.8	
Approach LOS		C			F			E			C	

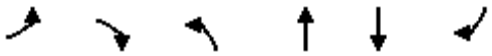
Intersection Summary					
HCM 2000 Control Delay	241.8	HCM 2000 Level of Service	F		
HCM 2000 Volume to Capacity ratio	1.43				
Actuated Cycle Length (s)	108.5	Sum of lost time (s)	19.5		
Intersection Capacity Utilization	118.9%	ICU Level of Service	H		
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	246	62	654	0	403	0	0	594	502
Future Volume (vph)	0	0	0	246	62	654	0	403	0	0	594	502
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		1.00			0.95	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1633	1688	2760		1845			3505	1599
Flt Permitted				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1633	1688	2760		1845			3505	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	254	64	674	0	415	0	0	612	518
RTOR Reduction (vph)	0	0	0	0	0	389	0	0	0	0	0	227
Lane Group Flow (vph)	0	0	0	157	161	285	0	415	0	0	612	291
Heavy Vehicles (%)	0%	0%	0%	5%	2%	3%	0%	3%	20%	0%	3%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				9.9	9.9	17.7		15.7			23.5	23.5
Effective Green, g (s)				9.9	9.9	17.7		15.7			23.5	23.5
Actuated g/C Ratio				0.24	0.24	0.42		0.37			0.56	0.56
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				385	398	1165		691			1965	896
v/s Ratio Prot				c0.10	0.10	0.10		c0.22			0.17	
v/s Ratio Perm												c0.18
v/c Ratio				0.41	0.40	0.24		0.60			0.31	0.32
Uniform Delay, d1				13.5	13.5	7.8		10.6			4.9	4.9
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				1.0	0.9	0.1		1.7			0.1	0.2
Delay (s)				14.5	14.4	7.9		12.3			5.0	5.1
Level of Service				B	B	A		B			A	A
Approach Delay (s)		0.0			10.0			12.3			5.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	41.9	Sum of lost time (s)	12.2
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	288	480	0	502	592	0
Future Volume (vph)	288	480	0	502	592	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3367	2409		3223	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3367	2409		3223	3406	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	310	516	0	540	637	0
RTOR Reduction (vph)	0	312	0	0	0	0
Lane Group Flow (vph)	310	204	0	540	637	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	4%	18%	0%	12%	6%	2%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.1	6.1		11.0	11.0	
Effective Green, g (s)	6.1	6.1		11.0	11.0	
Actuated g/C Ratio	0.24	0.24		0.44	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	818	585		1412	1492	
v/s Ratio Prot	c0.09			0.17	c0.19	
v/s Ratio Perm		0.08				
v/c Ratio	0.38	0.35		0.38	0.43	
Uniform Delay, d1	7.9	7.9		4.8	4.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.1	0.1	
Delay (s)	8.0	8.0		4.8	4.9	
Level of Service	A	A		A	A	
Approach Delay (s)	8.0			4.8	4.9	
Approach LOS	A			A	A	

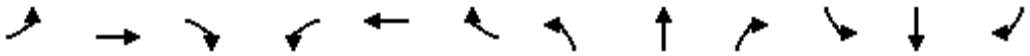
Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	25.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	727	235	151	14	53	102	19	580	178	67	103	0
Future Volume (vph)	727	235	151	14	53	102	19	580	178	67	103	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1827	1538	1687	1681	1599	1719	3328		1719	3438	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1827	1538	1687	1681	1599	1719	3328		1719	3438	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	808	261	168	16	59	113	21	644	198	74	114	0
RTOR Reduction (vph)	0	0	121	0	0	44	0	27	0	0	0	0
Lane Group Flow (vph)	808	261	47	16	59	69	21	815	0	74	114	0
Confl. Peds. (#/hr)									4			
Heavy Vehicles (%)	2%	4%	5%	7%	13%	1%	5%	4%	4%	5%	5%	3%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	29.4	29.4	29.4	14.0	14.0	28.2	3.2	34.6		9.3	41.2	
Effective Green, g (s)	29.4	29.4	29.4	14.0	14.0	28.2	3.2	34.6		9.3	41.2	
Actuated g/C Ratio	0.28	0.28	0.28	0.13	0.13	0.27	0.03	0.33		0.09	0.39	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	961	511	430	224	224	429	52	1096		152	1349	
v/s Ratio Prot	c0.24	0.14		0.01	c0.04	0.04	0.01	c0.24		c0.04	0.03	
v/s Ratio Perm			0.03									
v/c Ratio	0.84	0.51	0.11	0.07	0.26	0.16	0.40	0.74		0.49	0.08	
Uniform Delay, d1	35.6	31.8	28.1	39.8	40.9	29.4	50.0	31.3		45.6	20.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.51	1.00	
Incremental Delay, d2	6.7	0.9	0.1	0.1	0.6	0.2	5.1	4.6		2.4	0.1	
Delay (s)	42.3	32.6	28.2	39.9	41.5	29.5	55.0	35.8		25.7	20.1	
Level of Service	D	C	C	D	D	C	E	D		C	C	
Approach Delay (s)		38.4			34.2			36.3			22.3	
Approach LOS		D			C			D			C	

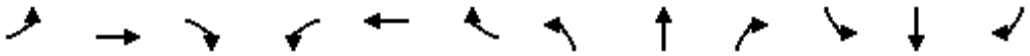
Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	49	5	446	0	1275	0	0	231	0
Future Volume (vph)	0	0	0	49	5	446	0	1275	0	0	231	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1681	1646	2632		3539			4988	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1681	1646	2632		3539			4988	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	57	6	519	0	1483	0	0	269	0
RTOR Reduction (vph)	0	0	0	0	0	68	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	32	451	0	1483	0	0	269	0
Heavy Vehicles (%)	0%	0%	0%	2%	20%	8%	0%	2%	6%	0%	4%	3%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				16.4	16.4	27.9		68.8			79.3	
Effective Green, g (s)				16.4	16.4	27.9		68.8			79.3	
Actuated g/C Ratio				0.16	0.16	0.27		0.66			0.76	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				262	257	699		2318			3767	
v/s Ratio Prot				0.02	0.02	c0.17		c0.42			0.05	
v/s Ratio Perm												
v/c Ratio				0.12	0.12	0.65		0.64			0.07	
Uniform Delay, d1				38.1	38.1	34.2		10.7			3.3	
Progression Factor				1.00	1.00	1.00		1.37			0.25	
Incremental Delay, d2				0.2	0.2	2.1		0.9			0.0	
Delay (s)				38.3	38.3	36.2		15.6			0.9	
Level of Service				D	D	D		B			A	
Approach Delay (s)		0.0			36.5			15.6			0.9	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	65	67	278	443	0	829	0	871	0	0	0
Future Volume (vph)	0	65	67	278	443	0	829	0	871	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	1.00			1.00	0.88			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	1900			1787	2787			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	1900			1787	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	77	80	331	527	0	987	0	1037	0	0	0
RTOR Reduction (vph)	0	0	65	0	0	0	0	0	228	0	0	0
Lane Group Flow (vph)	0	77	15	331	527	0	0	987	809	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		19.2	19.2	28.8	54.0			40.8	73.8			
Effective Green, g (s)		19.2	19.2	28.8	54.0			40.8	73.8			
Actuated g/C Ratio		0.18	0.18	0.27	0.51			0.39	0.70			
Clearance Time (s)		6.0	6.0	6.0	6.0			4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		605	268	923	977			694	1958			
v/s Ratio Prot		0.02		0.10	c0.28			c0.55	0.29			
v/s Ratio Perm			0.01									
v/c Ratio		0.13	0.05	0.36	0.54			1.42	0.41			
Uniform Delay, d1		35.9	35.4	30.7	17.1			32.1	6.5			
Progression Factor		1.00	1.00	1.00	1.00			1.17	4.09			
Incremental Delay, d2		0.1	0.1	1.1	2.1			196.6	0.1			
Delay (s)		36.0	35.5	31.8	19.3			234.0	26.8			
Level of Service		D	D	C	B			F	C			
Approach Delay (s)		35.7			24.1			127.9			0.0	
Approach LOS		D			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	93.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

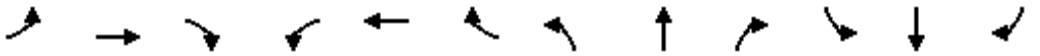
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	103	0	21	1128	27	0	0	19	16	0	0
Future Volume (vph)	1	103	0	21	1128	27	0	0	19	16	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.86			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	
Satd. Flow (prot)	1770	3539		1798	3525			1339			1608	
Flt Permitted	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (perm)	1770	3539		1798	3525			1339			1693	
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.92	0.83	0.92	0.83	0.83	0.83	0.83	0.92
Adj. Flow (vph)	1	112	0	25	1226	33	0	0	23	19	0	0
RTOR Reduction (vph)	0	0	0	0	1	0	0	21	0	0	0	0
Lane Group Flow (vph)	1	112	0	25	1258	0	0	2	0	0	19	0
Confl. Peds. (#/hr)				3		1			3	3		
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	0%	21%	12%	0%	2%
Turn Type	Prot	NA		Prot	NA			NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.4	38.7		0.5	38.8			3.9			3.9	
Effective Green, g (s)	0.4	38.7		0.5	38.8			3.9			3.9	
Actuated g/C Ratio	0.01	0.70		0.01	0.70			0.07			0.07	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	12	2485		16	2482			94			119	
v/s Ratio Prot	0.00	0.03		c0.01	c0.36			0.00				
v/s Ratio Perm											c0.01	
v/c Ratio	0.08	0.05		1.56	0.51			0.02			0.16	
Uniform Delay, d1	27.2	2.5		27.3	3.7			23.8			24.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.0	0.0		435.0	0.2			0.1			0.6	
Delay (s)	30.1	2.5		462.3	3.9			23.9			24.7	
Level of Service	C	A		F	A			C			C	
Approach Delay (s)		2.8			12.8			23.9			24.7	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

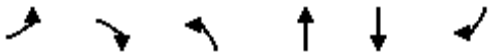
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	154	246	436	531	166	599	498	44	44	142	0
Future Volume (vph)	5	154	246	436	531	166	599	498	44	44	142	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3574	2779	4990	3454		3433	3574	1482	1656	3610	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	3574	2779	4990	3454		3433	3574	1482	1656	3610	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	7	205	328	581	708	221	799	664	59	59	189	0
RTOR Reduction (vph)	0	0	250	0	20	0	0	0	41	0	0	0
Lane Group Flow (vph)	7	205	78	581	909	0	799	664	18	59	189	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	1%	2%	0%	2%	2%	1%	9%	9%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.2	21.5	21.5	14.9	35.2		20.8	28.0	28.0	7.8	15.4	
Effective Green, g (s)	1.2	21.5	21.5	14.9	35.2		20.8	28.0	28.0	7.8	15.4	
Actuated g/C Ratio	0.01	0.24	0.24	0.16	0.39		0.23	0.31	0.31	0.09	0.17	
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	23	846	658	818	1338		786	1102	457	142	612	
v/s Ratio Prot	0.00	0.06		c0.12	c0.26		c0.23	c0.19		0.04	0.05	
v/s Ratio Perm			0.03						0.01			
v/c Ratio	0.30	0.24	0.12	0.71	0.68		1.02	0.60	0.04	0.42	0.31	
Uniform Delay, d1	44.4	28.1	27.2	35.9	23.1		35.0	26.7	22.0	39.3	33.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.7	0.1	0.1	2.4	1.4		36.3	0.9	0.0	0.7	0.3	
Delay (s)	47.1	28.2	27.3	38.3	24.5		71.3	27.6	22.0	40.1	33.3	
Level of Service	D	C	C	D	C		E	C	C	D	C	
Approach Delay (s)		27.9			29.8			50.3			34.9	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	18.6
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1069	0	526	0	490	0	0	429	461
Future Volume (vph)	0	0	0	1069	0	526	0	490	0	0	429	461
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3242		1599		3539			3539	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3242		1599		3539			3539	1863
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	1304	0	641	0	598	0	0	523	562
RTOR Reduction (vph)	0	0	0	0	0	38	0	0	0	0	0	356
Lane Group Flow (vph)	0	0	0	1304	0	603	0	598	0	0	523	206
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	8%	0%	1%	0%	2%	6%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				35.2		45.4		15.6			26.4	26.4
Effective Green, g (s)				35.2		45.4		15.6			26.4	26.4
Actuated g/C Ratio				0.49		0.63		0.22			0.37	0.37
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1584		1008		766			1297	683
v/s Ratio Prot				c0.40		c0.38		c0.17			0.15	
v/s Ratio Perm												0.11
v/c Ratio				0.82		0.60		0.78			0.40	0.30
Uniform Delay, d1				15.7		7.9		26.6			16.9	16.2
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				3.4		0.6		4.8			0.1	0.1
Delay (s)				19.2		8.5		31.4			17.0	16.3
Level of Service				B		A		C			B	B
Approach Delay (s)		0.0			15.7			31.4			16.7	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

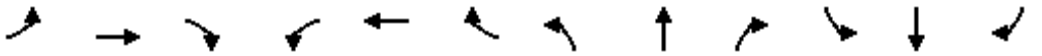


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	195	518	0	823	1348	0
Future Volume (vph)	195	518	0	823	1348	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	2632		3471	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	2632		3471	3406	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	219	582	0	925	1515	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	219	581	0	925	1515	0
Heavy Vehicles (%)	2%	8%	0%	4%	6%	6%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	8.8	34.7		77.1	50.2	
Effective Green, g (s)	8.8	28.9		77.1	50.2	
Actuated g/C Ratio	0.09	0.30		0.80	0.52	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	313	789		2776	1773	
v/s Ratio Prot	0.06	c0.22		0.27	c0.44	
v/s Ratio Perm						
v/c Ratio	0.70	0.74		0.33	0.85	
Uniform Delay, d1	42.5	30.3		2.6	19.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	3.1		0.0	4.1	
Delay (s)	48.0	33.4		2.7	24.0	
Level of Service	D	C		A	C	
Approach Delay (s)	37.4			2.7	24.0	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	96.4	Sum of lost time (s)	17.3
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	295	85	268	1115	3	158	0	206	1	0	3
Future Volume (vph)	6	295	85	268	1115	3	158	0	206	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1805	3363		1752	3535		1698	1698	1539		1653	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3363		1752	3535		1698	1698	1539		1674	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	324	93	295	1225	3	174	0	226	1	0	3
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	202	0	4	0
Lane Group Flow (vph)	7	402	0	295	1228	0	87	87	24	0	0	0
Confl. Peds. (#/hr)			4						5			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	0%	3%	2%	33%	1%	0%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.2	59.7		23.6	82.1		12.3	12.3	12.3		0.9	
Effective Green, g (s)	1.2	59.7		23.6	82.1		12.3	12.3	12.3		0.9	
Actuated g/C Ratio	0.01	0.52		0.21	0.72		0.11	0.11	0.11		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	19	1761		362	2545		183	183	166		13	
v/s Ratio Prot	0.00	0.12		c0.17	c0.35		c0.05	0.05				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.37	0.23		0.81	0.48		0.48	0.48	0.15		0.00	
Uniform Delay, d1	56.0	14.7		43.1	6.8		47.8	47.8	46.1		56.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.4	0.3		12.5	0.7		0.7	0.7	0.1		0.0	
Delay (s)	60.4	15.0		55.6	7.5		48.5	48.5	46.2		56.1	
Level of Service	E	B		E	A		D	D	D		E	
Approach Delay (s)		15.7			16.8			47.2			56.1	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	58	7	5	1089	27	1	0	0	56	0	177
Future Volume (vph)	54	58	7	5	1089	27	1	0	0	56	0	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00			1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00			1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95			0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770			1770	1583	
Flt Permitted	0.95	1.00	1.00	0.71	1.00	1.00	0.53			0.76	1.00	
Satd. Flow (perm)	1770	3539	1583	1330	3539	1583	980			1410	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)	59	63	8	5	1184	29	1	0	0	61	0	192
RTOR Reduction (vph)	0	0	2	0	0	13	0	0	0	0	141	0
Lane Group Flow (vph)	59	63	6	5	1184	16	1	0	0	61	51	0
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm			Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		
Actuated Green, G (s)	3.2	40.2	40.2	33.0	33.0	33.0	10.1			10.1	10.1	
Effective Green, g (s)	3.2	40.2	40.2	33.0	33.0	33.0	10.1			10.1	10.1	
Actuated g/C Ratio	0.05	0.69	0.69	0.57	0.57	0.57	0.17			0.17	0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	97	2440	1091	752	2003	896	169			244	274	
v/s Ratio Prot	c0.03	0.02			c0.33						0.03	
v/s Ratio Perm			0.00	0.00		0.01	0.00			c0.04		
v/c Ratio	0.61	0.03	0.01	0.01	0.59	0.02	0.01			0.25	0.19	
Uniform Delay, d1	26.9	2.9	2.8	5.5	8.3	5.5	19.9			20.8	20.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2	10.3	0.0	0.0	0.0	0.5	0.0	0.0			0.5	0.3	
Delay (s)	37.3	2.9	2.8	5.5	8.7	5.6	20.0			21.4	20.9	
Level of Service	D	A	A	A	A	A	B			C	C	
Approach Delay (s)		18.5			8.6			20.0			21.0	
Approach LOS		B			A			B			C	

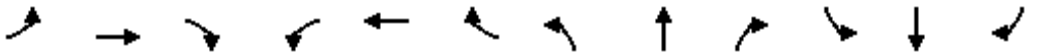
Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	449	454	173	1331	125	16
Future Volume (vph)	449	454	173	1331	125	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.92		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	4702		1770	5085	1757	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	4702		1770	5085	1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	488	493	188	1447	136	17
RTOR Reduction (vph)	265	0	0	0	10	0
Lane Group Flow (vph)	716	0	188	1447	143	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	17.6		6.2	27.8	9.2	
Effective Green, g (s)	17.6		6.2	27.8	9.2	
Actuated g/C Ratio	0.39		0.14	0.62	0.20	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1839		243	3141	359	
v/s Ratio Prot	0.15		c0.11	c0.28	c0.08	
v/s Ratio Perm						
v/c Ratio	0.39		0.77	0.46	0.40	
Uniform Delay, d1	9.8		18.7	4.6	15.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		14.2	0.1	0.7	
Delay (s)	10.0		32.9	4.7	16.2	
Level of Service	A		C	A	B	
Approach Delay (s)	10.0			7.9	16.2	
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	0.54		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

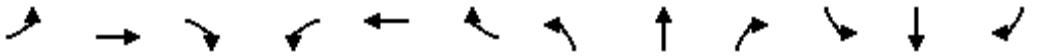
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1051	204	222	511	28	205	524	479	88	557	69
Future Volume (vph)	170	1051	204	222	511	28	205	524	479	88	557	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	5136	2751	3502	5082		5040	3610	2800	3502	5136	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	5136	2751	3502	5082		5040	3610	2800	3502	5136	1553
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)	185	1142	222	241	555	30	223	570	521	96	605	75
RTOR Reduction (vph)	0	0	141	0	4	0	0	0	380	0	0	56
Lane Group Flow (vph)	185	1142	81	241	581	0	223	570	141	96	605	19
Confl. Peds. (#/hr)			1			3			3			
Heavy Vehicles (%)	1%	1%	2%	0%	1%	5%	1%	0%	0%	0%	1%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	10.1	33.7	33.7	11.7	35.3		9.1	26.9	26.9	7.4	25.2	25.2
Effective Green, g (s)	10.1	33.7	33.7	11.7	35.3		9.1	26.9	26.9	7.4	25.2	25.2
Actuated g/C Ratio	0.10	0.34	0.34	0.12	0.35		0.09	0.27	0.27	0.07	0.25	0.25
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	351	1736	929	410	1799		460	974	755	259	1298	392
v/s Ratio Prot	0.05	c0.22		c0.07	0.11		c0.04	c0.16		0.03	0.12	
v/s Ratio Perm			0.03						0.05			0.01
v/c Ratio	0.53	0.66	0.09	0.59	0.32		0.48	0.59	0.19	0.37	0.47	0.05
Uniform Delay, d1	42.5	28.1	22.5	41.7	23.5		43.1	31.6	28.0	43.9	31.6	28.2
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	0.7	1.0	0.0	1.4	0.1		0.3	1.0	0.1	0.3	0.3	0.1
Delay (s)	43.2	29.0	22.6	43.1	23.6		43.4	32.5	28.1	44.3	31.9	28.2
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		29.8			29.3			32.6			33.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	99.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

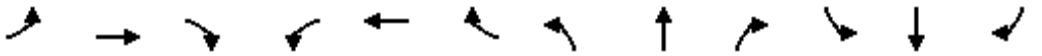
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	882	496	540	278	65	419	645	477	94	714	125
Future Volume (vph)	310	882	496	540	278	65	419	645	477	94	714	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.95	0.88	0.94	0.95		0.94	0.95	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3574	2814	5090	3443		5090	3610	1599	3502	6408	2774
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3574	2814	5090	3443		5090	3610	1599	3502	6408	2774
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	323	919	517	562	290	68	436	672	497	98	744	130
RTOR Reduction (vph)	0	0	301	0	14	0	0	0	304	0	0	101
Lane Group Flow (vph)	323	919	216	563	344	0	436	672	193	98	744	29
Confl. Peds. (#/hr)						1						2
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	0%	0%	1%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	14.8	35.2	35.2	16.5	36.9		14.2	31.3	31.3	7.7	24.8	24.8
Effective Green, g (s)	14.8	35.2	35.2	16.5	36.9		14.2	31.3	31.3	7.7	24.8	24.8
Actuated g/C Ratio	0.13	0.31	0.31	0.15	0.33		0.13	0.28	0.28	0.07	0.22	0.22
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	461	1120	882	747	1131		643	1006	445	240	1415	612
v/s Ratio Prot	0.09	c0.26		c0.11	0.10		c0.09	c0.19		0.03	0.12	
v/s Ratio Perm			0.08						0.12			0.01
v/c Ratio	0.70	0.82	0.25	0.75	0.30		0.68	0.67	0.43	0.41	0.53	0.05
Uniform Delay, d1	46.6	35.6	28.7	46.0	28.1		46.9	35.9	33.2	50.1	38.6	34.4
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	3.9	4.9	0.1	3.8	0.2		2.2	1.9	0.9	0.4	0.5	0.0
Delay (s)	50.5	40.6	28.8	49.8	28.3		49.1	37.8	34.1	50.5	39.0	34.5
Level of Service	D	D	C	D	C		D	D	C	D	D	C
Approach Delay (s)		38.9			41.4			39.7			39.6	
Approach LOS		D			D			D			D	

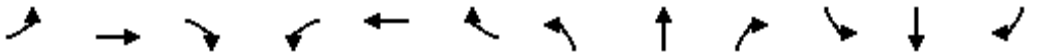
Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	112.3	Sum of lost time (s)	21.6
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	604	120	114	16	6	212	782	107	83	643	95
Future Volume (vph)	222	604	120	114	16	6	212	782	107	83	643	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9		5.3	4.9	4.9
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00		0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3502	1900	2760	1770	1785		3400	3514		1805	3539	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3502	1900	2760	1770	1785		3400	3514		1805	3539	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	244	664	132	125	18	7	233	859	118	91	707	104
RTOR Reduction (vph)	0	0	49	0	6	0	0	7	0	0	0	72
Lane Group Flow (vph)	244	664	83	125	19	0	233	970	0	91	707	32
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	32.6	31.9	45.7	11.8	11.1		8.5	36.6		4.0	32.1	32.1
Effective Green, g (s)	32.6	31.9	45.7	11.8	11.1		8.5	36.6		4.0	32.1	32.1
Actuated g/C Ratio	0.31	0.31	0.44	0.11	0.11		0.08	0.35		0.04	0.31	0.31
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9		5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	1099	583	1215	201	190		278	1239		69	1094	499
v/s Ratio Prot	0.07	c0.35	0.03	c0.07	0.01		c0.07	c0.28		0.05	0.20	
v/s Ratio Perm												0.02
v/c Ratio	0.22	1.14	0.07	0.62	0.10		0.84	0.78		1.32	0.65	0.06
Uniform Delay, d1	26.2	36.0	16.8	43.9	41.8		47.0	30.0		49.9	30.9	25.3
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	0.0	81.9	0.0	4.3	0.1		18.5	3.5		215.4	1.5	0.1
Delay (s)	26.3	117.8	16.8	48.1	41.9		65.5	33.5		265.3	32.4	25.3
Level of Service	C	F	B	D	D		E	C		F	C	C
Approach Delay (s)		83.5			47.1			39.7			55.1	
Approach LOS		F			D			D			E	

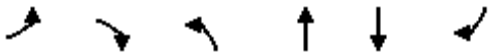
Intersection Summary			
HCM 2000 Control Delay	58.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	19.5
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	315	2	455	0	652	0	0	519	406
Future Volume (vph)	0	0	0	315	2	455	0	652	0	0	519	406
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		1.00			0.95	1.00
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1715	1720	2814		1900			3539	1599
Flt Permitted				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1715	1720	2814		1900			3539	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	332	2	479	0	686	0	0	546	427
RTOR Reduction (vph)	0	0	0	0	0	124	0	0	0	0	0	179
Lane Group Flow (vph)	0	0	0	166	168	355	0	686	0	0	546	248
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%	2%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				11.5	11.5	19.3		19.8			27.6	27.6
Effective Green, g (s)				11.5	11.5	19.3		19.8			27.6	27.6
Actuated g/C Ratio				0.24	0.24	0.41		0.42			0.58	0.58
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				414	415	1140		790			2052	927
v/s Ratio Prot				0.10	c0.10	c0.13		c0.36			0.15	
v/s Ratio Perm												0.15
v/c Ratio				0.40	0.40	0.31		0.87			0.27	0.27
Uniform Delay, d1				15.2	15.2	9.6		12.7			5.0	5.0
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				0.9	0.9	0.2		10.3			0.1	0.1
Delay (s)				16.0	16.1	9.8		23.0			5.0	5.1
Level of Service				B	B	A		C			A	A
Approach Delay (s)		0.0			12.4			23.0			5.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	47.6	Sum of lost time (s)	12.2
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

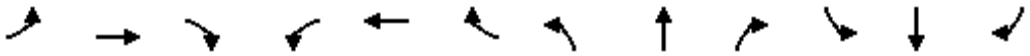


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	517	351	0	982	809	0
Future Volume (vph)	517	351	0	982	809	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3502	2787		3610	3430	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3502	2787		3610	3430	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	568	386	0	1079	889	0
RTOR Reduction (vph)	0	157	0	0	0	0
Lane Group Flow (vph)	568	229	0	1079	889	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%
Parking (#/hr)					0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	10.3	10.3		18.1	18.1	
Effective Green, g (s)	10.3	10.3		18.1	18.1	
Actuated g/C Ratio	0.28	0.28		0.50	0.50	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	990	788		1795	1705	
v/s Ratio Prot	c0.16			c0.30	0.26	
v/s Ratio Perm		0.08				
v/c Ratio	0.57	0.29		0.60	0.52	
Uniform Delay, d1	11.2	10.2		6.6	6.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.4	0.1	
Delay (s)	11.7	10.3		7.0	6.3	
Level of Service	B	B		A	A	
Approach Delay (s)	11.1			7.0	6.3	
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	0.59		
Actuated Cycle Length (s)	36.4	Sum of lost time (s)	8.0
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												
Traffic Volume (vph)	352	187	270	24	120	195	40	161	101	135	172	0
Future Volume (vph)	352	187	270	24	120	195	40	161	101	135	172	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1900	1599	1805	1863	1568	1805	3310		1736	3396	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1900	1599	1805	1863	1568	1805	3310		1736	3396	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	371	197	284	25	126	205	42	169	106	142	181	0
RTOR Reduction (vph)	0	0	230	0	0	143	0	65	0	0	0	0
Lane Group Flow (vph)	371	197	54	25	126	62	42	210	0	142	181	0
Confl. Peds. (#/hr)									2			
Heavy Vehicles (%)	2%	0%	1%	0%	2%	3%	0%	3%	0%	4%	1%	1%
Parking (#/hr)											0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	19.8	19.8	19.8	14.3	14.3	32.0	5.4	40.4		12.8	48.3	
Effective Green, g (s)	19.8	19.8	19.8	14.3	14.3	32.0	5.4	40.4		12.8	48.3	
Actuated g/C Ratio	0.19	0.19	0.19	0.14	0.14	0.30	0.05	0.38		0.12	0.46	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	647	358	301	245	253	477	92	1273		211	1562	
v/s Ratio Prot	c0.11	0.10		0.01	c0.07	0.04	0.02	c0.06		c0.08	0.05	
v/s Ratio Perm			0.03									
v/c Ratio	0.57	0.55	0.18	0.10	0.50	0.13	0.46	0.16		0.67	0.12	
Uniform Delay, d1	38.8	38.6	35.8	39.7	42.0	26.4	48.4	21.2		44.1	16.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.67	0.74	
Incremental Delay, d2	1.2	1.8	0.3	0.2	1.5	0.1	3.6	0.3		8.2	0.2	
Delay (s)	40.0	40.4	36.1	39.9	43.6	26.6	51.9	21.5		37.8	12.1	
Level of Service	D	D	D	D	D	C	D	C		D	B	
Approach Delay (s)		38.8			33.5			25.5			23.4	
Approach LOS		D			C			C			C	

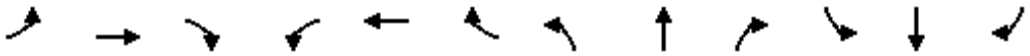
Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	42	2	190	0	508	0	0	436	0
Future Volume (vph)	0	0	0	42	2	190	0	508	0	0	436	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1715	1726	2814		3539			4893	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1715	1726	2814		3539			4893	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	46	2	209	0	558	0	0	479	0
RTOR Reduction (vph)	0	0	0	0	0	176	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	24	24	33	0	558	0	0	479	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	3%	0%	6%	2%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				7.1	7.1	16.6		80.1			88.6	
Effective Green, g (s)				7.1	7.1	16.6		80.1			88.6	
Actuated g/C Ratio				0.07	0.07	0.16		0.76			0.84	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				115	116	444		2699			4128	
v/s Ratio Prot				c0.01	0.01	0.01		c0.16			c0.10	
v/s Ratio Perm												
v/c Ratio				0.21	0.21	0.07		0.21			0.12	
Uniform Delay, d1				46.3	46.3	37.7		3.5			1.4	
Progression Factor				1.00	1.00	1.00		0.75			0.22	
Incremental Delay, d2				0.9	0.9	0.1		0.2			0.0	
Delay (s)				47.2	47.2	37.7		2.8			0.3	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			39.5			2.8			0.3	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		

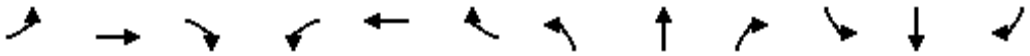
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	470	277	854	29	1	192	0	477	0	1	0
Future Volume (vph)	0	470	277	854	29	1	192	0	477	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	1.00	1.00		1.00	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	1.00		1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	1900	1615		1752	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	1900	1615		1752	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	516	304	938	32	1	211	0	524	0	1	0
RTOR Reduction (vph)	0	0	226	0	0	0	0	0	221	0	0	0
Lane Group Flow (vph)	0	516	78	938	32	1	0	211	303	0	1	0
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		27.0	27.0	36.8	69.8	69.8		19.8	60.8		1.2	
Effective Green, g (s)		27.0	27.0	36.8	69.8	69.8		19.8	60.8		1.2	
Actuated g/C Ratio		0.26	0.26	0.35	0.66	0.66		0.19	0.58		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		814	398	1215	1263	1073		330	1629		21	
v/s Ratio Prot		c0.16		c0.27	0.02			c0.12	0.11		c0.00	
v/s Ratio Perm			0.05			0.00						
v/c Ratio		0.63	0.20	0.77	0.03	0.00		0.64	0.19		0.05	
Uniform Delay, d1		34.6	30.5	30.4	6.0	5.9		39.3	10.4		51.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.05	4.63		1.00	
Incremental Delay, d2		1.6	0.2	4.8	0.0	0.0		4.0	0.1		0.9	
Delay (s)		36.2	30.8	35.2	6.0	5.9		45.1	48.4		52.3	
Level of Service		D	C	D	A	A		D	D		D	
Approach Delay (s)		34.2			34.2			47.4			52.3	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

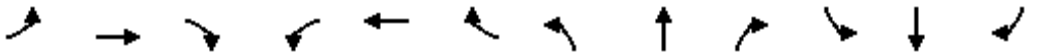
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	662	0	45	69	21	2	2	27	16	0	0
Future Volume (vph)	1	662	0	45	69	21	2	2	27	16	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.96			0.88			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	
Satd. Flow (prot)	1770	3539		1805	3405			1386			1609	
Flt Permitted	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (perm)	1770	3539		1805	3405			1360			1694	
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.92	0.83	0.92	0.83	0.83	0.83	0.83	0.92
Adj. Flow (vph)	1	720	0	54	75	25	2	2	33	19	0	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	30	0	0	0	0
Lane Group Flow (vph)	1	720	0	54	90	0	0	7	0	0	19	0
Confl. Peds. (#/hr)				3		1			3	3		
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	0%	21%	12%	0%	2%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.5	25.9		1.2	26.6			4.0			4.0	
Effective Green, g (s)	0.5	25.9		1.2	26.6			4.0			4.0	
Actuated g/C Ratio	0.01	0.60		0.03	0.62			0.09			0.09	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	20	2126		50	2101			126			157	
v/s Ratio Prot	0.00	c0.20		c0.03	0.03							
v/s Ratio Perm								0.01			c0.01	
v/c Ratio	0.05	0.34		1.08	0.04			0.06			0.12	
Uniform Delay, d1	21.1	4.3		20.9	3.2			17.8			17.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.0	0.1		151.5	0.0			0.2			0.3	
Delay (s)	22.1	4.4		172.4	3.3			18.0			18.3	
Level of Service	C	A		F	A			B			B	
Approach Delay (s)		4.4			62.6			18.0			18.3	
Approach LOS		A			E			B			B	

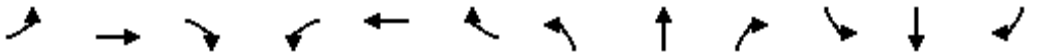
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	43.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



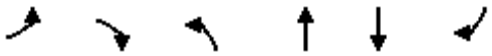
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	503	620	249	145	138	329	336	84	118	244	14
Future Volume (vph)	10	503	620	249	145	138	329	336	84	118	244	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	2814	5090	3260		3433	3610	1583	1736	3610	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3610	2814	5090	3260		3433	3610	1583	1736	3610	1615
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)	11	547	674	271	158	150	358	365	91	128	265	15
RTOR Reduction (vph)	0	0	454	0	85	0	0	0	74	0	0	12
Lane Group Flow (vph)	11	547	220	271	223	0	358	365	17	128	265	3
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	1%	0%	1%	3%	2%	0%	2%	4%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.4	26.9	26.9	10.0	35.5		13.2	15.3	15.3	11.5	14.0	14.0
Effective Green, g (s)	1.4	26.9	26.9	10.0	35.5		13.2	15.3	15.3	11.5	14.0	14.0
Actuated g/C Ratio	0.02	0.33	0.33	0.12	0.43		0.16	0.19	0.19	0.14	0.17	0.17
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	30	1179	919	618	1406		550	671	294	242	614	274
v/s Ratio Prot	0.01	c0.15		c0.05	0.07		c0.10	c0.10		0.07	0.07	
v/s Ratio Perm			0.08						0.01			0.00
v/c Ratio	0.37	0.46	0.24	0.44	0.16		0.65	0.54	0.06	0.53	0.43	0.01
Uniform Delay, d1	40.0	22.0	20.2	33.5	14.3		32.4	30.3	27.6	32.9	30.6	28.4
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	2.8	0.3	0.1	0.2	0.1		2.1	0.9	0.1	1.0	0.5	0.0
Delay (s)	42.8	22.3	20.4	33.7	14.3		34.5	31.2	27.6	33.8	31.1	28.4
Level of Service	D	C	C	C	B		C	C	C	C	C	C
Approach Delay (s)		21.4			23.4			32.3			31.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	82.3	Sum of lost time (s)	18.6
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1038	0	302	0	533	0	0	776	366
Future Volume (vph)	0	0	0	1038	0	302	0	533	0	0	776	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3335		1599		3574			3574	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3335		1599		3574			3574	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	0	0	0	1116	0	325	0	573	0	0	834	398
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	260
Lane Group Flow (vph)	0	0	0	1116	0	283	0	573	0	0	834	138
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	2%	2%	2%	5%	2%	1%	2%	1%	2%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				33.9		42.6		14.1			23.4	23.4
Effective Green, g (s)				33.9		42.6		14.1			23.4	23.4
Actuated g/C Ratio				0.50		0.63		0.21			0.35	0.35
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1669		1006		744			1235	643
v/s Ratio Prot				c0.33		0.18		0.16			c0.23	
v/s Ratio Perm												0.07
v/c Ratio				0.67		0.28		0.77			0.68	0.21
Uniform Delay, d1				12.7		5.7		25.3			18.9	15.7
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				0.8		0.1		4.5			1.2	0.1
Delay (s)				13.5		5.7		29.8			20.1	15.7
Level of Service				B		A		C			C	B
Approach Delay (s)		0.0			11.7			29.8			18.7	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	67.7	Sum of lost time (s)	15.7
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

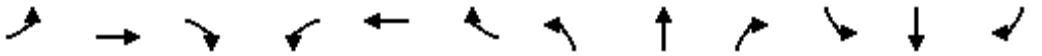


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	156	438	0	1139	1508	0
Future Volume (vph)	156	438	0	1139	1508	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	2733		3539	3505	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	2733		3539	3505	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	159	447	0	1162	1539	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	159	446	0	1162	1539	0
Heavy Vehicles (%)	1%	4%	0%	2%	3%	1%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	7.0	27.4		71.5	50.1	
Effective Green, g (s)	7.0	21.6		71.5	50.1	
Actuated g/C Ratio	0.08	0.24		0.80	0.56	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	272	663		2843	1973	
v/s Ratio Prot	0.05	c0.16		0.33	c0.44	
v/s Ratio Perm						
v/c Ratio	0.58	0.67		0.41	0.78	
Uniform Delay, d1	39.6	30.5		2.6	15.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	2.1		0.0	1.9	
Delay (s)	41.7	32.6		2.6	17.1	
Level of Service	D	C		A	B	
Approach Delay (s)	35.0			2.6	17.1	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	999	114	295	415	0	112	2	332	6	1	2
Future Volume (vph)	2	999	114	295	415	0	112	2	332	6	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.97	
Satd. Flow (prot)	1805	3509		1787	3539		1681	1689	1565		1784	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3509		1787	3539		1681	1689	1565		1843	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	1052	120	311	437	0	118	2	349	6	1	2
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	318	0	2	0
Lane Group Flow (vph)	2	1168	0	311	437	0	60	60	31	0	7	0
Confl. Peds. (#/hr)			8			3			6			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	0%	1%	2%	0%	2%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.1	72.5		27.0	98.4		11.4	11.4	11.4		1.6	
Effective Green, g (s)	1.1	72.5		27.0	98.4		11.4	11.4	11.4		1.6	
Actuated g/C Ratio	0.01	0.56		0.21	0.76		0.09	0.09	0.09		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	15	1956		371	2678		147	148	137		22	
v/s Ratio Prot	0.00	c0.33		c0.17	0.12		c0.04	0.04				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.13	0.60		0.84	0.16		0.41	0.41	0.22		0.32	
Uniform Delay, d1	64.0	19.1		49.4	4.4		56.1	56.1	55.2		63.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.5	1.4		14.5	0.1		0.7	0.7	0.3		3.0	
Delay (s)	65.4	20.4		64.0	4.5		56.8	56.8	55.5		66.7	
Level of Service	E	C		E	A		E	E	E		E	
Approach Delay (s)		20.5			29.2			55.8			66.7	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	614	4	2	15	57	9	0	5	42	0	101
Future Volume (vph)	176	614	4	2	15	57	9	0	5	42	0	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.85		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	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1583		1770	1583	
Flt Permitted	0.95	1.00	1.00	0.40	1.00	1.00	0.69	1.00		0.75	1.00	
Satd. Flow (perm)	1770	3539	1583	742	3539	1583	1278	1583		1405	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)	191	667	4	2	16	62	10	0	5	46	0	110
RTOR Reduction (vph)	0	0	2	0	0	44	0	4	0	0	92	0
Lane Group Flow (vph)	191	667	2	2	16	18	10	1	0	46	18	0
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		
Actuated Green, G (s)	7.9	22.9	22.9	11.0	11.0	11.0	6.1	6.1		6.1	6.1	
Effective Green, g (s)	7.9	22.9	22.9	11.0	11.0	11.0	6.1	6.1		6.1	6.1	
Actuated g/C Ratio	0.21	0.62	0.62	0.30	0.30	0.30	0.16	0.16		0.16	0.16	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	377	2190	979	220	1052	470	210	260		231	260	
v/s Ratio Prot	c0.11	c0.19			0.00			0.00			0.01	
v/s Ratio Perm			0.00	0.00		0.01	0.01			c0.03		
v/c Ratio	0.51	0.30	0.00	0.01	0.02	0.04	0.05	0.00		0.20	0.07	
Uniform Delay, d1	12.8	3.3	2.7	9.2	9.2	9.2	13.0	12.9		13.3	13.1	
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	1.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0		0.4	0.1	
Delay (s)	13.9	3.4	2.7	9.2	9.2	9.3	13.1	12.9		13.8	13.2	
Level of Service	B	A	A	A	A	A	B	B		B	B	
Approach Delay (s)		5.7			9.3			13.0			13.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	37.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1341	98	38	452	201	91
Future Volume (vph)	1341	98	38	452	201	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.99		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	5033		1770	5085	1725	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	5033		1770	5085	1725	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1458	107	41	491	218	99
RTOR Reduction (vph)	8	0	0	0	23	0
Lane Group Flow (vph)	1557	0	41	491	294	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	32.8		2.1	38.9	16.4	
Effective Green, g (s)	32.8		2.1	38.9	16.4	
Actuated g/C Ratio	0.52		0.03	0.61	0.26	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2607		58	3124	446	
v/s Ratio Prot	c0.31		c0.02	0.10	c0.17	
v/s Ratio Perm						
v/c Ratio	0.60		0.71	0.16	0.66	
Uniform Delay, d1	10.6		30.3	5.2	21.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.4		32.4	0.0	3.5	
Delay (s)	11.0		62.7	5.2	24.5	
Level of Service	B		E	A	C	
Approach Delay (s)	11.0			9.7	24.5	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

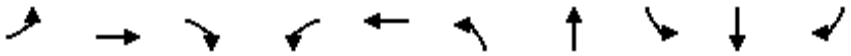
Appendix 5
2025 Near-Term 95th Percentile Queue Lengths

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	388	133	288	593	173	716	169	20	453	82
v/c Ratio	0.38	0.36	0.20	0.54	0.46	0.35	0.55	0.15	0.09	0.37	0.19
Control Delay	42.1	28.3	6.6	38.8	24.7	40.9	24.0	4.6	47.4	26.4	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	28.3	6.6	38.8	24.7	40.9	24.0	4.6	47.4	26.4	5.8
Queue Length 50th (ft)	25	47	0	53	67	22	108	0	3	56	0
Queue Length 95th (ft)	92	117	26	166	157	76	335	27	22	142	29
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	958	2514	1354	977	2516	1353	1789	1463	873	2532	789
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.15	0.10	0.29	0.24	0.13	0.40	0.12	0.02	0.18	0.10

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	194	138	604	535	265	521	422	59	1071	94
v/c Ratio	0.39	0.36	0.25	0.70	0.62	0.50	0.40	0.50	0.27	0.54	0.10
Control Delay	46.7	36.5	7.4	41.5	33.4	43.7	24.3	4.9	47.8	28.1	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	36.5	7.4	41.5	33.4	43.7	24.3	4.9	47.8	28.1	5.1
Queue Length 50th (ft)	29	50	0	107	135	47	108	0	15	134	0
Queue Length 95th (ft)	73	96	27	204	224	100	221	72	45	245	18
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	782	1358	1193	1147	1426	1125	1424	890	706	2579	1163
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.14	0.12	0.53	0.38	0.24	0.37	0.47	0.08	0.42	0.08

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	72	13	178	97	156	343	724	4	1089	171
v/c Ratio	0.31	0.04	0.18	0.65	0.40	0.73	0.37	0.04	0.78	0.24
Control Delay	47.2	32.6	11.6	64.4	36.7	49.6	12.6	47.0	29.6	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.2	32.6	11.6	64.4	36.7	49.6	12.6	47.0	29.6	6.2
Queue Length 50th (ft)	21	7	22	56	85	98	91	2	269	9
Queue Length 95th (ft)	48	22	45	#155	144	#193	237	14	456	58
Internal Link Dist (ft)		734			1365		641		612	
Turn Bay Length (ft)	340		340	250		380		130		215
Base Capacity (vph)	278	634	1010	157	636	506	1967	178	1552	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.02	0.18	0.62	0.25	0.68	0.37	0.02	0.70	0.22

Intersection Summary

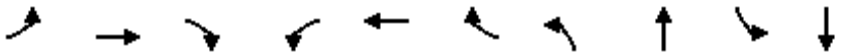
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	164	164	674	620	702	512
v/c Ratio	0.49	0.47	0.53	0.74	0.33	0.43
Control Delay	24.7	24.1	7.3	16.9	4.8	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	24.1	7.3	16.9	4.8	1.7
Queue Length 50th (ft)	44	44	30	133	41	0
Queue Length 95th (ft)	104	104	80	228	61	23
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	354	366	1250	1109	2677	1342
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.45	0.54	0.56	0.26	0.38

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	301	516	585	640
v/c Ratio	0.37	0.58	0.41	0.43
Control Delay	9.6	5.2	6.1	6.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.6	5.2	6.1	6.1
Queue Length 50th (ft)	13	5	20	22
Queue Length 95th (ft)	35	28	46	51
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	3255	2342	3223	3406
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.22	0.18	0.19

Intersection Summary



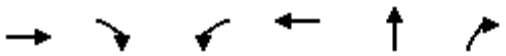
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	871	264	172	16	60	100	21	501	71	102
v/c Ratio	0.78	0.44	0.28	0.07	0.27	0.20	0.19	0.49	0.47	0.08
Control Delay	37.8	30.6	5.3	40.9	44.5	7.0	49.7	23.8	43.2	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	30.6	5.3	40.9	44.5	7.0	49.7	23.8	43.2	17.1
Queue Length 50th (ft)	258	132	0	10	37	0	14	105	47	24
Queue Length 95th (ft)	#397	229	49	30	78	39	38	145	93	54
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	1129	601	621	245	244	455	163	1132	171	1310
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.44	0.28	0.07	0.25	0.22	0.13	0.44	0.42	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

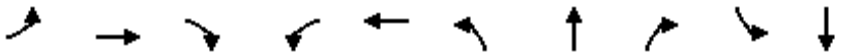
Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	31	32	107	1142	223
v/c Ratio	0.26	0.27	0.22	0.43	0.05
Control Delay	50.6	51.1	8.6	1.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	51.1	8.6	1.0	0.4
Queue Length 50th (ft)	21	22	0	12	0
Queue Length 95th (ft)	49	50	23	16	0
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	192	188	637	2683	4187
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.17	0.43	0.05

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	13	37	636	21	164	1086
v/c Ratio	0.02	0.10	0.36	0.02	0.43	0.44
Control Delay	31.9	0.6	20.8	7.1	42.2	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	0.6	20.8	7.1	42.2	6.6
Queue Length 50th (ft)	3	0	158	4	114	2
Queue Length 95th (ft)	11	0	223	14	167	228
Internal Link Dist (ft)	552			505	527	
Turn Bay Length (ft)						
Base Capacity (vph)	757	425	1749	1313	413	2449
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.09	0.36	0.02	0.40	0.44

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	205	328	647	732	791	667	59	59	191
v/c Ratio	0.04	0.30	0.41	0.70	0.52	0.97	0.58	0.11	0.31	0.31
Control Delay	45.2	31.5	5.2	39.1	19.7	59.5	30.8	3.1	45.9	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	31.5	5.2	39.1	19.7	59.5	30.8	3.1	45.9	35.6
Queue Length 50th (ft)	3	47	0	102	125	189	146	0	27	43
Queue Length 95th (ft)	18	78	11	180	200	#455	278	3	77	90
Internal Link Dist (ft)		924			708		1923			661
Turn Bay Length (ft)			350	420		300		300	195	
Base Capacity (vph)	538	1345	1250	1488	1439	819	1333	609	395	1309
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.15	0.26	0.43	0.51	0.97	0.50	0.10	0.15	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1335	634	596	535	621
v/c Ratio	0.84	0.61	0.78	0.42	0.58
Control Delay	23.4	10.2	34.3	17.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	10.2	34.3	17.9	3.8
Queue Length 50th (ft)	239	112	131	90	0
Queue Length 95th (ft)	#362	225	167	114	33
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1589	1458	1883	3367	1802
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.84	0.43	0.32	0.16	0.34

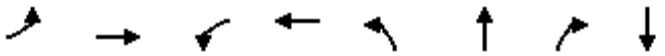
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	226	591	1058	1554
v/c Ratio	0.71	0.62	0.38	0.88
Control Delay	55.9	28.1	3.4	29.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	55.9	28.1	3.4	29.4
Queue Length 50th (ft)	70	166	75	425
Queue Length 95th (ft)	114	222	116	#685
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	1775	2073	3471	1761
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.29	0.30	0.88

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	7	422	303	1052	94	94	226	4
v/c Ratio	0.09	0.23	0.82	0.38	0.50	0.50	0.61	0.02
Control Delay	54.2	15.9	60.3	6.9	54.8	54.8	12.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	15.9	60.3	6.9	54.8	54.8	12.7	0.2
Queue Length 50th (ft)	5	68	213	77	70	70	0	0
Queue Length 95th (ft)	20	164	290	319	111	111	64	0
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	142	1845	491	2733	393	393	530	246
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.23	0.62	0.38	0.24	0.24	0.43	0.02

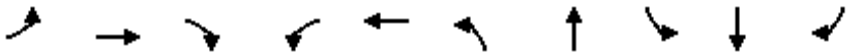
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	184	1043	232	241	585	223	568	501	90	611	75
v/c Ratio	0.52	0.61	0.22	0.58	0.33	0.48	0.54	0.43	0.35	0.48	0.17
Control Delay	50.5	30.2	4.2	49.6	24.8	48.8	33.4	4.1	52.1	33.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	30.2	4.2	49.6	24.8	48.8	33.4	4.1	52.1	33.8	4.8
Queue Length 50th (ft)	59	200	0	77	97	49	166	0	28	122	0
Queue Length 95th (ft)	110	298	30	136	154	88	262	43	63	188	24
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	734	1961	1194	741	1994	1067	1337	1352	741	1903	636
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.53	0.19	0.33	0.29	0.21	0.42	0.37	0.12	0.32	0.12

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	323	770	547	573	358	436	675	445	97	750	130
v/c Ratio	0.68	0.74	0.46	0.74	0.33	0.66	0.66	0.59	0.40	0.52	0.18
Control Delay	54.6	40.6	4.5	52.0	29.3	51.9	39.0	7.4	57.2	39.7	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	40.6	4.5	52.0	29.3	51.9	39.0	7.4	57.2	39.7	7.3
Queue Length 50th (ft)	117	261	3	142	96	108	226	8	35	139	0
Queue Length 95th (ft)	183	376	49	209	160	161	327	97	70	196	28
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	659	1206	1290	959	1197	959	1210	821	659	2113	1001
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.64	0.42	0.60	0.30	0.45	0.56	0.54	0.15	0.35	0.13

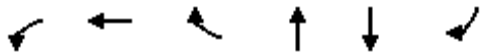
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	243	162	407	180	18	233	974	3	764	104
v/c Ratio	0.25	0.43	0.33	0.63	0.07	0.70	0.60	0.04	0.69	0.18
Control Delay	32.3	37.0	3.2	47.6	26.5	54.3	21.8	50.7	31.1	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	37.0	3.2	47.6	26.5	54.3	21.8	50.7	31.1	3.3
Queue Length 50th (ft)	42	78	0	91	7	63	188	2	187	0
Queue Length 95th (ft)	132	166	35	201	26	#174	413	13	327	23
Internal Link Dist (ft)		734			1365		641		612	
Turn Bay Length (ft)	340		340	250		380		130		215
Base Capacity (vph)	1250	648	1268	913	925	335	1814	84	1619	801
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.25	0.32	0.20	0.02	0.70	0.54	0.04	0.47	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



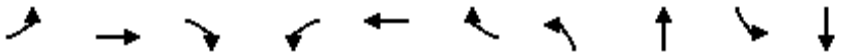
Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	165	168	546	620	921	425
v/c Ratio	0.39	0.39	0.41	0.82	0.46	0.39
Control Delay	18.2	18.2	6.1	24.4	7.1	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	18.2	6.1	24.4	7.1	1.9
Queue Length 50th (ft)	41	42	28	151	72	0
Queue Length 95th (ft)	85	86	58	#309	106	28
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	493	494	1297	838	2158	1141
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.34	0.42	0.74	0.43	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	568	282	1020	1020
v/c Ratio	0.58	0.32	0.58	0.61
Control Delay	14.7	6.8	8.3	8.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.7	6.8	8.3	8.8
Queue Length 50th (ft)	47	10	62	63
Queue Length 95th (ft)	108	39	133	137
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	2615	2121	3440	3268
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.13	0.30	0.31

Intersection Summary



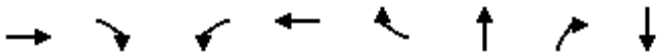
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	628	207	315	23	124	205	43	272	124	107
v/c Ratio	0.71	0.43	0.49	0.09	0.49	0.34	0.32	0.24	0.64	0.08
Control Delay	40.3	35.0	6.3	40.6	49.1	5.5	51.8	17.2	37.0	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	35.0	6.3	40.6	49.1	5.5	51.8	17.2	37.0	19.6
Queue Length 50th (ft)	192	113	0	14	78	0	28	42	67	34
Queue Length 95th (ft)	261	186	66	37	136	52	62	75	150	68
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	934	517	664	263	271	577	171	1193	220	1403
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.40	0.47	0.09	0.46	0.36	0.25	0.23	0.56	0.08

Intersection Summary

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	24	25	178	814	266
v/c Ratio	0.21	0.22	0.31	0.30	0.06
Control Delay	49.9	50.1	7.4	4.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	50.1	7.4	4.0	0.3
Queue Length 50th (ft)	16	16	0	102	0
Queue Length 95th (ft)	44	45	32	46	m1
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	294	295	732	2699	4129
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08	0.24	0.30	0.06

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	8	109	945	12	1	168	780	1
v/c Ratio	0.01	0.23	0.70	0.01	0.00	0.53	0.38	0.01
Control Delay	29.1	6.4	32.7	7.9	0.0	44.5	10.1	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	6.4	32.7	7.9	0.0	44.5	10.1	47.0
Queue Length 50th (ft)	2	0	260	2	0	115	110	1
Queue Length 95th (ft)	8	38	#518	12	0	181	207	7
Internal Link Dist (ft)	552			505		527		495
Turn Bay Length (ft)					200			
Base Capacity (vph)	814	484	1344	1334	1149	346	2046	289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.23	0.70	0.01	0.00	0.49	0.38	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	339	665	279	310	362	373	132	132	264	15
v/c Ratio	0.05	0.38	0.56	0.41	0.22	0.61	0.51	0.31	0.50	0.39	0.04
Control Delay	36.9	24.7	4.1	33.8	8.7	34.6	30.5	8.2	38.7	30.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	24.7	4.1	33.8	8.7	34.6	30.5	8.2	38.7	30.3	0.2
Queue Length 50th (ft)	4	62	0	39	20	73	74	0	52	52	0
Queue Length 95th (ft)	24	124	42	89	67	159	162	49	140	120	0
Internal Link Dist (ft)		924			708		1923			661	
Turn Bay Length (ft)			350	420		300		300	195		190
Base Capacity (vph)	630	1538	1565	1779	1525	959	1514	740	485	1534	738
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.22	0.42	0.16	0.20	0.38	0.25	0.18	0.27	0.17	0.02

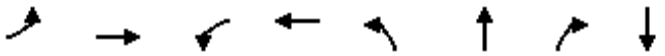
Intersection Summary

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1108	324	629	820	407
v/c Ratio	0.68	0.32	0.80	0.64	0.44
Control Delay	16.4	5.8	33.4	20.9	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	5.8	33.4	20.9	3.4
Queue Length 50th (ft)	170	38	127	141	0
Queue Length 95th (ft)	266	89	191	209	50
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1706	1453	1985	3517	1840
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.22	0.32	0.23	0.22

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	193	480	1189	1528
v/c Ratio	0.65	0.54	0.42	0.79
Control Delay	51.3	27.6	3.4	21.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	51.3	27.6	3.4	21.1
Queue Length 50th (ft)	56	127	80	343
Queue Length 95th (ft)	95	178	123	522
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	1908	2151	3539	1929
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.22	0.34	0.79

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	2	1012	311	446	61	61	384	9
v/c Ratio	0.03	0.50	0.84	0.16	0.41	0.40	0.78	0.11
Control Delay	61.0	20.6	68.5	5.0	61.1	61.0	16.8	53.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	20.6	68.5	5.0	61.1	61.0	16.8	53.7
Queue Length 50th (ft)	2	224	253	23	53	53	0	6
Queue Length 95th (ft)	11	499	336	122	90	90	93	25
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	138	2031	482	2846	354	355	632	115
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.50	0.65	0.16	0.17	0.17	0.61	0.08

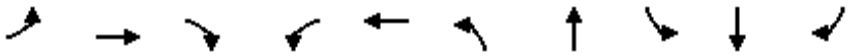
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	389	133	359	822	169	713	169	20	452	83
v/c Ratio	0.39	0.32	0.19	0.62	0.55	0.36	0.57	0.16	0.10	0.38	0.20
Control Delay	44.5	28.2	6.3	41.1	25.8	43.1	26.4	4.8	49.4	28.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	28.2	6.3	41.1	25.8	43.1	26.4	4.8	49.4	28.5	6.1
Queue Length 50th (ft)	29	51	0	75	105	24	128	0	4	65	0
Queue Length 95th (ft)	92	118	25	205	227	74	336	28	23	143	30
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	890	2338	1269	907	2358	1257	1664	1373	811	2353	740
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.10	0.40	0.35	0.13	0.43	0.12	0.02	0.19	0.11

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	195	138	652	854	235	519	422	60	1060	102
v/c Ratio	0.42	0.26	0.19	0.75	0.77	0.50	0.44	0.52	0.30	0.58	0.12
Control Delay	51.7	34.1	6.6	46.3	36.6	49.0	28.9	5.4	52.5	32.7	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	34.1	6.6	46.3	36.6	49.0	28.9	5.4	52.5	32.7	6.0
Queue Length 50th (ft)	36	54	0	140	250	51	142	0	19	171	0
Queue Length 95th (ft)	73	96	27	219	382	90	221	73	45	240	21
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	696	1208	1077	1021	1278	1001	1268	838	628	2297	1048
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.16	0.13	0.64	0.67	0.23	0.41	0.50	0.10	0.46	0.10

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	72	31	164	47	1278	525	953	34	1066	169
v/c Ratio	0.35	0.06	0.13	0.42	2.35	1.21	0.58	0.30	0.85	0.26
Control Delay	54.0	29.9	3.1	60.6	633.8	153.2	18.6	55.8	39.5	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	29.9	3.1	60.6	633.8	153.2	18.6	55.8	39.5	6.8
Queue Length 50th (ft)	25	16	0	32	~1510	~239	206	23	357	10
Queue Length 95th (ft)	49	40	21	71	#1783	#349	290	55	449	56
Internal Link Dist (ft)		734			1066		641		612	
Turn Bay Length (ft)	340		340	250		380		130		215
Base Capacity (vph)	240	549	1281	135	544	435	1641	154	1336	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.06	0.13	0.35	2.35	1.21	0.58	0.22	0.80	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

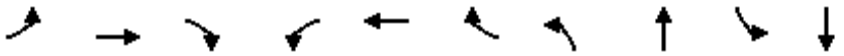
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	157	161	674	415	612	518
v/c Ratio	0.41	0.41	0.43	0.60	0.31	0.46
Control Delay	19.0	18.8	2.2	14.5	5.3	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	18.8	2.2	14.5	5.3	2.0
Queue Length 50th (ft)	33	33	0	76	34	0
Queue Length 95th (ft)	89	90	28	136	53	24
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	406	420	1535	1269	3022	1450
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.38	0.44	0.33	0.20	0.36

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	310	516	540	637
v/c Ratio	0.38	0.58	0.38	0.43
Control Delay	9.6	5.1	5.9	6.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.6	5.1	5.9	6.1
Queue Length 50th (ft)	14	5	18	22
Queue Length 95th (ft)	36	28	43	50
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	3256	2343	3223	3406
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.22	0.17	0.19

Intersection Summary

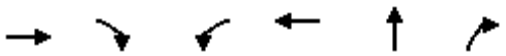


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	808	261	168	16	59	113	21	842	74	114
v/c Ratio	0.84	0.51	0.30	0.07	0.26	0.25	0.19	0.75	0.49	0.08
Control Delay	44.6	35.6	6.1	40.9	44.4	16.5	49.7	35.6	33.7	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	35.6	6.1	40.9	44.4	16.5	49.7	35.6	33.7	21.0
Queue Length 50th (ft)	260	146	0	10	36	27	14	255	49	36
Queue Length 95th (ft)	336	226	49	30	76	71	38	338	95	69
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	987	526	562	245	244	425	163	1121	171	1415
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.50	0.30	0.07	0.24	0.27	0.13	0.75	0.43	0.08

Intersection Summary

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	31	32	519	1483	269
v/c Ratio	0.12	0.12	0.70	0.64	0.07
Control Delay	40.4	40.5	34.4	16.2	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	40.5	34.4	16.2	0.9
Queue Length 50th (ft)	17	18	140	536	3
Queue Length 95th (ft)	48	49	200	588	2
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	263	257	852	2345	3976
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.12	0.61	0.63	0.07

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	77	80	331	527	987	1037
v/c Ratio	0.12	0.21	0.34	0.54	1.42	0.46
Control Delay	32.9	3.7	33.6	19.7	227.6	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	3.7	33.6	19.7	227.6	7.7
Queue Length 50th (ft)	21	0	98	228	~899	194
Queue Length 95th (ft)	38	12	130	293	#1068	185
Internal Link Dist (ft)	552			505	527	
Turn Bay Length (ft)						
Base Capacity (vph)	757	425	961	977	694	2261
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.19	0.34	0.54	1.42	0.46

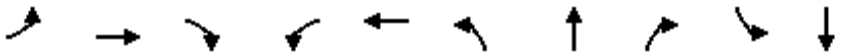
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1	112	25	1259	23	19
v/c Ratio	0.01	0.04	0.12	0.42	0.02	0.06
Control Delay	34.0	4.4	31.5	5.2	0.1	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	4.4	31.5	5.2	0.1	22.0
Queue Length 50th (ft)	0	0	5	0	0	3
Queue Length 95th (ft)	6	27	36	310	0	23
Internal Link Dist (ft)		1242		627	261	357
Turn Bay Length (ft)	150		135			
Base Capacity (vph)	167	3141	213	3150	1129	957
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.04	0.12	0.40	0.02	0.02

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	205	328	581	929	799	664	59	59	189
v/c Ratio	0.04	0.28	0.39	0.68	0.66	0.98	0.58	0.11	0.32	0.31
Control Delay	44.2	30.2	4.9	39.5	23.1	61.0	30.3	3.1	45.2	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.2	30.2	4.9	39.5	23.1	61.0	30.3	3.1	45.2	35.2
Queue Length 50th (ft)	3	46	0	91	179	187	142	0	26	42
Queue Length 95th (ft)	18	76	11	162	274	#450	271	3	75	88
Internal Link Dist (ft)		924			708		1923			661
Turn Bay Length (ft)			350	420		300		300	195	
Base Capacity (vph)	538	1347	1251	1488	1414	819	1332	609	395	1309
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.15	0.26	0.39	0.66	0.98	0.50	0.10	0.15	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

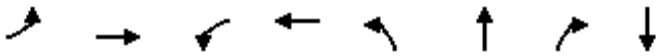
Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1304	641	598	523	562
v/c Ratio	0.82	0.61	0.78	0.40	0.54
Control Delay	22.8	10.4	34.3	17.7	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	10.4	34.3	17.7	3.6
Queue Length 50th (ft)	230	115	131	88	0
Queue Length 95th (ft)	352	233	168	111	33
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1583	1453	1876	3357	1796
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.82	0.44	0.32	0.16	0.31

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	219	582	925	1515
v/c Ratio	0.70	0.61	0.33	0.85
Control Delay	55.5	28.1	3.1	27.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	55.5	28.1	3.1	27.3
Queue Length 50th (ft)	68	163	61	401
Queue Length 95th (ft)	110	218	95	#647
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	1786	2076	3471	1772
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.28	0.27	0.85

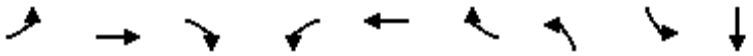
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	7	417	295	1228	87	87	226	4
v/c Ratio	0.09	0.22	0.81	0.45	0.48	0.48	0.62	0.02
Control Delay	54.2	15.5	60.3	7.5	54.3	54.3	13.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	15.5	60.3	7.5	54.3	54.3	13.0	0.2
Queue Length 50th (ft)	5	65	208	94	65	65	0	0
Queue Length 95th (ft)	20	161	284	397	104	104	64	0
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	142	1871	491	2744	393	393	530	246
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.22	0.60	0.45	0.22	0.22	0.43	0.02

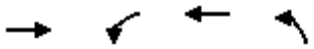
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBT
Lane Group Flow (vph)	59	63	8	5	1184	29	1	61	192
v/c Ratio	0.30	0.03	0.01	0.01	0.58	0.03	0.01	0.24	0.46
Control Delay	34.7	4.1	2.3	8.6	11.0	0.9	23.0	25.0	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	4.1	2.3	8.6	11.0	0.9	23.0	25.0	9.9
Queue Length 50th (ft)	17	2	0	1	130	0	0	17	6
Queue Length 95th (ft)	#79	13	4	7	309	4	4	58	59
Internal Link Dist (ft)		598			4088				1450
Turn Bay Length (ft)	210		250	150		250	150	150	
Base Capacity (vph)	202	3248	1454	1116	2971	1338	465	670	841
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.02	0.01	0.00	0.40	0.02	0.00	0.09	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	981	188	1447	153
v/c Ratio	0.46	0.76	0.44	0.36
Control Delay	7.5	46.9	6.7	15.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.5	46.9	6.7	15.1
Queue Length 50th (ft)	32	42	55	28
Queue Length 95th (ft)	91	#186	175	66
Internal Link Dist (ft)	1066		843	293
Turn Bay Length (ft)		150		
Base Capacity (vph)	2350	247	3576	988
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.76	0.40	0.15

Intersection Summary

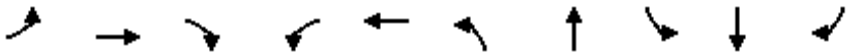
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	185	1142	222	241	585	223	570	521	96	605	75
v/c Ratio	0.53	0.66	0.21	0.59	0.33	0.49	0.59	0.46	0.37	0.47	0.16
Control Delay	51.3	31.4	4.8	50.6	25.0	49.6	35.5	4.2	52.5	34.0	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	31.4	4.8	50.6	25.0	49.6	35.5	4.2	52.5	34.0	4.7
Queue Length 50th (ft)	59	226	2	77	97	49	167	0	30	121	0
Queue Length 95th (ft)	110	333	32	136	154	88	263	44	66	186	24
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	711	1902	1153	718	1936	1034	1296	1338	718	1844	619
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.60	0.19	0.34	0.30	0.22	0.44	0.39	0.13	0.33	0.12

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	323	919	517	563	358	436	672	497	98	744	130
v/c Ratio	0.70	0.82	0.44	0.75	0.31	0.68	0.67	0.66	0.41	0.53	0.18
Control Delay	56.6	44.2	7.1	54.1	28.9	53.8	40.3	11.2	58.1	40.8	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	44.2	7.1	54.1	28.9	53.8	40.3	11.2	58.1	40.8	7.2
Queue Length 50th (ft)	117	327	23	140	96	109	227	41	36	139	0
Queue Length 95th (ft)	183	466	75	205	160	161	326	166	71	195	28
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	630	1152	1204	915	1162	915	1154	798	630	2017	962
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.80	0.43	0.62	0.31	0.48	0.58	0.62	0.16	0.37	0.14

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	244	664	132	125	25	233	977	91	707	104
v/c Ratio	0.22	1.21	0.11	0.61	0.10	0.82	0.77	1.28	0.63	0.17
Control Delay	32.7	144.1	8.6	56.6	27.0	71.0	33.0	239.1	32.4	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	144.1	8.6	56.6	27.0	71.0	33.0	239.1	32.4	3.0
Queue Length 50th (ft)	47	~532	9	78	11	78	285	~75	203	0
Queue Length 95th (ft)	127	#860	34	146	31	#164	387	#197	281	23
Internal Link Dist (ft)		734			1066		641		612	
Turn Bay Length (ft)	340		340	250		380		130		215
Base Capacity (vph)	1318	549	1224	774	779	283	1522	71	1371	706
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	1.21	0.11	0.16	0.03	0.82	0.64	1.28	0.52	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

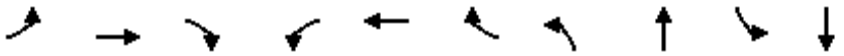
Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	166	168	479	686	546	427
v/c Ratio	0.40	0.41	0.38	0.87	0.27	0.39
Control Delay	18.5	18.6	6.4	29.0	5.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	18.6	6.4	29.0	5.7	1.9
Queue Length 50th (ft)	41	42	27	176	37	0
Queue Length 95th (ft)	85	86	54	#358	58	28
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	482	484	1249	820	2111	1126
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.35	0.38	0.84	0.26	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	568	386	1079	889
v/c Ratio	0.58	0.41	0.61	0.53
Control Delay	14.9	7.0	8.7	7.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.9	7.0	8.7	7.9
Queue Length 50th (ft)	47	13	67	52
Queue Length 95th (ft)	111	50	145	115
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	2600	2125	3424	3253
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.18	0.32	0.27

Intersection Summary



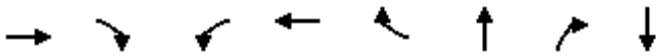
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	371	197	284	25	126	205	42	275	142	181
v/c Ratio	0.57	0.55	0.53	0.10	0.50	0.34	0.31	0.21	0.67	0.11
Control Delay	41.6	43.6	7.9	40.7	49.3	5.4	51.6	15.0	46.0	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	43.6	7.9	40.7	49.3	5.4	51.6	15.0	46.0	13.8
Queue Length 50th (ft)	118	122	0	15	80	0	27	38	63	35
Queue Length 95th (ft)	151	177	63	40	138	52	61	76	#180	97
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	882	488	622	263	271	584	171	1338	228	1608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.40	0.46	0.10	0.46	0.35	0.25	0.21	0.62	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	24	24	209	558	479
v/c Ratio	0.21	0.21	0.35	0.21	0.12
Control Delay	49.9	49.8	7.2	2.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	49.8	7.2	2.9	0.4
Queue Length 50th (ft)	16	16	0	20	3
Queue Length 95th (ft)	44	43	34	52	3
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	294	295	756	2699	4129
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08	0.28	0.21	0.12

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	516	304	938	32	1	211	524	1
v/c Ratio	0.63	0.49	0.71	0.02	0.00	0.64	0.27	0.01
Control Delay	38.8	6.6	33.4	7.7	0.0	49.0	4.6	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	6.6	33.4	7.7	0.0	49.0	4.6	47.0
Queue Length 50th (ft)	162	0	262	5	0	131	0	1
Queue Length 95th (ft)	220	66	#516	23	0	216	111	7
Internal Link Dist (ft)	552			505		527		495
Turn Bay Length (ft)					200			
Base Capacity (vph)	814	623	1321	1321	1139	355	1947	289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.49	0.71	0.02	0.00	0.59	0.27	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1	720	54	100	37	19
v/c Ratio	0.00	0.27	0.25	0.04	0.11	0.05
Control Delay	23.0	7.0	25.3	5.2	7.2	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	7.0	25.3	5.2	7.2	13.1
Queue Length 50th (ft)	0	0	8	0	1	2
Queue Length 95th (ft)	5	160	#55	23	15	15
Internal Link Dist (ft)		1242		627	261	357
Turn Bay Length (ft)	150		135			
Base Capacity (vph)	212	2784	217	2682	991	1222
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.26	0.25	0.04	0.04	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	547	674	271	308	358	365	91	128	265	15
v/c Ratio	0.05	0.51	0.52	0.42	0.20	0.62	0.52	0.24	0.51	0.42	0.04
Control Delay	38.9	25.4	3.5	36.6	8.3	37.3	33.2	9.3	41.8	33.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.9	25.4	3.5	36.6	8.3	37.3	33.2	9.3	41.8	33.4	0.2
Queue Length 50th (ft)	5	108	0	42	20	80	82	0	57	60	0
Queue Length 95th (ft)	24	197	42	87	66	157	158	41	135	121	0
Internal Link Dist (ft)		924			708		1923			661	
Turn Bay Length (ft)			350	420		300		300	195		190
Base Capacity (vph)	585	1431	1522	1651	1562	891	1405	671	450	1424	692
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.38	0.44	0.16	0.20	0.40	0.26	0.14	0.28	0.19	0.02

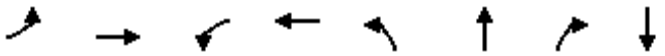
Intersection Summary

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1116	325	573	834	398
v/c Ratio	0.67	0.31	0.77	0.68	0.44
Control Delay	15.6	4.8	33.0	22.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	4.8	33.0	22.0	3.6
Queue Length 50th (ft)	163	32	114	145	0
Queue Length 95th (ft)	257	77	173	214	51
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1727	1472	2009	3532	1846
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.22	0.29	0.24	0.22

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	159	447	1162	1539
v/c Ratio	0.58	0.53	0.41	0.78
Control Delay	49.1	27.8	3.1	19.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	49.1	27.8	3.1	19.5
Queue Length 50th (ft)	45	117	71	327
Queue Length 95th (ft)	79	166	109	497
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	1949	2163	3539	1970
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.21	0.33	0.78

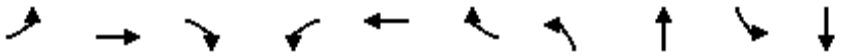
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	2	1172	311	437	60	60	349	9
v/c Ratio	0.03	0.57	0.84	0.15	0.41	0.41	0.77	0.11
Control Delay	61.0	21.8	68.5	4.9	61.6	61.5	16.8	53.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	21.8	68.5	4.9	61.6	61.5	16.8	53.7
Queue Length 50th (ft)	2	277	253	23	52	52	0	6
Queue Length 95th (ft)	11	#662	336	120	88	88	88	25
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	138	2047	482	2852	354	355	605	115
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.57	0.65	0.15	0.17	0.17	0.58	0.08

Intersection Summary

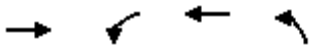
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	191	667	4	2	16	62	10	5	46	110
v/c Ratio	0.49	0.27	0.00	0.01	0.02	0.12	0.03	0.01	0.13	0.09
Control Delay	24.5	5.7	1.2	14.0	13.7	3.3	10.3	0.0	11.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	5.7	1.2	14.0	13.7	3.3	10.3	0.0	11.1	0.2
Queue Length 50th (ft)	27	25	0	0	1	0	1	0	6	0
Queue Length 95th (ft)	#177	118	2	5	8	15	9	0	26	0
Internal Link Dist (ft)		598			4088			531		1450
Turn Bay Length (ft)	210		250	150		250	150		150	
Base Capacity (vph)	389	3041	1363	391	1870	879	948	1215	1043	1441
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.22	0.00	0.01	0.01	0.07	0.01	0.00	0.04	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

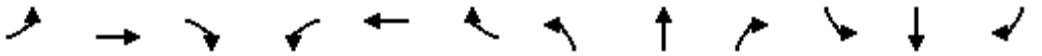


Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1565	41	491	317
v/c Ratio	0.58	0.34	0.16	0.66
Control Delay	12.1	41.8	6.0	26.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.1	41.8	6.0	26.7
Queue Length 50th (ft)	152	17	26	106
Queue Length 95th (ft)	243	#57	51	192
Internal Link Dist (ft)	1066		843	293
Turn Bay Length (ft)		150		
Base Capacity (vph)	3187	120	3883	1102
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.34	0.13	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Appendix 6
2040 Cumulative Level of Service Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	440	166	268	466	109	197	724	162	21	421	72
Future Volume (vph)	125	440	166	268	466	109	197	724	162	21	421	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	4988	2564	3467	4844		4802	3539	2738	3099	5085	1489
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	4988	2564	3467	4844		4802	3539	2738	3099	5085	1489
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	134	473	178	288	501	117	212	778	174	23	453	77
RTOR Reduction (vph)	0	0	138	0	30	0	0	0	110	0	0	55
Lane Group Flow (vph)	134	473	40	288	588	0	212	778	64	23	453	22
Confl. Peds. (#/hr)			8			14			7			2
Heavy Vehicles (%)	3%	4%	9%	1%	4%	2%	6%	2%	2%	13%	2%	7%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	8.6	18.7	18.7	12.6	22.7		9.0	30.8	30.8	1.9	23.7	23.7
Effective Green, g (s)	8.6	18.7	18.7	12.6	22.7		9.0	30.8	30.8	1.9	23.7	23.7
Actuated g/C Ratio	0.10	0.22	0.22	0.15	0.27		0.11	0.37	0.37	0.02	0.28	0.28
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	348	1110	570	520	1309		514	1297	1003	70	1434	420
v/s Ratio Prot	0.04	0.09		c0.08	c0.12		c0.04	c0.22		0.01	0.09	
v/s Ratio Perm			0.02						0.02			0.01
v/c Ratio	0.39	0.43	0.07	0.55	0.45		0.41	0.60	0.06	0.33	0.32	0.05
Uniform Delay, d1	35.2	28.0	25.8	33.1	25.5		35.0	21.6	17.2	40.4	23.8	22.0
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	0.3	0.3	0.1	0.7	0.3		0.2	0.8	0.0	1.0	0.2	0.1
Delay (s)	35.5	28.4	25.8	33.8	25.7		35.2	22.4	17.3	41.4	23.9	22.0
Level of Service	D	C	C	C	C		D	C	B	D	C	C
Approach Delay (s)		29.0			28.3			24.0			24.4	
Approach LOS		C			C			C			C	

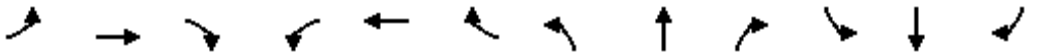
Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	244	147	544	460	47	249	490	294	48	1007	88
Future Volume (vph)	107	244	147	544	460	47	249	490	294	48	1007	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.86	0.88	0.94	0.91		0.94	0.86	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	6108	2760	4990	4973		4894	6285	1563	3072	6408	2733
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	6108	2760	4990	4973		4894	6285	1563	3072	6408	2733
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	114	260	156	579	489	50	265	521	313	51	1071	94
RTOR Reduction (vph)	0	0	132	0	10	0	0	0	194	0	0	63
Lane Group Flow (vph)	114	260	24	579	529	0	265	521	119	51	1071	31
Confl. Peds. (#/hr)						4			1			
Heavy Vehicles (%)	3%	7%	3%	2%	3%	0%	4%	4%	2%	14%	2%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	7.8	13.7	13.7	14.9	20.8		9.7	33.8	33.8	5.0	29.1	29.1
Effective Green, g (s)	7.8	13.7	13.7	14.9	20.8		9.7	33.8	33.8	5.0	29.1	29.1
Actuated g/C Ratio	0.09	0.15	0.15	0.17	0.23		0.11	0.38	0.38	0.06	0.33	0.33
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	297	940	424	835	1162		533	2386	593	172	2095	893
v/s Ratio Prot	0.03	0.04		c0.12	c0.11		c0.05	c0.08		0.02	c0.17	
v/s Ratio Perm			0.01						0.08			0.01
v/c Ratio	0.38	0.28	0.06	0.69	0.46		0.50	0.22	0.20	0.30	0.51	0.03
Uniform Delay, d1	38.3	33.3	32.1	34.9	29.2		37.4	18.7	18.5	40.3	24.2	20.4
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	0.3	0.2	0.1	2.0	0.3		0.3	0.1	0.2	0.4	0.3	0.0
Delay (s)	38.6	33.4	32.2	36.9	29.5		37.6	18.7	18.8	40.7	24.5	20.4
Level of Service	D	C	C	D	C		D	B	B	D	C	C
Approach Delay (s)		34.2			33.4			23.3			24.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

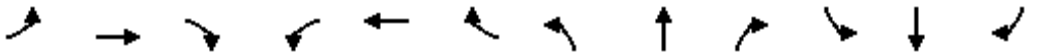
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	187	179	223	233	5	326	651	807	53	1133	162
Future Volume (vph)	72	187	179	223	233	5	326	651	807	53	1133	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91	1.00	0.94	0.86	0.88	0.97	0.86	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5187	2608	3433	5085	1583	4894	6285	2842	3502	6471	1579
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5187	2608	3433	5085	1583	4894	6285	2842	3502	6471	1579
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	76	197	188	235	245	5	343	685	849	56	1193	171
RTOR Reduction (vph)	0	0	37	0	0	4	0	0	358	0	0	107
Lane Group Flow (vph)	76	197	151	235	245	1	343	685	491	56	1193	64
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	2%	0%	9%	2%	2%	2%	4%	4%	0%	0%	1%	1%
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8	1	7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	5.0	16.2	31.7	8.2	19.4	19.4	10.2	37.6	45.8	4.8	32.2	32.2
Effective Green, g (s)	5.0	16.2	31.7	8.2	19.4	19.4	10.2	37.6	45.8	4.8	32.2	32.2
Actuated g/C Ratio	0.06	0.19	0.37	0.10	0.22	0.22	0.12	0.44	0.53	0.06	0.37	0.37
Clearance Time (s)	5.3	5.3		4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0	2.0	2.0	4.0	2.0	2.0	4.0	4.0
Lane Grp Cap (vph)	198	973	957	326	1143	355	578	2738	1508	194	2414	589
v/s Ratio Prot	0.02	0.04	0.06	c0.07	c0.05		c0.07	0.11	0.03	0.02	c0.18	
v/s Ratio Perm						0.00			0.14			0.04
v/c Ratio	0.38	0.20	0.16	0.72	0.21	0.00	0.59	0.25	0.33	0.29	0.49	0.11
Uniform Delay, d1	39.2	29.6	18.3	37.9	27.2	25.9	36.1	15.4	11.5	39.1	20.8	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.1	0.1	6.5	0.0	0.0	1.1	0.1	0.0	0.3	0.2	0.1
Delay (s)	39.6	29.7	18.4	44.4	27.3	26.0	37.2	15.5	11.5	39.4	21.0	17.8
Level of Service	D	C	B	D	C	C	D	B	B	D	C	B
Approach Delay (s)		26.8			35.6			17.7			21.3	
Approach LOS		C			D			B			C	

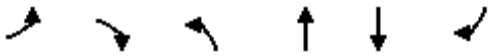
Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	86.3	Sum of lost time (s)	19.5
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	231	62	658	0	1348	0	0	888	497
Future Volume (vph)	0	0	0	231	62	658	0	1348	0	0	888	497
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1633	1691	2760		5036			5036	1599
Flt Permitted				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1633	1691	2760		5036			5036	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	238	64	678	0	1390	0	0	915	512
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	0	181
Lane Group Flow (vph)	0	0	0	150	152	644	0	1390	0	0	915	331
Heavy Vehicles (%)	0%	0%	0%	5%	2%	3%	0%	3%	20%	0%	3%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				10.3	10.3	18.0		26.7			34.4	34.4
Effective Green, g (s)				10.3	10.3	18.0		26.7			34.4	34.4
Actuated g/C Ratio				0.19	0.19	0.34		0.50			0.65	0.65
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				316	327	933		2527			3256	1033
v/s Ratio Prot				0.09	0.09	c0.23		c0.28			0.18	
v/s Ratio Perm												0.21
v/c Ratio				0.47	0.46	0.69		0.55			0.28	0.32
Uniform Delay, d1				19.0	19.0	15.2		9.1			4.1	4.2
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				1.5	1.4	2.4		0.3			0.0	0.1
Delay (s)				20.6	20.4	17.6		9.4			4.1	4.3
Level of Service				C	C	B		A			A	A
Approach Delay (s)		0.0			18.5			9.4			4.2	
Approach LOS		A			B			A			A	

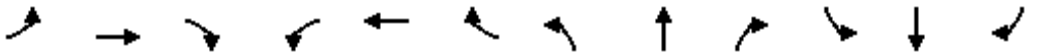
Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	53.2	Sum of lost time (s)	12.2
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	495	667	0	1356	674	0
Future Volume (vph)	495	667	0	1356	674	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3367	2409		4631	4893	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3367	2409		4631	4893	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	532	717	0	1458	725	0
RTOR Reduction (vph)	0	234	0	0	0	0
Lane Group Flow (vph)	532	483	0	1458	725	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	4%	18%	0%	12%	6%	2%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.3	13.3		23.9	23.9	
Effective Green, g (s)	13.3	13.3		23.9	23.9	
Actuated g/C Ratio	0.29	0.29		0.53	0.53	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	990	708		2448	2587	
v/s Ratio Prot	0.16			c0.31	0.15	
v/s Ratio Perm		c0.20				
v/c Ratio	0.54	0.68		0.60	0.28	
Uniform Delay, d1	13.4	14.1		7.3	5.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	2.2		0.3	0.0	
Delay (s)	13.7	16.3		7.6	5.9	
Level of Service	B	B		A	A	
Approach Delay (s)	15.2			7.6	5.9	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	45.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

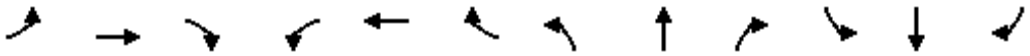
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	767	248	287	14	54	90	52	271	204	64	111	0
Future Volume (vph)	767	248	287	14	54	90	52	271	204	64	111	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1827	1538	1687	1681	1599	1719	3210		1719	3438	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1827	1538	1687	1681	1599	1719	3210		1719	3438	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	852	276	319	16	60	100	58	301	227	71	123	0
RTOR Reduction (vph)	0	0	214	0	0	73	0	134	0	0	0	0
Lane Group Flow (vph)	852	276	105	16	60	27	58	394	0	71	123	0
Confl. Peds. (#/hr)									4			
Heavy Vehicles (%)	2%	4%	5%	7%	13%	1%	5%	4%	4%	5%	5%	3%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	34.6	34.6	34.6	14.0	14.0	28.1	7.6	29.5		9.2	31.6	
Effective Green, g (s)	34.6	34.6	34.6	14.0	14.0	28.1	7.6	29.5		9.2	31.6	
Actuated g/C Ratio	0.33	0.33	0.33	0.13	0.13	0.27	0.07	0.28		0.09	0.30	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1131	602	506	224	224	427	124	901		150	1034	
v/s Ratio Prot	c0.25	0.15		0.01	c0.04	0.02	0.03	c0.12		c0.04	0.04	
v/s Ratio Perm			0.07									
v/c Ratio	0.75	0.46	0.21	0.07	0.27	0.06	0.47	0.44		0.47	0.12	
Uniform Delay, d1	31.4	27.8	25.3	39.8	40.9	28.6	46.8	30.9		45.6	26.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.69	0.77	
Incremental Delay, d2	2.9	0.6	0.2	0.1	0.6	0.1	2.8	1.5		2.3	0.2	
Delay (s)	34.3	28.4	25.5	39.9	41.5	28.7	49.5	32.5		33.9	20.7	
Level of Service	C	C	C	D	D	C	D	C		C	C	
Approach Delay (s)		31.2			34.1			34.2			25.5	
Approach LOS		C			C			C			C	

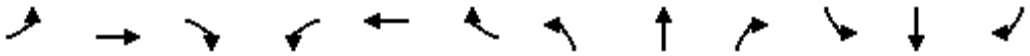
Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



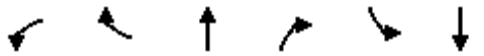
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	49	5	92	0	1083	0	0	201	0
Future Volume (vph)	0	0	0	49	5	92	0	1083	0	0	201	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1681	1646	2632		3539			4988	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1681	1646	2632		3539			4988	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	57	6	107	0	1259	0	0	234	0
RTOR Reduction (vph)	0	0	0	0	0	90	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	32	17	0	1259	0	0	234	0
Heavy Vehicles (%)	0%	0%	0%	2%	20%	8%	0%	2%	6%	0%	4%	3%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				7.6	7.6	17.1		79.6			88.1	
Effective Green, g (s)				7.6	7.6	17.1		79.6			88.1	
Actuated g/C Ratio				0.07	0.07	0.16		0.76			0.84	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				121	119	428		2682			4185	
v/s Ratio Prot				0.02	c0.02	0.01		c0.36			c0.05	
v/s Ratio Perm												
v/c Ratio				0.26	0.27	0.04		0.47			0.06	
Uniform Delay, d1				46.0	46.1	37.0		4.8			1.4	
Progression Factor				1.00	1.00	1.00		0.23			0.24	
Incremental Delay, d2				1.1	1.2	0.0		0.5			0.0	
Delay (s)				47.2	47.3	37.1		1.6			0.4	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			40.8			1.6			0.4	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	41.0%	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												
Traffic Volume (vph)	0	11	30	553	19	0	119	0	1012	0	0	0
Future Volume (vph)	0	11	30	553	19	0	119	0	1012	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	1.00			1.00	0.88			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	1900			1787	2787			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	1900			1787	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	13	36	658	23	0	142	0	1205	0	0	0
RTOR Reduction (vph)	0	0	31	0	0	0	0	0	303	0	0	0
Lane Group Flow (vph)	0	13	5	658	23	0	0	142	902	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		14.4	14.4	52.0	72.4			22.4	78.6			
Effective Green, g (s)		14.4	14.4	52.0	72.4			22.4	78.6			
Actuated g/C Ratio		0.14	0.14	0.50	0.69			0.21	0.75			
Clearance Time (s)		6.0	6.0	6.0	6.0			4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		454	201	1667	1310			381	2086			
v/s Ratio Prot		c0.00		0.20	0.01			0.08	c0.32			
v/s Ratio Perm			0.00									
v/c Ratio		0.03	0.02	0.39	0.02			0.37	0.43			
Uniform Delay, d1		39.2	39.2	16.6	5.1			35.3	4.9			
Progression Factor		1.00	1.00	1.00	1.00			1.17	16.81			
Incremental Delay, d2		0.0	0.0	0.7	0.0			0.6	0.1			
Delay (s)		39.3	39.3	17.3	5.1			41.8	82.6			
Level of Service		D	D	B	A			D	F			
Approach Delay (s)		39.3			16.9			78.3			0.0	
Approach LOS		D			B			E			A	

Intersection Summary			
HCM 2000 Control Delay	57.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



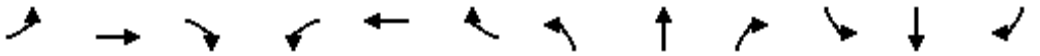
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	21	11	0	19	16	0
Future Volume (Veh/h)	21	11	0	19	16	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	25	13	0	23	19	0
Pedestrians	3		3			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	56	16			26	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	56	16			26	
tC, single (s)	6.4	6.2			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	97	99			99	
cM capacity (veh/h)	941	1066			1522	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	25	13	23	19
Volume Left	25	0	0	19
Volume Right	0	13	23	0
cSH	941	1066	1700	1522
Volume to Capacity	0.03	0.01	0.01	0.01
Queue Length 95th (ft)	2	1	0	1
Control Delay (s)	8.9	8.4	0.0	7.4
Lane LOS	A	A		A
Approach Delay (s)	8.8		0.0	7.4
Approach LOS	A			

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

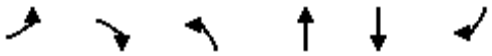
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	154	209	789	477	176	474	500	59	74	182	0
Future Volume (vph)	5	154	209	789	477	176	474	500	59	74	182	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3574	2778	4990	3434		3433	3574	1482	1656	3610	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	3574	2778	4990	3434		3433	3574	1482	1656	3610	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	7	205	279	1052	636	235	632	667	79	99	243	0
RTOR Reduction (vph)	0	0	223	0	23	0	0	0	57	0	0	0
Lane Group Flow (vph)	7	205	56	1052	848	0	632	667	22	99	243	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	1%	2%	0%	2%	2%	1%	9%	9%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.3	20.4	20.4	25.7	44.8		20.5	28.4	28.4	9.3	17.6	
Effective Green, g (s)	1.3	20.4	20.4	25.7	44.8		20.5	28.4	28.4	9.3	17.6	
Actuated g/C Ratio	0.01	0.20	0.20	0.25	0.44		0.20	0.28	0.28	0.09	0.17	
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	22	712	553	1252	1502		687	991	411	150	620	
v/s Ratio Prot	0.00	0.06		c0.21	c0.25		c0.18	c0.19		0.06	0.07	
v/s Ratio Perm			0.02						0.01			
v/c Ratio	0.32	0.29	0.10	0.84	0.56		0.92	0.67	0.05	0.66	0.39	
Uniform Delay, d1	50.1	34.8	33.5	36.4	21.5		40.1	32.9	27.1	45.0	37.6	
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	3.0	0.2	0.1	5.0	0.5		17.1	1.8	0.1	8.1	0.4	
Delay (s)	53.1	35.1	33.6	41.4	22.0		57.3	34.7	27.2	53.2	38.1	
Level of Service	D	D	C	D	C		E	C	C	D	D	
Approach Delay (s)		34.5			32.6			44.6			42.4	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	102.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1160	0	625	0	600	0	0	650	381
Future Volume (vph)	0	0	0	1160	0	625	0	600	0	0	650	381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3242		1599		3539			3539	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3242		1599		3539			3539	1863
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	1415	0	762	0	732	0	0	793	465
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	0	0	0	257
Lane Group Flow (vph)	0	0	0	1415	0	740	0	732	0	0	793	208
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	8%	0%	1%	0%	2%	6%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				35.8		51.6		21.0			37.4	37.4
Effective Green, g (s)				35.8		51.6		21.0			37.4	37.4
Actuated g/C Ratio				0.43		0.62		0.25			0.45	0.45
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1388		986		888			1583	833
v/s Ratio Prot				c0.44		c0.46		c0.21			0.22	
v/s Ratio Perm												0.11
v/c Ratio				1.02		0.75		0.82			0.50	0.25
Uniform Delay, d1				23.9		11.4		29.6			16.5	14.4
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				29.2		2.9		6.0			0.1	0.1
Delay (s)				53.1		14.3		35.5			16.5	14.4
Level of Service				D		B		D			B	B
Approach Delay (s)		0.0			39.5			35.5			15.8	
Approach LOS		A			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	83.6	Sum of lost time (s)	15.7
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	369	419	0	842	1473	0
Future Volume (vph)	369	419	0	842	1473	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	2632		3471	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	2632		3471	3406	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	415	471	0	946	1655	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	415	470	0	946	1655	0
Heavy Vehicles (%)	2%	8%	0%	4%	6%	6%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	14.5	36.3		73.0	50.2	
Effective Green, g (s)	14.5	30.5		73.0	50.2	
Actuated g/C Ratio	0.15	0.31		0.74	0.51	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	507	819		2585	1744	
v/s Ratio Prot	c0.12	c0.18		0.27	c0.49	
v/s Ratio Perm						
v/c Ratio	0.82	0.57		0.37	0.95	
Uniform Delay, d1	40.5	28.3		4.4	22.7	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.4	0.6		0.0	11.4	
Delay (s)	49.9	28.9		4.4	34.1	
Level of Service	D	C		A	C	
Approach Delay (s)	38.8			4.4	34.1	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	17.3
Intersection Capacity Utilization	65.4%	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												
Traffic Volume (vph)	6	333	105	304	1174	3	287	0	207	1	0	3
Future Volume (vph)	6	333	105	304	1174	3	287	0	207	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85		0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1805	3355		1752	3535		1698	1698	1539		1653	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3355		1752	3535		1698	1698	1539		1674	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	366	115	334	1290	3	315	0	227	1	0	3
RTOR Reduction (vph)	0	19	0	0	0	0	0	0	195	0	4	0
Lane Group Flow (vph)	7	462	0	334	1293	0	157	158	32	0	0	0
Confl. Peds. (#/hr)			4						5			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	0%	3%	2%	33%	1%	0%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.2	53.7		26.0	78.5		15.9	15.9	15.9		0.9	
Effective Green, g (s)	1.2	53.7		26.0	78.5		15.9	15.9	15.9		0.9	
Actuated g/C Ratio	0.01	0.47		0.23	0.69		0.14	0.14	0.14		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	19	1580		399	2434		236	236	214		13	
v/s Ratio Prot	0.00	0.14		c0.19	c0.37		0.09	c0.09				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.37	0.29		0.84	0.53		0.67	0.67	0.15		0.00	
Uniform Delay, d1	56.0	18.5		42.0	8.7		46.5	46.6	43.1		56.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.4	0.5		13.6	0.8		5.4	5.5	0.1		0.0	
Delay (s)	60.4	19.0		55.6	9.6		51.9	52.0	43.2		56.1	
Level of Service	E	B		E	A		D	D	D		E	
Approach Delay (s)		19.6			19.0			48.3			56.1	
Approach LOS		B			B			D			E	

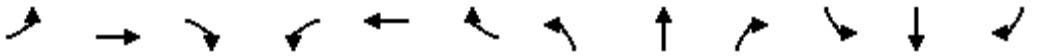
Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	960	269	228	628	38	390	579	482	103	633	74
Future Volume (vph)	169	960	269	228	628	38	390	579	482	103	633	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	5136	2751	3502	5076		5040	3610	2800	3502	5136	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	5136	2751	3502	5076		5040	3610	2800	3502	5136	1553
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)	184	1043	292	248	683	41	424	629	524	112	688	80
RTOR Reduction (vph)	0	0	198	0	5	0	0	0	372	0	0	61
Lane Group Flow (vph)	184	1043	94	248	719	0	424	629	152	112	688	19
Confl. Peds. (#/hr)			1			3			3			
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	1%	1%	2%	0%	1%	5%	1%	0%	0%	0%	1%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	10.2	33.3	33.3	12.1	35.2		13.5	29.9	29.9	8.0	24.4	24.4
Effective Green, g (s)	10.2	33.3	33.3	12.1	35.2		13.5	29.9	29.9	8.0	24.4	24.4
Actuated g/C Ratio	0.10	0.32	0.32	0.12	0.34		0.13	0.29	0.29	0.08	0.24	0.24
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	342	1655	886	410	1729		658	1044	810	271	1213	366
v/s Ratio Prot	0.05	c0.20		c0.07	0.14		c0.08	c0.17		0.03	0.13	
v/s Ratio Perm			0.03						0.05			0.01
v/c Ratio	0.54	0.63	0.11	0.60	0.42		0.64	0.60	0.19	0.41	0.57	0.05
Uniform Delay, d1	44.3	29.8	24.6	43.3	26.2		42.6	31.6	27.6	45.4	34.8	30.5
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	0.8	0.8	0.1	1.7	0.2		1.6	1.0	0.1	0.4	0.7	0.1
Delay (s)	45.1	30.6	24.6	45.1	26.3		44.3	32.6	27.7	45.8	35.5	30.6
Level of Service	D	C	C	D	C		D	C	C	D	D	C
Approach Delay (s)		31.2			31.1			34.1			36.3	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	103.3	Sum of lost time (s)	20.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	283	739	505	364	327	61	468	674	514	97	732	144
Future Volume (vph)	283	739	505	364	327	61	468	674	514	97	732	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.86	0.88	0.94	0.91		0.94	0.86	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	6471	2776	5090	4969		5090	6536	1599	3502	6408	2775
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	6471	2776	5090	4969		5090	6536	1599	3502	6408	2775
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	295	770	526	379	341	64	488	702	535	101	762	150
RTOR Reduction (vph)	0	0	387	0	21	0	0	0	293	0	0	114
Lane Group Flow (vph)	295	770	139	379	384	0	488	702	242	101	763	36
Confl. Peds. (#/hr)						1						2
Confl. Bikes (#/hr)			2			2						
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	0%	0%	1%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	13.0	25.5	25.5	12.1	24.6		14.1	29.7	29.7	7.5	23.1	23.1
Effective Green, g (s)	13.0	25.5	25.5	12.1	24.6		14.1	29.7	29.7	7.5	23.1	23.1
Actuated g/C Ratio	0.13	0.26	0.26	0.13	0.26		0.15	0.31	0.31	0.08	0.24	0.24
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	472	1711	734	638	1268		744	2013	492	272	1535	664
v/s Ratio Prot	c0.08	c0.12		0.07	0.08		c0.10	0.11		0.03	0.12	
v/s Ratio Perm			0.05						c0.15			0.01
v/c Ratio	0.62	0.45	0.19	0.59	0.30		0.66	0.35	0.49	0.37	0.50	0.05
Uniform Delay, d1	39.4	29.6	27.4	39.8	29.0		38.9	25.9	27.2	42.2	31.6	28.2
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	1.9	0.2	0.1	1.0	0.1		1.6	0.1	1.1	0.3	0.3	0.0
Delay (s)	41.3	29.8	27.6	40.8	29.1		40.5	26.0	28.2	42.5	32.0	28.3
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		31.2			34.8			30.8			32.5	
Approach LOS		C			C			C			C	

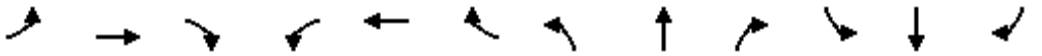
Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	96.4	Sum of lost time (s)	21.6
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	277	370	964	79	53	163	980	386	13	706	98
Future Volume (vph)	221	277	370	964	79	53	163	980	386	13	706	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91	1.00	0.94	0.86	0.88	0.97	0.86	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	5187	2760	3433	5085	1583	4942	6471	2842	3502	6408	1594
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	5187	2760	3433	5085	1583	4942	6471	2842	3502	6408	1594
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	243	304	407	1059	87	58	179	1077	424	14	776	108
RTOR Reduction (vph)	0	0	62	0	0	39	0	0	131	0	0	82
Lane Group Flow (vph)	243	304	345	1059	87	19	179	1077	293	14	776	26
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8	1	7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	23.5	21.4	34.6	41.6	39.5	39.5	7.9	35.8	77.4	1.4	29.3	29.3
Effective Green, g (s)	23.5	21.4	34.6	41.6	39.5	39.5	7.9	35.8	77.4	1.4	29.3	29.3
Actuated g/C Ratio	0.20	0.18	0.29	0.35	0.33	0.33	0.07	0.30	0.65	0.01	0.24	0.24
Clearance Time (s)	5.3	5.3		4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0	2.0	2.0	4.0	2.0	2.0	4.0	4.0
Lane Grp Cap (vph)	687	927	797	1193	1678	522	326	1935	1837	40	1568	390
v/s Ratio Prot	0.07	0.06	c0.13	c0.31	0.02		0.04	c0.17	0.06	0.00	0.12	
v/s Ratio Perm						0.01			0.05			0.02
v/c Ratio	0.35	0.33	0.43	0.89	0.05	0.04	0.55	0.56	0.16	0.35	0.49	0.07
Uniform Delay, d1	41.5	42.9	34.6	36.8	27.3	27.2	54.2	35.3	8.3	58.7	38.8	34.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.5	8.1	0.0	0.0	1.0	0.4	0.0	1.9	0.3	0.1
Delay (s)	41.7	43.2	35.1	44.9	27.3	27.2	55.2	35.7	8.3	60.6	39.2	34.8
Level of Service	D	D	D	D	C	C	E	D	A	E	D	C
Approach Delay (s)		39.3			42.8			30.9			39.0	
Approach LOS		D			D			C			D	

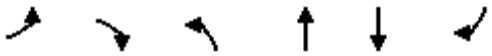
Intersection Summary					
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.70				
Actuated Cycle Length (s)	119.7	Sum of lost time (s)	19.5		
Intersection Capacity Utilization	71.3%	ICU Level of Service	C		
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	603	2	715	0	813	0	0	1342	757
Future Volume (vph)	0	0	0	603	2	715	0	813	0	0	1342	757
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		0.91			0.91	1.00
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1715	1720	2814		5187			5085	1599
Flt Permitted				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1715	1720	2814		5187			5085	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	635	2	753	0	856	0	0	1413	797
RTOR Reduction (vph)	0	0	0	0	0	66	0	0	0	0	0	360
Lane Group Flow (vph)	0	0	0	317	320	687	0	856	0	0	1413	437
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%	2%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				13.2	13.2	21.0		18.6			26.4	26.4
Effective Green, g (s)				13.2	13.2	21.0		18.6			26.4	26.4
Actuated g/C Ratio				0.27	0.27	0.44		0.39			0.55	0.55
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				470	472	1228		2005			2790	877
v/s Ratio Prot				0.18	c0.19	c0.24		0.17			c0.28	
v/s Ratio Perm												0.27
v/c Ratio				0.67	0.68	0.56		0.43			0.51	0.50
Uniform Delay, d1				15.5	15.6	10.1		10.8			6.8	6.7
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				4.2	4.2	0.7		0.2			0.1	0.3
Delay (s)				19.7	19.8	10.8		11.0			6.9	7.1
Level of Service				B	B	B		B			A	A
Approach Delay (s)		0.0			14.9			11.0			7.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	48.1	Sum of lost time (s)	12.2
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



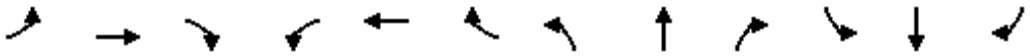
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	517	257	0	1521	1753	0
Future Volume (vph)	517	257	0	1521	1753	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3502	2787		5187	5014	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3502	2787		5187	5014	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	568	282	0	1671	1926	0
RTOR Reduction (vph)	0	11	0	0	0	0
Lane Group Flow (vph)	568	271	0	1671	1926	0
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%
Parking (#/hr)					0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.7	12.7		31.3	31.3	
Effective Green, g (s)	12.7	12.7		31.3	31.3	
Actuated g/C Ratio	0.24	0.24		0.60	0.60	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	855	680		3122	3018	
v/s Ratio Prot	c0.16			0.32	c0.38	
v/s Ratio Perm		0.10				
v/c Ratio	0.66	0.40		0.54	0.64	
Uniform Delay, d1	17.7	16.5		6.1	6.7	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.1		0.1	0.3	
Delay (s)	19.2	16.6		6.2	7.0	
Level of Service	B	B		A	A	
Approach Delay (s)	18.4			6.2	7.0	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	52.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.3%	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												
Traffic Volume (vph)	616	201	299	33	140	212	201	364	132	114	277	0
Future Volume (vph)	616	201	299	33	140	212	201	364	132	114	277	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1900	1599	1805	1863	1568	1805	3370		1736	3396	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1900	1599	1805	1863	1568	1805	3370		1736	3396	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	648	212	315	35	147	223	212	383	139	120	292	0
RTOR Reduction (vph)	0	0	233	0	0	91	0	34	0	0	0	0
Lane Group Flow (vph)	648	212	83	35	147	132	212	488	0	120	292	0
Confl. Peds. (#/hr)									2			
Heavy Vehicles (%)	2%	0%	1%	0%	2%	3%	0%	3%	0%	4%	1%	1%
Parking (#/hr)											0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	27.5	27.5	27.5	14.7	14.7	31.1	18.3	33.6		11.5	27.3	
Effective Green, g (s)	27.5	27.5	27.5	14.7	14.7	31.1	18.3	33.6		11.5	27.3	
Actuated g/C Ratio	0.26	0.26	0.26	0.14	0.14	0.30	0.17	0.32		0.11	0.26	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	899	497	418	252	260	464	314	1078		190	882	
v/s Ratio Prot	c0.19	0.11		0.02	c0.08	0.08	c0.12	c0.14		0.07	0.09	
v/s Ratio Perm			0.05									
v/c Ratio	0.72	0.43	0.20	0.14	0.57	0.28	0.68	0.45		0.63	0.33	
Uniform Delay, d1	35.3	32.2	30.2	39.6	42.2	28.4	40.6	28.4		44.7	31.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.48	1.16	
Incremental Delay, d2	2.9	0.6	0.2	0.3	2.8	0.3	5.6	1.4		6.6	1.0	
Delay (s)	38.1	32.8	30.4	39.9	45.0	28.7	46.2	29.8		27.9	37.4	
Level of Service	D	C	C	D	D	C	D	C		C	D	
Approach Delay (s)		35.1			35.6			34.5			34.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



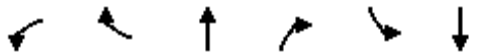
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	166	2	162	0	849	0	0	378	0
Future Volume (vph)	0	0	0	166	2	162	0	849	0	0	378	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.95	1.00		1.00			1.00	
Satd. Flow (prot)				1715	1721	2814		3539			4893	
Flt Permitted				0.95	0.95	1.00		1.00			1.00	
Satd. Flow (perm)				1715	1721	2814		3539			4893	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	182	2	178	0	933	0	0	415	0
RTOR Reduction (vph)	0	0	0	0	0	143	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	93	91	35	0	933	0	0	415	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	3%	0%	6%	2%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				11.2	11.2	20.7		76.0			84.5	
Effective Green, g (s)				11.2	11.2	20.7		76.0			84.5	
Actuated g/C Ratio				0.11	0.11	0.20		0.72			0.80	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				182	183	554		2561			3937	
v/s Ratio Prot				c0.05	0.05	0.01		c0.26			c0.08	
v/s Ratio Perm												
v/c Ratio				0.51	0.50	0.06		0.36			0.11	
Uniform Delay, d1				44.3	44.2	34.3		5.4			2.2	
Progression Factor				1.00	1.00	1.00		1.18			0.79	
Incremental Delay, d2				2.4	2.1	0.0		0.3			0.0	
Delay (s)				46.7	46.4	34.3		6.7			1.8	
Level of Service				D	D	C		A			A	
Approach Delay (s)		0.0			40.5			6.7			1.8	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	7	99	1122	11	1	151	0	813	0	1	0
Future Volume (vph)	0	7	99	1122	11	1	151	0	813	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	1.00	1.00		1.00	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	1.00		1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	1900	1615		1752	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	1900	1615		1752	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	8	109	1233	12	1	166	0	893	0	1	0
RTOR Reduction (vph)	0	0	81	0	0	0	0	0	376	0	0	0
Lane Group Flow (vph)	0	8	28	1233	12	1	0	166	517	0	1	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		27.0	27.0	36.8	69.8	69.8		19.8	60.8		1.2	
Effective Green, g (s)		27.0	27.0	36.8	69.8	69.8		19.8	60.8		1.2	
Actuated g/C Ratio		0.26	0.26	0.35	0.66	0.66		0.19	0.58		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		814	398	1215	1263	1073		330	1629		21	
v/s Ratio Prot		0.00		c0.36	0.01			c0.09	0.18		c0.00	
v/s Ratio Perm			c0.02			0.00						
v/c Ratio		0.01	0.07	1.01	0.01	0.00		0.50	0.32		0.05	
Uniform Delay, d1		29.0	29.5	34.1	5.9	5.9		38.2	11.4		51.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00		0.95	13.75		1.00	
Incremental Delay, d2		0.0	0.1	29.6	0.0	0.0		1.2	0.1		0.9	
Delay (s)		29.0	29.6	63.7	6.0	5.9		37.4	156.8		52.3	
Level of Service		C	C	E	A	A		D	F		D	
Approach Delay (s)		29.5			63.1			138.1			52.3	
Approach LOS		C			E			F			D	

Intersection Summary			
HCM 2000 Control Delay	94.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



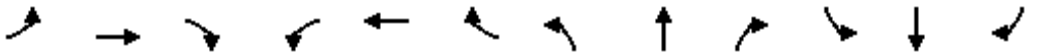
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	45	22	2	27	15	0
Future Volume (Veh/h)	45	22	2	27	15	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	59	29	3	36	20	0
Pedestrians	3		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	65	24			42	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65	24			42	
tC, single (s)	6.4	6.2			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	94	97			99	
cM capacity (veh/h)	920	1044			1532	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	59	29	39	20
Volume Left	59	0	0	20
Volume Right	0	29	36	0
cSH	920	1044	1700	1532
Volume to Capacity	0.06	0.03	0.02	0.01
Queue Length 95th (ft)	5	2	0	1
Control Delay (s)	9.2	8.5	0.0	7.4
Lane LOS	A	A		A
Approach Delay (s)	9.0		0.0	7.4
Approach LOS	A			

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	376	411	427	154	202	239	423	503	185	281	14
Future Volume (vph)	10	376	411	427	154	202	239	423	503	185	281	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	2778	5090	3209		3433	3610	1583	1736	3610	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3610	2778	5090	3209		3433	3610	1583	1736	3610	1615
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)	11	409	447	464	167	220	260	460	547	201	305	15
RTOR Reduction (vph)	0	0	336	0	137	0	0	0	359	0	0	11
Lane Group Flow (vph)	11	409	111	464	250	0	260	460	188	201	305	4
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	0%	0%	1%	0%	1%	3%	2%	0%	2%	4%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.4	22.4	22.4	13.1	34.1		12.0	20.9	20.9	14.9	24.2	24.2
Effective Green, g (s)	1.4	22.4	22.4	13.1	34.1		12.0	20.9	20.9	14.9	24.2	24.2
Actuated g/C Ratio	0.02	0.25	0.25	0.15	0.38		0.13	0.23	0.23	0.17	0.27	0.27
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	28	899	692	741	1217		458	839	368	287	971	434
v/s Ratio Prot	0.01	c0.11		c0.09	0.08		0.08	c0.13		c0.12	c0.08	
v/s Ratio Perm			0.04						0.12			0.00
v/c Ratio	0.39	0.45	0.16	0.63	0.21		0.57	0.55	0.51	0.70	0.31	0.01
Uniform Delay, d1	43.8	28.6	26.4	36.1	18.8		36.5	30.3	30.0	35.4	26.2	24.1
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	3.3	0.4	0.1	1.2	0.1		1.0	0.7	1.2	6.2	0.2	0.0
Delay (s)	47.1	28.9	26.5	37.3	18.9		37.5	31.1	31.2	41.6	26.4	24.1
Level of Service	D	C	C	D	B		D	C	C	D	C	C
Approach Delay (s)		27.9			28.9			32.5			32.2	
Approach LOS		C			C			C			C	

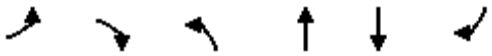
Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	18.6
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	698	0	424	0	608	0	0	774	586
Future Volume (vph)	0	0	0	698	0	424	0	608	0	0	774	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3335		1599		3574			3574	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3335		1599		3574			3574	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	0	0	0	751	0	456	0	654	0	0	832	637
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	325
Lane Group Flow (vph)	0	0	0	751	0	414	0	654	0	0	832	312
Heavy Vehicles (%)	2%	2%	2%	5%	2%	1%	2%	1%	2%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				15.3		24.4		14.9			24.6	24.6
Effective Green, g (s)				15.3		24.4		14.9			24.6	24.6
Actuated g/C Ratio				0.30		0.49		0.30			0.49	0.49
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1014		775		1058			1747	911
v/s Ratio Prot				c0.23		c0.26		c0.18			0.23	
v/s Ratio Perm												0.17
v/c Ratio				0.74		0.53		0.62			0.48	0.34
Uniform Delay, d1				15.7		9.0		15.2			8.6	7.9
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				2.6		0.4		0.8			0.1	0.1
Delay (s)				18.3		9.4		16.0			8.6	8.0
Level of Service				B		A		B			A	A
Approach Delay (s)		0.0			14.9			16.0			8.3	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	15.7
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

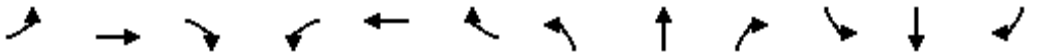


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	201	384	0	811	1041	0
Future Volume (vph)	201	384	0	811	1041	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	2733		3539	3505	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	2733		3539	3505	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	205	392	0	828	1062	0
RTOR Reduction (vph)	0	10	0	0	0	0
Lane Group Flow (vph)	205	382	0	828	1062	0
Heavy Vehicles (%)	1%	4%	0%	2%	3%	1%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	7.9	23.0		46.0	29.9	
Effective Green, g (s)	7.9	17.2		46.0	29.9	
Actuated g/C Ratio	0.12	0.27		0.71	0.46	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	425	729		2527	1627	
v/s Ratio Prot	0.06	c0.14		0.23	c0.30	
v/s Ratio Perm						
v/c Ratio	0.48	0.52		0.33	0.65	
Uniform Delay, d1	26.3	20.1		3.4	13.3	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		0.0	0.7	
Delay (s)	26.7	20.4		3.5	14.0	
Level of Service	C	C		A	B	
Approach Delay (s)	22.6			3.5	14.0	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	64.4	Sum of lost time (s)	17.3
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1029	394	305	610	0	171	2	652	6	1	2
Future Volume (vph)	2	1029	394	305	610	0	171	2	652	6	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.97	
Satd. Flow (prot)	1805	3397		1787	3539		1681	1688	1565		1784	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3397		1787	3539		1681	1688	1565		1843	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	1083	415	321	642	0	180	2	686	6	1	2
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	411	0	2	0
Lane Group Flow (vph)	2	1472	0	321	642	0	92	90	275	0	7	0
Confl. Peds. (#/hr)			8			3			6			
Confl. Bikes (#/hr)			3			4						
Heavy Vehicles (%)	0%	1%	0%	1%	2%	0%	2%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.1	56.7		27.5	83.1		26.7	26.7	26.7		1.6	
Effective Green, g (s)	1.1	56.7		27.5	83.1		26.7	26.7	26.7		1.6	
Actuated g/C Ratio	0.01	0.44		0.21	0.64		0.21	0.21	0.21		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	15	1481		378	2262		345	346	321		22	
v/s Ratio Prot	0.00	c0.43		c0.18	0.18		0.05	0.05				
v/s Ratio Perm									c0.18		c0.00	
v/c Ratio	0.13	0.99		0.85	0.28		0.27	0.26	0.86		0.32	
Uniform Delay, d1	64.0	36.5		49.3	10.3		43.4	43.4	49.8		63.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.5	22.0		15.5	0.3		0.2	0.1	19.0		3.0	
Delay (s)	65.4	58.5		64.8	10.7		43.6	43.5	68.8		66.7	
Level of Service	E	E		E	B		D	D	E		E	
Approach Delay (s)		58.5			28.7			63.5			66.7	
Approach LOS		E			C			E			E	

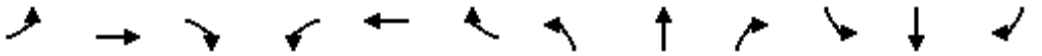
Intersection Summary			
HCM 2000 Control Delay	51.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	391	166	360	741	107	200	727	162	21	397	89
Future Volume (vph)	126	391	166	360	741	107	200	727	162	21	397	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	4988	2563	3467	4891		4802	3539	2737	3099	5085	1489
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	4988	2563	3467	4891		4802	3539	2737	3099	5085	1489
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	135	420	178	387	797	115	215	782	174	23	427	96
RTOR Reduction (vph)	0	0	134	0	14	0	0	0	114	0	0	71
Lane Group Flow (vph)	135	420	44	387	898	0	215	782	60	23	427	25
Confl. Peds. (#/hr)			8			14			7			2
Heavy Vehicles (%)	3%	4%	9%	1%	4%	2%	6%	2%	2%	13%	2%	7%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	8.7	22.3	22.3	15.1	28.7		9.2	31.2	31.2	1.9	23.9	23.9
Effective Green, g (s)	8.7	22.3	22.3	15.1	28.7		9.2	31.2	31.2	1.9	23.9	23.9
Actuated g/C Ratio	0.10	0.25	0.25	0.17	0.32		0.10	0.34	0.34	0.02	0.26	0.26
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	326	1229	631	578	1551		488	1220	943	65	1342	393
v/s Ratio Prot	0.04	0.08		c0.11	c0.18		c0.04	c0.22		0.01	0.08	
v/s Ratio Perm			0.02						0.02			0.02
v/c Ratio	0.41	0.34	0.07	0.67	0.58		0.44	0.64	0.06	0.35	0.32	0.06
Uniform Delay, d1	38.5	28.1	26.1	35.4	25.8		38.2	24.9	19.9	43.7	26.8	24.9
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	0.3	0.2	0.1	2.3	0.6		0.2	1.2	0.0	1.2	0.2	0.1
Delay (s)	38.8	28.3	26.2	37.6	26.4		38.5	26.2	19.9	44.9	26.9	25.0
Level of Service	D	C	C	D	C		D	C	B	D	C	C
Approach Delay (s)		29.7			29.8			27.5			27.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

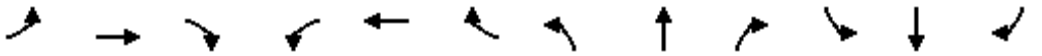
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	197	147	596	858	46	247	491	294	55	1031	62
Future Volume (vph)	107	197	147	596	858	46	247	491	294	55	1031	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.86	0.88	0.94	0.91		0.94	0.86	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	6108	2760	4990	5001		4894	6285	1563	3072	6408	2733
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	6108	2760	4990	5001		4894	6285	1563	3072	6408	2733
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	114	210	156	634	913	49	263	522	313	59	1097	66
RTOR Reduction (vph)	0	0	127	0	4	0	0	0	201	0	0	46
Lane Group Flow (vph)	114	210	29	634	958	0	263	522	112	59	1097	20
Confl. Peds. (#/hr)						4			1			
Heavy Vehicles (%)	3%	7%	3%	2%	3%	0%	4%	4%	2%	14%	2%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	8.0	17.9	17.9	16.9	26.8		10.0	34.6	34.6	5.3	29.9	29.9
Effective Green, g (s)	8.0	17.9	17.9	16.9	26.8		10.0	34.6	34.6	5.3	29.9	29.9
Actuated g/C Ratio	0.08	0.19	0.19	0.18	0.28		0.10	0.36	0.36	0.06	0.31	0.31
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	282	1135	513	875	1391		508	2258	561	169	1989	848
v/s Ratio Prot	0.03	0.03		c0.13	c0.19		c0.05	c0.08		0.02	c0.17	
v/s Ratio Perm			0.01						0.07			0.01
v/c Ratio	0.40	0.19	0.06	0.72	0.69		0.52	0.23	0.20	0.35	0.55	0.02
Uniform Delay, d1	41.9	33.1	32.3	37.5	31.0		40.9	21.6	21.3	43.8	27.6	23.1
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	0.3	0.1	0.0	2.5	1.4		0.4	0.1	0.2	0.5	0.4	0.0
Delay (s)	42.2	33.1	32.3	40.0	32.5		41.2	21.6	21.5	44.3	28.0	23.1
Level of Service	D	C	C	D	C		D	C	C	D	C	C
Approach Delay (s)		35.0			35.5			26.3			28.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	96.3	Sum of lost time (s)	21.6
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

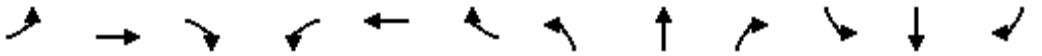
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	75	163	156	1206	111	423	545	1014	132	1076	159
Future Volume (vph)	67	75	163	156	1206	111	423	545	1014	132	1076	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91	1.00	0.94	0.86	0.88	0.97	0.86	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5187	2608	3433	5085	1583	4894	6285	2842	3502	6471	1579
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5187	2608	3433	5085	1583	4894	6285	2842	3502	6471	1579
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	71	79	172	164	1269	117	445	574	1067	139	1133	167
RTOR Reduction (vph)	0	0	32	0	0	81	0	0	597	0	0	115
Lane Group Flow (vph)	71	79	140	164	1269	36	445	574	470	139	1133	52
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	2%	0%	9%	2%	2%	2%	4%	4%	0%	0%	1%	1%
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8	1	7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	5.0	26.5	44.0	7.7	29.2	29.2	12.2	34.4	42.1	7.8	30.0	30.0
Effective Green, g (s)	5.0	26.5	44.0	7.7	29.2	29.2	12.2	34.4	42.1	7.8	30.0	30.0
Actuated g/C Ratio	0.05	0.28	0.46	0.08	0.30	0.30	0.13	0.36	0.44	0.08	0.31	0.31
Clearance Time (s)	5.3	5.3		4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0	2.0	2.0	4.0	2.0	2.0	4.0	4.0
Lane Grp Cap (vph)	178	1433	1196	275	1548	481	622	2254	1247	284	2024	493
v/s Ratio Prot	0.02	0.02	0.05	c0.05	c0.25		c0.09	0.09	c0.03	0.04	c0.18	
v/s Ratio Perm						0.02			0.14			0.03
v/c Ratio	0.40	0.06	0.12	0.60	0.82	0.07	0.72	0.25	0.38	0.49	0.56	0.11
Uniform Delay, d1	44.0	25.5	14.8	42.6	30.9	23.7	40.2	21.7	18.1	42.1	27.4	23.4
Progression Factor	1.00	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	0.5	0.0	0.1	2.3	3.3	0.0	3.3	0.1	0.1	0.5	0.4	0.1
Delay (s)	44.5	25.5	14.9	44.9	34.3	23.8	43.4	21.8	18.2	42.6	27.9	23.5
Level of Service	D	C	B	D	C	C	D	C	B	D	C	C
Approach Delay (s)		24.0			34.6			24.5			28.8	
Approach LOS		C			C			C			C	

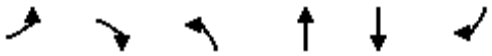
Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	95.9	Sum of lost time (s)	19.5
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	257	62	658	0	1241	0	0	732	512
Future Volume (vph)	0	0	0	257	62	658	0	1241	0	0	732	512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		0.91			0.91	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1633	1687	2760		5036			5036	1599
Flt Permitted				0.95	0.97	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1633	1687	2760		5036			5036	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	265	64	678	0	1279	0	0	755	528
RTOR Reduction (vph)	0	0	0	0	0	45	0	0	0	0	0	192
Lane Group Flow (vph)	0	0	0	164	165	633	0	1279	0	0	755	336
Heavy Vehicles (%)	0%	0%	0%	5%	2%	3%	0%	3%	20%	0%	3%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				10.4	10.4	18.1		25.5			33.2	33.2
Effective Green, g (s)				10.4	10.4	18.1		25.5			33.2	33.2
Actuated g/C Ratio				0.20	0.20	0.35		0.49			0.64	0.64
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				325	336	958		2464			3209	1018
v/s Ratio Prot				0.10	0.10	c0.23		c0.25			0.15	
v/s Ratio Perm												0.21
v/c Ratio				0.50	0.49	0.66		0.52			0.24	0.33
Uniform Delay, d1				18.6	18.5	14.4		9.1			4.0	4.3
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				1.7	1.5	1.9		0.2			0.0	0.1
Delay (s)				20.2	20.0	16.3		9.4			4.1	4.5
Level of Service				C	C	B		A			A	A
Approach Delay (s)		0.0			17.5			9.4			4.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	12.2
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	665	668	0	1051	705	0
Future Volume (vph)	665	668	0	1051	705	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3367	2409		4631	4893	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3367	2409		4631	4893	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	715	718	0	1130	758	0
RTOR Reduction (vph)	0	206	0	0	0	0
Lane Group Flow (vph)	715	512	0	1130	758	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	4%	18%	0%	12%	6%	2%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.5	12.5		17.9	17.9	
Effective Green, g (s)	12.5	12.5		17.9	17.9	
Actuated g/C Ratio	0.33	0.33		0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	1096	784		2158	2280	
v/s Ratio Prot	0.21			c0.24	0.15	
v/s Ratio Perm		c0.21				
v/c Ratio	0.65	0.65		0.52	0.33	
Uniform Delay, d1	11.1	11.1		7.2	6.5	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	1.5		0.1	0.0	
Delay (s)	12.2	12.6		7.3	6.5	
Level of Service	B	B		A	A	
Approach Delay (s)	12.4			7.3	6.5	
Approach LOS	B			A	A	

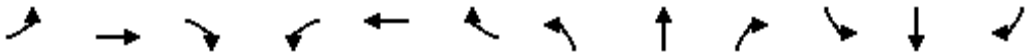
Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	38.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	694	244	252	13	54	103	58	581	210	72	130	0
Future Volume (vph)	694	244	252	13	54	103	58	581	210	72	130	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1827	1538	1687	1681	1599	1719	3310		1719	3438	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1827	1538	1687	1681	1599	1719	3310		1719	3438	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	771	271	280	14	60	114	64	646	233	80	144	0
RTOR Reduction (vph)	0	0	202	0	0	44	0	33	0	0	0	0
Lane Group Flow (vph)	771	271	78	14	60	70	64	846	0	80	144	0
Confl. Peds. (#/hr)									4			
Heavy Vehicles (%)	2%	4%	5%	7%	13%	1%	5%	4%	4%	5%	5%	3%
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	29.1	29.1	29.1	14.0	14.0	28.4	7.8	34.7		9.5	36.9	
Effective Green, g (s)	29.1	29.1	29.1	14.0	14.0	28.4	7.8	34.7		9.5	36.9	
Actuated g/C Ratio	0.28	0.28	0.28	0.13	0.13	0.27	0.07	0.33		0.09	0.35	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	951	506	426	224	224	432	127	1093		155	1208	
v/s Ratio Prot	c0.22	0.15		0.01	c0.04	0.04	0.04	c0.26		c0.05	0.04	
v/s Ratio Perm			0.05									
v/c Ratio	0.81	0.54	0.18	0.06	0.27	0.16	0.50	0.77		0.52	0.12	
Uniform Delay, d1	35.4	32.2	28.9	39.8	40.9	29.2	46.7	31.6		45.6	23.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.57	0.99	
Incremental Delay, d2	5.3	1.1	0.2	0.1	0.6	0.2	3.1	5.3		2.9	0.2	
Delay (s)	40.7	33.3	29.1	39.9	41.5	29.4	49.9	37.0		28.7	23.0	
Level of Service	D	C	C	D	D	C	D	D		C	C	
Approach Delay (s)		36.7			34.1			37.8			25.0	
Approach LOS		D			C			D			C	

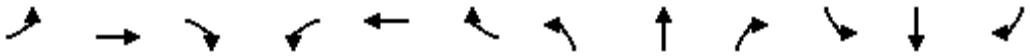
Intersection Summary			
HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	58	5	471	0	1201	0	0	259	0
Future Volume (vph)	0	0	0	58	5	471	0	1201	0	0	259	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (prot)				1681	1651	2632		3539			4988	
Flt Permitted				0.95	0.96	1.00		1.00			1.00	
Satd. Flow (perm)				1681	1651	2632		3539			4988	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	67	6	548	0	1397	0	0	301	0
RTOR Reduction (vph)	0	0	0	0	0	81	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	36	37	467	0	1397	0	0	301	0
Heavy Vehicles (%)	0%	0%	0%	2%	20%	8%	0%	2%	6%	0%	4%	3%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				17.2	17.2	28.6		68.1			78.5	
Effective Green, g (s)				17.2	17.2	28.6		68.1			78.5	
Actuated g/C Ratio				0.16	0.16	0.27		0.65			0.75	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				275	270	716		2295			3729	
v/s Ratio Prot				0.02	0.02	c0.18		c0.39			0.06	
v/s Ratio Perm												
v/c Ratio				0.13	0.14	0.65		0.61			0.08	
Uniform Delay, d1				37.5	37.6	33.8		10.7			3.6	
Progression Factor				1.00	1.00	1.00		1.17			0.20	
Incremental Delay, d2				0.2	0.2	2.1		0.8			0.0	
Delay (s)				37.7	37.8	35.9		13.3			0.8	
Level of Service				D	D	D		B			A	
Approach Delay (s)		0.0			36.2			13.3			0.8	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	57.4%	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												
Traffic Volume (vph)	0	144	89	283	905	0	608	0	1022	0	0	0
Future Volume (vph)	0	144	89	283	905	0	608	0	1022	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	1.00			1.00	0.88			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	1900			1787	2787			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	1900			1787	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	171	106	337	1077	0	724	0	1217	0	0	0
RTOR Reduction (vph)	0	0	82	0	0	0	0	0	414	0	0	0
Lane Group Flow (vph)	0	171	24	337	1077	0	0	724	803	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		24.0	24.0	24.0	54.0			40.8	69.0			
Effective Green, g (s)		24.0	24.0	24.0	54.0			40.8	69.0			
Actuated g/C Ratio		0.23	0.23	0.23	0.51			0.39	0.66			
Clearance Time (s)		6.0	6.0	6.0	6.0			4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		757	335	769	977			694	1831			
v/s Ratio Prot		0.05		0.10	c0.57			c0.41	0.29			
v/s Ratio Perm			0.02									
v/c Ratio		0.23	0.07	0.44	1.10			1.04	0.44			
Uniform Delay, d1		32.9	31.8	34.7	25.5			32.1	8.7			
Progression Factor		1.00	1.00	1.00	1.00			1.15	13.06			
Incremental Delay, d2		0.2	0.1	1.8	61.0			42.4	0.1			
Delay (s)		33.1	31.9	36.5	86.5			79.3	113.4			
Level of Service		C	C	D	F			E	F			
Approach Delay (s)		32.6			74.6			100.7			0.0	
Approach LOS		C			E			F			A	

Intersection Summary			
HCM 2000 Control Delay	85.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

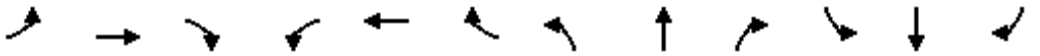
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	206	0	21	1485	11	0	0	19	16	0	0
Future Volume (vph)	0	206	0	21	1485	11	0	0	19	16	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	1.00			0.86			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.95	
Satd. Flow (prot)		3539		1805	3535			1339			1608	
Flt Permitted		1.00		0.95	1.00			1.00			0.91	
Satd. Flow (perm)		3539		1805	3535			1339			1539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.92	0.83	0.92	0.83	0.83	0.83	0.83	0.92
Adj. Flow (vph)	0	224	0	25	1614	13	0	0	23	19	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	224	0	25	1627	0	0	2	0	0	19	0
Confl. Peds. (#/hr)				3		1			3	3		
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	0%	21%	12%	0%	2%
Turn Type	Prot	NA		Prot	NA			NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		41.4		1.5	46.9			4.4			4.4	
Effective Green, g (s)		41.4		1.5	46.9			4.4			4.4	
Actuated g/C Ratio		0.70		0.03	0.79			0.07			0.07	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2470		45	2795			99			114	
v/s Ratio Prot		0.06		0.01	c0.46			0.00				
v/s Ratio Perm											c0.01	
v/c Ratio		0.09		0.56	0.58			0.02			0.17	
Uniform Delay, d1		2.9		28.6	2.4			25.4			25.7	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.0		14.0	0.3			0.1			0.7	
Delay (s)		2.9		42.6	2.7			25.5			26.4	
Level of Service		A		D	A			C			C	
Approach Delay (s)		2.9			3.3			25.5			26.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	3.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	59.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

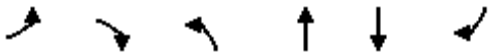
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	153	208	593	987	93	501	502	59	68	178	0
Future Volume (vph)	5	153	208	593	987	93	501	502	59	68	178	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3574	2779	4990	3553		3433	3574	1482	1656	3610	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	3574	2779	4990	3553		3433	3574	1482	1656	3610	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	7	204	277	791	1316	124	668	669	79	91	237	0
RTOR Reduction (vph)	0	0	217	0	5	0	0	0	55	0	0	0
Lane Group Flow (vph)	7	204	60	791	1435	0	668	669	24	91	237	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	1%	2%	0%	2%	2%	1%	9%	9%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.2	20.6	20.6	18.7	38.1		20.8	28.8	28.8	8.9	17.3	
Effective Green, g (s)	1.2	20.6	20.6	18.7	38.1		20.8	28.8	28.8	8.9	17.3	
Actuated g/C Ratio	0.01	0.22	0.22	0.20	0.40		0.22	0.30	0.30	0.09	0.18	
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	22	770	598	976	1415		746	1076	446	154	653	
v/s Ratio Prot	0.00	0.06		c0.16	c0.40		c0.19	c0.19		0.05	0.07	
v/s Ratio Perm			0.02						0.02			
v/c Ratio	0.32	0.26	0.10	0.81	1.01		0.90	0.62	0.05	0.59	0.36	
Uniform Delay, d1	46.8	31.2	30.1	36.8	28.7		36.3	28.7	23.7	41.6	34.3	
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	3.0	0.2	0.1	4.9	27.5		13.0	1.1	0.1	4.0	0.3	
Delay (s)	49.8	31.4	30.1	41.7	56.3		49.3	29.8	23.8	45.6	34.7	
Level of Service	D	C	C	D	E		D	C	C	D	C	
Approach Delay (s)		30.9			51.1			38.7			37.7	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	95.6	Sum of lost time (s)	18.6
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1129	0	719	0	580	0	0	447	372
Future Volume (vph)	0	0	0	1129	0	719	0	580	0	0	447	372
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3242		1599		3539			3539	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3242		1599		3539			3539	1863
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	1377	0	877	0	707	0	0	545	454
RTOR Reduction (vph)	0	0	0	0	0	23	0	0	0	0	0	224
Lane Group Flow (vph)	0	0	0	1377	0	854	0	707	0	0	545	230
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	8%	0%	1%	0%	2%	6%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				35.4		60.0		21.7			46.9	46.9
Effective Green, g (s)				35.4		60.0		21.7			46.9	46.9
Actuated g/C Ratio				0.38		0.65		0.23			0.51	0.51
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1238		1034		828			1790	942
v/s Ratio Prot				c0.42		c0.53		c0.20			0.15	
v/s Ratio Perm												0.12
v/c Ratio				1.11		0.83		0.85			0.30	0.24
Uniform Delay, d1				28.7		12.4		34.0			13.4	12.9
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				62.2		5.2		8.2			0.0	0.0
Delay (s)				90.9		17.6		42.2			13.4	13.0
Level of Service				F		B		D			B	B
Approach Delay (s)		0.0			62.4			42.2			13.2	
Approach LOS		A			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	92.7	Sum of lost time (s)	15.7
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

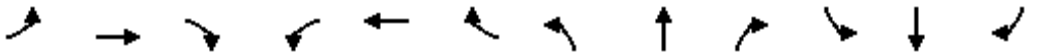


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	329	449	0	857	1416	0
Future Volume (vph)	329	449	0	857	1416	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	2632		3471	3406	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	2632		3471	3406	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	370	504	0	963	1591	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	370	503	0	963	1591	0
Heavy Vehicles (%)	2%	8%	0%	4%	6%	6%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	13.2	36.2		74.2	50.2	
Effective Green, g (s)	13.2	30.4		74.2	50.2	
Actuated g/C Ratio	0.13	0.31		0.76	0.51	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	462	817		2630	1746	
v/s Ratio Prot	c0.11	c0.19		0.28	c0.47	
v/s Ratio Perm						
v/c Ratio	0.80	0.62		0.37	0.91	
Uniform Delay, d1	41.1	28.8		4.0	21.8	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.1	1.0		0.0	7.5	
Delay (s)	50.2	29.8		4.0	29.3	
Level of Service	D	C		A	C	
Approach Delay (s)	38.4			4.0	29.3	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	97.9	Sum of lost time (s)	17.3
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	336	98	124	1360	3	222	0	207	1	0	3
Future Volume (vph)	6	336	98	124	1360	3	222	0	207	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1805	3362		1752	3536		1698	1698	1539		1653	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3362		1752	3536		1698	1698	1539		1674	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	369	108	136	1495	3	244	0	227	1	0	3
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	199	0	4	0
Lane Group Flow (vph)	7	464	0	136	1498	0	122	122	28	0	0	0
Confl. Peds. (#/hr)			4						5			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	4%	0%	3%	2%	33%	1%	0%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.2	68.1		13.3	80.2		14.2	14.2	14.2		0.9	
Effective Green, g (s)	1.2	68.1		13.3	80.2		14.2	14.2	14.2		0.9	
Actuated g/C Ratio	0.01	0.60		0.12	0.70		0.12	0.12	0.12		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	19	2008		204	2487		211	211	191		13	
v/s Ratio Prot	0.00	0.14		c0.08	c0.42		c0.07	0.07				
v/s Ratio Perm									0.02		c0.00	
v/c Ratio	0.37	0.23		0.67	0.60		0.58	0.58	0.15		0.00	
Uniform Delay, d1	56.0	10.7		48.2	8.7		47.1	47.1	44.5		56.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.4	0.3		6.2	1.1		2.4	2.4	0.1		0.0	
Delay (s)	60.4	11.0		54.5	9.8		49.5	49.5	44.6		56.1	
Level of Service	E	B		D	A		D	D	D		E	
Approach Delay (s)		11.7			13.5			47.1			56.1	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	162	186	104	1296	67	55	1	20	60	2	177
Future Volume (vph)	126	162	186	104	1296	67	55	1	20	60	2	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.86		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	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595		1770	1586	
Flt Permitted	0.95	1.00	1.00	0.64	1.00	1.00	0.47	1.00		0.74	1.00	
Satd. Flow (perm)	1770	3539	1583	1194	3539	1583	882	1595		1383	1586	
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)	137	176	202	113	1409	73	60	1	22	65	2	192
RTOR Reduction (vph)	0	0	57	0	0	32	0	18	0	0	124	0
Lane Group Flow (vph)	137	176	145	113	1409	41	60	5	0	65	70	0
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		
Actuated Green, G (s)	6.3	48.8	48.8	38.5	38.5	38.5	11.2	11.2		11.2	11.2	
Effective Green, g (s)	6.3	48.8	48.8	38.5	38.5	38.5	11.2	11.2		11.2	11.2	
Actuated g/C Ratio	0.09	0.72	0.72	0.57	0.57	0.57	0.16	0.16		0.16	0.16	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	163	2539	1136	676	2003	896	145	262		227	261	
v/s Ratio Prot	c0.08	0.05			c0.40			0.00			0.04	
v/s Ratio Perm			0.09	0.09		0.03	c0.07			0.05		
v/c Ratio	0.84	0.07	0.13	0.17	0.70	0.05	0.41	0.02		0.29	0.27	
Uniform Delay, d1	30.4	2.9	3.0	7.1	10.6	6.6	25.5	23.8		24.9	24.8	
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	30.4	0.0	0.1	0.1	1.1	0.0	1.9	0.0		0.7	0.6	
Delay (s)	60.8	2.9	3.0	7.2	11.8	6.6	27.4	23.8		25.6	25.4	
Level of Service	E	A	A	A	B	A	C	C		C	C	
Approach Delay (s)		18.3			11.2			26.4			25.4	
Approach LOS		B			B			C			C	

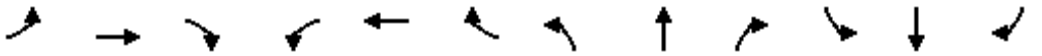
Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	449	454	173	1331	125	16
Future Volume (vph)	449	454	173	1331	125	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.92		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	4702		1770	5085	1757	
Flt Permitted	1.00		0.95	1.00	0.96	
Satd. Flow (perm)	4702		1770	5085	1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	488	493	188	1447	136	17
RTOR Reduction (vph)	265	0	0	0	10	0
Lane Group Flow (vph)	716	0	188	1447	143	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	17.6		6.2	27.8	9.2	
Effective Green, g (s)	17.6		6.2	27.8	9.2	
Actuated g/C Ratio	0.39		0.14	0.62	0.20	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1839		243	3141	359	
v/s Ratio Prot	0.15		c0.11	c0.28	c0.08	
v/s Ratio Perm						
v/c Ratio	0.39		0.77	0.46	0.40	
Uniform Delay, d1	9.8		18.7	4.6	15.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		14.2	0.1	0.7	
Delay (s)	10.0		32.9	4.7	16.2	
Level of Service	A		C	A	B	
Approach Delay (s)	10.0			7.9	16.2	
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	0.54		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

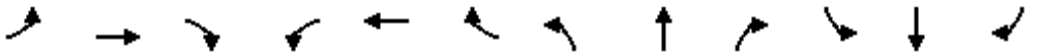
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	1258	254	227	636	38	390	584	507	117	622	74
Future Volume (vph)	165	1258	254	227	636	38	390	584	507	117	622	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91		0.94	0.95	0.88	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	5136	2751	3502	5077		5040	3610	2800	3502	5136	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	5136	2751	3502	5077		5040	3610	2800	3502	5136	1553
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)	179	1367	276	247	691	41	424	635	551	127	676	80
RTOR Reduction (vph)	0	0	145	0	4	0	0	0	397	0	0	61
Lane Group Flow (vph)	179	1367	131	247	728	0	424	635	154	127	676	19
Confl. Peds. (#/hr)			1			3			3			
Heavy Vehicles (%)	1%	1%	2%	0%	1%	5%	1%	0%	0%	0%	1%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	10.1	36.7	36.7	12.1	38.7		13.6	30.0	30.0	8.4	24.8	24.8
Effective Green, g (s)	10.1	36.7	36.7	12.1	38.7		13.6	30.0	30.0	8.4	24.8	24.8
Actuated g/C Ratio	0.09	0.34	0.34	0.11	0.36		0.13	0.28	0.28	0.08	0.23	0.23
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0	3.5	3.5	2.0	3.5	3.5
Lane Grp Cap (vph)	326	1758	941	395	1832		639	1010	783	274	1188	359
v/s Ratio Prot	0.05	c0.27		c0.07	0.14		c0.08	c0.18		0.04	0.13	
v/s Ratio Perm			0.05						0.06			0.01
v/c Ratio	0.55	0.78	0.14	0.63	0.40		0.66	0.63	0.20	0.46	0.57	0.05
Uniform Delay, d1	46.4	31.6	24.3	45.4	25.5		44.6	33.7	29.4	47.2	36.5	32.1
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	1.0	2.3	0.1	2.2	0.2		2.0	1.3	0.1	0.5	0.7	0.1
Delay (s)	47.4	33.9	24.4	47.6	25.7		46.6	35.0	29.6	47.7	37.2	32.1
Level of Service	D	C	C	D	C		D	D	C	D	D	C
Approach Delay (s)		33.8			31.2			36.2			38.2	
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	0.71		
Actuated Cycle Length (s)	107.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

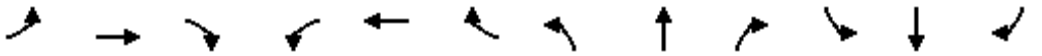
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	1055	542	358	333	61	468	687	570	105	695	142
Future Volume (vph)	275	1055	542	358	333	61	468	687	570	105	695	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Lane Util. Factor	0.97	0.86	0.88	0.94	0.91		0.94	0.86	1.00	0.97	0.86	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	6471	2814	5090	4972		5090	6536	1599	3502	6408	2774
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	6471	2814	5090	4972		5090	6536	1599	3502	6408	2774
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	286	1099	565	373	347	64	488	716	594	109	724	148
RTOR Reduction (vph)	0	0	384	0	19	0	0	0	290	0	0	115
Lane Group Flow (vph)	286	1099	181	373	392	0	488	716	304	109	724	33
Confl. Peds. (#/hr)						1						2
Heavy Vehicles (%)	0%	1%	1%	0%	2%	0%	0%	0%	1%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Actuated Green, G (s)	13.2	31.5	31.5	12.4	30.7		14.6	29.8	29.8	7.9	23.1	23.1
Effective Green, g (s)	13.2	31.5	31.5	12.4	30.7		14.6	29.8	29.8	7.9	23.1	23.1
Actuated g/C Ratio	0.13	0.31	0.31	0.12	0.30		0.14	0.29	0.29	0.08	0.22	0.22
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.0	5.8	5.8	5.0	5.8	5.8
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	447	1975	858	611	1479		720	1887	461	268	1434	620
v/s Ratio Prot	c0.08	c0.17		0.07	0.08		c0.10	0.11		0.03	0.11	
v/s Ratio Perm			0.06						c0.19			0.01
v/c Ratio	0.64	0.56	0.21	0.61	0.27		0.68	0.38	0.66	0.41	0.50	0.05
Uniform Delay, d1	42.7	30.0	26.6	43.1	27.6		42.1	29.3	32.2	45.4	35.0	31.5
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	2.2	0.3	0.1	1.3	0.1		2.0	0.2	3.8	0.4	0.4	0.0
Delay (s)	45.0	30.3	26.7	44.4	27.7		44.1	29.5	36.0	45.8	35.4	31.5
Level of Service	D	C	C	D	C		D	C	D	D	D	C
Approach Delay (s)		31.4			35.7			35.6			36.0	
Approach LOS		C			D			D			D	

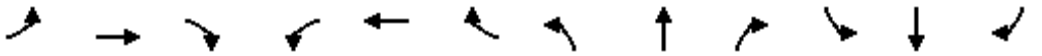
Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	21.6
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	878	167	677	95	73	159	956	424	137	673	98
Future Volume (vph)	221	878	167	677	95	73	159	956	424	137	673	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91	1.00	0.94	0.86	0.88	0.97	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	5187	2760	3433	5085	1583	4942	6471	2842	3502	6408	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	5187	2760	3433	5085	1583	4942	6471	2842	3502	6408	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	243	965	184	744	104	80	175	1051	466	151	740	108
RTOR Reduction (vph)	0	0	55	0	0	47	0	0	27	0	0	82
Lane Group Flow (vph)	243	965	129	744	104	33	175	1051	439	151	740	26
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8	1	7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	12.5	28.4	41.5	29.7	45.6	45.6	7.8	30.1	59.8	4.1	26.4	26.4
Effective Green, g (s)	12.5	28.4	41.5	29.7	45.6	45.6	7.8	30.1	59.8	4.1	26.4	26.4
Actuated g/C Ratio	0.11	0.25	0.37	0.27	0.41	0.41	0.07	0.27	0.53	0.04	0.24	0.24
Clearance Time (s)	5.3	5.3		4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0	2.0	2.0	4.0	2.0	2.0	4.0	4.0
Lane Grp Cap (vph)	391	1317	1024	911	2074	645	344	1742	1520	128	1513	381
v/s Ratio Prot	0.07	c0.19	0.05	c0.22	0.02		0.04	c0.16	0.08	c0.04	0.12	
v/s Ratio Perm						0.02			0.08			0.02
v/c Ratio	0.62	0.73	0.13	0.82	0.05	0.05	0.51	0.60	0.29	1.18	0.49	0.07
Uniform Delay, d1	47.4	38.2	23.2	38.5	20.0	20.0	50.2	35.6	14.3	53.9	36.9	33.1
Progression Factor	1.00	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	2.2	2.3	0.1	5.4	0.0	0.0	0.4	0.7	0.0	135.8	0.3	0.1
Delay (s)	49.6	40.5	23.3	43.9	20.0	20.0	50.6	36.3	14.3	189.7	37.2	33.2
Level of Service	D	D	C	D	C	C	D	D	B	F	D	C
Approach Delay (s)		39.8			39.2			31.7			59.8	
Approach LOS		D			D			C			E	

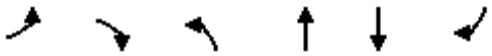
Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	111.8	Sum of lost time (s)	19.5
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	698	2	561	0	977	0	0	832	742
Future Volume (vph)	0	0	0	698	2	561	0	977	0	0	832	742
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.7	3.7	3.7		4.8			4.8	4.8
Lane Util. Factor				0.95	0.95	0.88		0.91			0.91	1.00
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	1.00
Frt				1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)				1715	1719	2814		5187			5085	1599
Flt Permitted				0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)				1715	1719	2814		5187			5085	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	735	2	591	0	1028	0	0	876	781
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	0	353
Lane Group Flow (vph)	0	0	0	367	370	555	0	1028	0	0	876	428
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%	2%	1%
Turn Type				Split	NA	custom		NA			NA	Perm
Protected Phases				8	8	8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				13.3	13.3	21.1		18.7			26.5	26.5
Effective Green, g (s)				13.3	13.3	21.1		18.7			26.5	26.5
Actuated g/C Ratio				0.28	0.28	0.44		0.39			0.55	0.55
Clearance Time (s)				3.7	3.7			4.8			4.8	4.8
Vehicle Extension (s)				4.0	4.0			4.0			2.5	2.5
Lane Grp Cap (vph)				472	473	1229		2008			2789	877
v/s Ratio Prot				0.21	c0.22	c0.20		0.20			0.17	
v/s Ratio Perm												c0.27
v/c Ratio				0.78	0.78	0.45		0.51			0.31	0.49
Uniform Delay, d1				16.1	16.2	9.5		11.3			5.9	6.7
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				8.3	8.7	0.4		0.3			0.0	0.3
Delay (s)				24.5	24.9	9.9		11.6			6.0	7.0
Level of Service				C	C	A		B			A	A
Approach Delay (s)		0.0			18.1			11.6			6.5	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	12.2
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

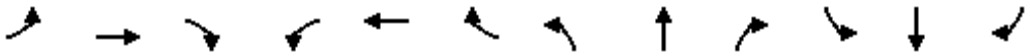


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	520	408	0	1663	1532	0
Future Volume (vph)	520	408	0	1663	1532	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.88		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3502	2787		5187	5014	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3502	2787		5187	5014	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	571	448	0	1827	1684	0
RTOR Reduction (vph)	0	20	0	0	0	0
Lane Group Flow (vph)	571	428	0	1827	1684	0
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	0%	2%	0%	0%	0%	3%
Parking (#/hr)					0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.4	12.4		28.7	28.7	
Effective Green, g (s)	12.4	12.4		28.7	28.7	
Actuated g/C Ratio	0.25	0.25		0.58	0.58	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	1.0	1.0		2.0	2.0	
Lane Grp Cap (vph)	884	703		3031	2930	
v/s Ratio Prot	c0.16			c0.35	0.34	
v/s Ratio Perm		0.15				
v/c Ratio	0.65	0.61		0.60	0.57	
Uniform Delay, d1	16.4	16.2		6.5	6.4	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.0		0.2	0.2	
Delay (s)	17.6	17.2		6.8	6.6	
Level of Service	B	B		A	A	
Approach Delay (s)	17.4			6.8	6.6	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	49.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.6%	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												
Traffic Volume (vph)	345	187	221	40	133	215	136	362	133	152	423	0
Future Volume (vph)	345	187	221	40	133	215	136	362	133	152	423	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5	3.5	4.9	4.9	4.9	3.5	5.3		4.0	5.3	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	1900	1599	1805	1863	1568	1805	3369		1736	3396	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	1900	1599	1805	1863	1568	1805	3369		1736	3396	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	363	197	233	42	140	226	143	381	140	160	445	0
RTOR Reduction (vph)	0	0	190	0	0	130	0	32	0	0	0	0
Lane Group Flow (vph)	363	197	43	42	140	96	143	489	0	160	445	0
Confl. Peds. (#/hr)									2			
Heavy Vehicles (%)	2%	0%	1%	0%	2%	3%	0%	3%	0%	4%	1%	1%
Parking (#/hr)											0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8	8 1	5	2		1	6	
Permitted Phases			7									
Actuated Green, G (s)	19.2	19.2	19.2	14.7	14.7	33.5	12.8	39.5		13.9	41.1	
Effective Green, g (s)	19.2	19.2	19.2	14.7	14.7	33.5	12.8	39.5		13.9	41.1	
Actuated g/C Ratio	0.18	0.18	0.18	0.14	0.14	0.32	0.12	0.38		0.13	0.39	
Clearance Time (s)	3.5	3.5	3.5	4.9	4.9		3.5	5.3		4.0	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	627	347	292	252	260	500	220	1267		229	1329	
v/s Ratio Prot	c0.11	0.10		0.02	c0.08	0.06	0.08	c0.15		c0.09	0.13	
v/s Ratio Perm			0.03									
v/c Ratio	0.58	0.57	0.15	0.17	0.54	0.19	0.65	0.39		0.70	0.33	
Uniform Delay, d1	39.2	39.1	36.0	39.8	42.0	25.9	44.0	23.9		43.5	22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.74	0.94	
Incremental Delay, d2	1.3	2.1	0.2	0.3	2.1	0.2	6.7	0.9		8.8	0.7	
Delay (s)	40.5	41.2	36.2	40.1	44.1	26.1	50.7	24.8		41.1	21.7	
Level of Service	D	D	D	D	D	C	D	C		D	C	
Approach Delay (s)		39.4			33.7			30.4			26.9	
Approach LOS		D			C			C			C	

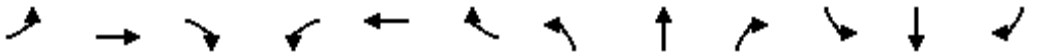
Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	17.7
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	141	2	233	0	580	0	0	829	0
Future Volume (vph)	0	0	0	141	2	233	0	580	0	0	829	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0		5.3			5.3	
Lane Util. Factor				0.95	0.95	0.88		0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00		1.00			1.00	
Frt				1.00	1.00	0.85		1.00			1.00	
Flt Protected				0.95	0.95	1.00		1.00			1.00	
Satd. Flow (prot)				1715	1721	2814		3539			4893	
Flt Permitted				0.95	0.95	1.00		1.00			1.00	
Satd. Flow (perm)				1715	1721	2814		3539			4893	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	155	2	256	0	637	0	0	911	0
RTOR Reduction (vph)	0	0	0	0	0	207	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	79	78	49	0	637	0	0	911	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	3%	0%	6%	2%
Turn Type				Split	NA	custom		NA			NA	
Protected Phases				8	8	8 1		2			6	
Permitted Phases												
Actuated Green, G (s)				10.7	10.7	20.2		76.5			85.0	
Effective Green, g (s)				10.7	10.7	20.2		76.5			85.0	
Actuated g/C Ratio				0.10	0.10	0.19		0.73			0.81	
Clearance Time (s)				4.0	4.0			5.3			5.3	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				174	175	541		2578			3961	
v/s Ratio Prot				c0.05	0.05	0.02		c0.18			c0.19	
v/s Ratio Perm												
v/c Ratio				0.45	0.45	0.09		0.25			0.23	
Uniform Delay, d1				44.4	44.4	34.9		4.7			2.3	
Progression Factor				1.00	1.00	1.00		1.24			0.21	
Incremental Delay, d2				1.9	1.8	0.1		0.2			0.0	
Delay (s)				46.3	46.2	34.9		6.1			0.5	
Level of Service				D	D	C		A			A	
Approach Delay (s)		0.0			39.2			6.1			0.5	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	34.2%	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												
Traffic Volume (vph)	0	846	471	1158	71	1	257	0	531	0	1	0
Future Volume (vph)	0	846	471	1158	71	1	257	0	531	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0		4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	1.00	1.00		1.00	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	1.00		1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	1900	1615		1752	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00	1.00		0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	1900	1615		1752	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	930	518	1273	78	1	282	0	584	0	1	0
RTOR Reduction (vph)	0	0	385	0	0	0	0	0	246	0	0	0
Lane Group Flow (vph)	0	930	133	1273	78	1	0	282	338	0	1	0
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		27.0	27.0	31.0	64.0	64.0		25.6	60.8		1.2	
Effective Green, g (s)		27.0	27.0	31.0	64.0	64.0		25.6	60.8		1.2	
Actuated g/C Ratio		0.26	0.26	0.30	0.61	0.61		0.24	0.58		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0		4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		814	398	1023	1158	984		427	1629		21	
v/s Ratio Prot		c0.29		c0.37	0.04			c0.16	0.12		c0.00	
v/s Ratio Perm			0.09			0.00						
v/c Ratio		1.14	0.33	1.24	0.07	0.00		0.66	0.21		0.05	
Uniform Delay, d1		39.0	31.7	37.0	8.3	8.0		35.8	10.6		51.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.06	8.44		1.00	
Incremental Delay, d2		78.6	0.5	118.3	0.1	0.0		3.7	0.1		0.9	
Delay (s)		117.6	32.2	155.3	8.5	8.0		41.5	89.3		52.3	
Level of Service		F	C	F	A	A		D	F		D	
Approach Delay (s)		87.0			146.7			73.7			52.3	
Approach LOS		F			F			E			D	

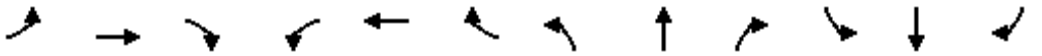
Intersection Summary			
HCM 2000 Control Delay	105.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1242	0	45	183	22	2	2	27	15	0	0
Future Volume (vph)	0	1242	0	45	183	22	2	2	27	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.88			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.95	
Satd. Flow (prot)		3539		1805	3475			1385			1609	
Flt Permitted		1.00		0.95	1.00			0.98			0.80	
Satd. Flow (perm)		3539		1805	3475			1363			1355	
Peak-hour factor, PHF	0.92	0.92	0.92	0.83	0.92	0.83	0.92	0.83	0.83	0.83	0.83	0.92
Adj. Flow (vph)	0	1350	0	54	199	27	2	2	33	18	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	30	0	0	0	0
Lane Group Flow (vph)	0	1350	0	54	220	0	0	7	0	0	18	0
Confl. Peds. (#/hr)				3		1			3	3		
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	0%	21%	12%	0%	2%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		33.7		2.2	39.9			5.0			5.0	
Effective Green, g (s)		33.7		2.2	39.9			5.0			5.0	
Actuated g/C Ratio		0.64		0.04	0.75			0.09			0.09	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2254		75	2621			128			128	
v/s Ratio Prot		c0.38		c0.03	0.06							
v/s Ratio Perm								0.01			c0.01	
v/c Ratio		0.60		0.72	0.08			0.06			0.14	
Uniform Delay, d1		5.6		25.0	1.7			21.8			22.0	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.4		28.0	0.0			0.2			0.5	
Delay (s)		6.1		53.0	1.7			22.0			22.5	
Level of Service		A		D	A			C			C	
Approach Delay (s)		6.1			11.6			22.0			22.5	
Approach LOS		A			B			C			C	

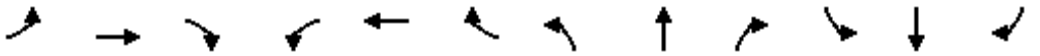
Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



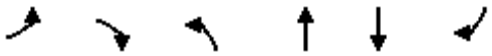
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	827	423	386	140	189	243	422	403	162	271	14
Future Volume (vph)	10	827	423	386	140	189	243	422	403	162	271	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Lane Util. Factor	1.00	0.95	0.88	0.94	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	2814	5090	3205		3433	3610	1583	1736	3610	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3610	2814	5090	3205		3433	3610	1583	1736	3610	1615
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)	11	899	460	420	152	205	264	459	438	176	295	15
RTOR Reduction (vph)	0	0	273	0	113	0	0	0	345	0	0	12
Lane Group Flow (vph)	11	899	187	420	244	0	264	459	93	176	295	3
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	1%	0%	1%	3%	2%	0%	2%	4%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	1.5	33.8	33.8	12.7	45.0		12.3	21.1	21.1	14.2	23.4	23.4
Effective Green, g (s)	1.5	33.8	33.8	12.7	45.0		12.3	21.1	21.1	14.2	23.4	23.4
Actuated g/C Ratio	0.01	0.34	0.34	0.13	0.45		0.12	0.21	0.21	0.14	0.23	0.23
Clearance Time (s)	4.0	5.3	5.3	4.0	5.3		4.0	5.3	5.3	4.0	4.9	4.9
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	26	1215	947	643	1436		420	758	332	245	841	376
v/s Ratio Prot	0.01	c0.25		c0.08	0.08		0.08	c0.13		c0.10	0.08	
v/s Ratio Perm			0.07						0.06			0.00
v/c Ratio	0.42	0.74	0.20	0.65	0.17		0.63	0.61	0.28	0.72	0.35	0.01
Uniform Delay, d1	49.0	29.4	23.7	41.8	16.5		41.9	35.9	33.3	41.2	32.2	29.6
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	4.0	2.4	0.1	1.8	0.1		2.1	1.4	0.5	8.1	0.3	0.0
Delay (s)	53.0	31.8	23.8	43.6	16.6		44.0	37.3	33.7	49.3	32.4	29.6
Level of Service	D	C	C	D	B		D	D	C	D	C	C
Approach Delay (s)		29.3			31.2			37.5			38.4	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	721	0	427	0	532	0	0	761	584
Future Volume (vph)	0	0	0	721	0	427	0	532	0	0	761	584
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3335		1599		3574			3574	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3335		1599		3574			3574	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Adj. Flow (vph)	0	0	0	775	0	459	0	572	0	0	818	635
RTOR Reduction (vph)	0	0	0	0	0	57	0	0	0	0	0	333
Lane Group Flow (vph)	0	0	0	775	0	402	0	572	0	0	818	302
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	2%	2%	2%	5%	2%	1%	2%	1%	2%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				15.4		24.4		13.8			23.4	23.4
Effective Green, g (s)				15.4		24.4		13.8			23.4	23.4
Actuated g/C Ratio				0.31		0.50		0.28			0.48	0.48
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1043		793		1002			1699	886
v/s Ratio Prot				c0.23		c0.25		0.16			c0.23	
v/s Ratio Perm												0.16
v/c Ratio				0.74		0.51		0.57			0.48	0.34
Uniform Delay, d1				15.1		8.3		15.2			8.8	8.1
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				2.5		0.2		0.5			0.1	0.1
Delay (s)				17.7		8.5		15.7			8.9	8.2
Level of Service				B		A		B			A	A
Approach Delay (s)		0.0			14.3			15.7			8.5	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	49.2	Sum of lost time (s)	15.7
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

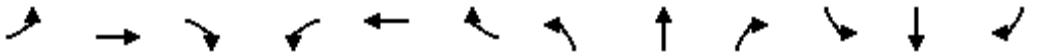


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	116	381	0	834	1053	0
Future Volume (vph)	116	381	0	834	1053	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7		5.8	6.8	
Lane Util. Factor	0.97	0.88		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	2733		3539	3505	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	2733		3539	3505	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	118	389	0	851	1074	0
RTOR Reduction (vph)	0	10	0	0	0	0
Lane Group Flow (vph)	118	379	0	851	1074	0
Heavy Vehicles (%)	1%	4%	0%	2%	3%	1%
Turn Type	Prot	custom		NA	NA	
Protected Phases	4	4 5		2	6	
Permitted Phases						
Actuated Green, G (s)	6.3	21.4		46.0	29.9	
Effective Green, g (s)	6.3	15.6		46.0	29.9	
Actuated g/C Ratio	0.10	0.25		0.73	0.48	
Clearance Time (s)	4.7			5.8	6.8	
Vehicle Extension (s)	0.2			0.2	0.2	
Lane Grp Cap (vph)	347	678		2592	1668	
v/s Ratio Prot	0.03	c0.14		0.24	c0.31	
v/s Ratio Perm						
v/c Ratio	0.34	0.56		0.33	0.64	
Uniform Delay, d1	26.3	20.6		3.0	12.4	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.6		0.0	0.6	
Delay (s)	26.5	21.2		3.0	13.1	
Level of Service	C	C		A	B	
Approach Delay (s)	22.4			3.0	13.1	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	17.3
Intersection Capacity Utilization	65.4%	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												
Traffic Volume (vph)	2	1260	209	306	583	0	148	2	414	6	1	2
Future Volume (vph)	2	1260	209	306	583	0	148	2	414	6	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.97	
Satd. Flow (prot)	1805	3484		1787	3539		1681	1688	1565		1784	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1805	3484		1787	3539		1681	1688	1565		1843	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	1326	220	322	614	0	156	2	436	6	1	2
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	393	0	2	0
Lane Group Flow (vph)	2	1539	0	322	614	0	80	78	43	0	7	0
Confl. Peds. (#/hr)			8			3			6			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	1%	0%	1%	2%	0%	2%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8	8			4	
Permitted Phases									8	4		
Actuated Green, G (s)	1.1	70.2		27.8	96.9		12.9	12.9	12.9		1.6	
Effective Green, g (s)	1.1	70.2		27.8	96.9		12.9	12.9	12.9		1.6	
Actuated g/C Ratio	0.01	0.54		0.21	0.75		0.10	0.10	0.10		0.01	
Clearance Time (s)	4.0	4.9		4.0	4.9		4.6	4.6	4.6		4.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	15	1881		382	2637		166	167	155		22	
v/s Ratio Prot	0.00	c0.44		c0.18	0.17		c0.05	0.05				
v/s Ratio Perm									0.03		c0.00	
v/c Ratio	0.13	0.82		0.84	0.23		0.48	0.47	0.28		0.32	
Uniform Delay, d1	64.0	24.6		49.0	5.1		55.4	55.3	54.2		63.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.5	4.1		14.9	0.2		0.8	0.8	0.4		3.0	
Delay (s)	65.4	28.7		63.9	5.3		56.2	56.1	54.6		66.7	
Level of Service	E	C		E	A		E	E	D		E	
Approach Delay (s)		28.8			25.5			55.0			66.7	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	1064	98	38	116	63	201	3	91	75	2	173
Future Volume (vph)	175	1064	98	38	116	63	201	3	91	75	2	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.85		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	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1592		1770	1586	
Flt Permitted	0.95	1.00	1.00	0.32	1.00	1.00	0.64	1.00		0.69	1.00	
Satd. Flow (perm)	1770	3539	1583	596	3539	1583	1188	1592		1287	1586	
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)	190	1157	107	41	126	68	218	3	99	82	2	188
RTOR Reduction (vph)	0	0	47	0	0	49	0	25	0	0	139	0
Lane Group Flow (vph)	190	1157	60	41	126	19	218	77	0	82	51	0
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases			2	6		6	8			4		
Actuated Green, G (s)	8.0	24.5	24.5	12.5	12.5	12.5	11.5	11.5		11.5	11.5	
Effective Green, g (s)	8.0	24.5	24.5	12.5	12.5	12.5	11.5	11.5		11.5	11.5	
Actuated g/C Ratio	0.18	0.56	0.56	0.28	0.28	0.28	0.26	0.26		0.26	0.26	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	321	1970	881	169	1005	449	310	416		336	414	
v/s Ratio Prot	0.11	c0.33			0.04			0.05			0.03	
v/s Ratio Perm			0.04	0.07		0.01	c0.18			0.06		
v/c Ratio	0.59	0.59	0.07	0.24	0.13	0.04	0.70	0.18		0.24	0.12	
Uniform Delay, d1	16.5	6.4	4.5	12.1	11.7	11.4	14.7	12.6		12.8	12.4	
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	2.9	0.5	0.0	0.7	0.1	0.0	7.1	0.2		0.4	0.1	
Delay (s)	19.4	6.9	4.5	12.9	11.7	11.5	21.8	12.8		13.2	12.5	
Level of Service	B	A	A	B	B	B	C	B		B	B	
Approach Delay (s)		8.3			11.9			18.9			12.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1341	98	38	452	201	91
Future Volume (vph)	1341	98	38	452	201	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.99		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	5033		1770	5085	1725	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	5033		1770	5085	1725	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1458	107	41	491	218	99
RTOR Reduction (vph)	8	0	0	0	23	0
Lane Group Flow (vph)	1557	0	41	491	294	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	32.8		2.1	38.9	16.4	
Effective Green, g (s)	32.8		2.1	38.9	16.4	
Actuated g/C Ratio	0.52		0.03	0.61	0.26	
Clearance Time (s)	4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2607		58	3124	446	
v/s Ratio Prot	c0.31		c0.02	0.10	c0.17	
v/s Ratio Perm						
v/c Ratio	0.60		0.71	0.16	0.66	
Uniform Delay, d1	10.6		30.3	5.2	21.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.4		32.4	0.0	3.5	
Delay (s)	11.0		62.7	5.2	24.5	
Level of Service	B		E	A	C	
Approach Delay (s)	11.0			9.7	24.5	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

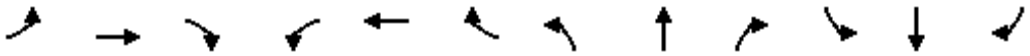
Appendix 7
2040 Cumulative 95th Percentile Queue Lengths

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	134	473	178	288	618	212	778	174	23	453	77
v/c Ratio	0.38	0.42	0.25	0.55	0.45	0.40	0.59	0.15	0.11	0.37	0.18
Control Delay	44.3	29.4	5.9	40.6	24.6	41.9	25.5	4.6	48.8	27.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	29.4	5.9	40.6	24.6	41.9	25.5	4.6	48.8	27.6	5.2
Queue Length 50th (ft)	28	65	0	60	76	31	136	0	5	63	0
Queue Length 95th (ft)	91	144	29	168	164	90	371	28	25	144	25
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	913	2399	1322	932	2400	1290	1712	1411	833	2415	757
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.20	0.13	0.31	0.26	0.16	0.45	0.12	0.03	0.19	0.10

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	114	260	156	579	539	265	521	313	51	1071	94
v/c Ratio	0.38	0.28	0.28	0.69	0.46	0.49	0.22	0.40	0.24	0.53	0.10
Control Delay	45.7	34.5	7.2	40.9	29.8	42.8	20.7	4.6	46.9	27.1	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	34.5	7.2	40.9	29.8	42.8	20.7	4.6	46.9	27.1	5.1
Queue Length 50th (ft)	29	37	0	102	91	47	53	0	13	128	0
Queue Length 95th (ft)	74	65	28	196	145	100	110	63	41	245	18
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	796	2502	1222	1168	2085	1145	2629	835	718	2625	1182
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.10	0.13	0.50	0.26	0.23	0.20	0.37	0.07	0.41	0.08

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	76	197	188	235	245	5	343	685	849	56	1193	171
v/c Ratio	0.30	0.21	0.19	0.71	0.21	0.01	0.58	0.24	0.42	0.23	0.50	0.25
Control Delay	44.0	31.0	13.2	52.1	29.2	0.0	40.8	15.8	2.1	43.1	21.9	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	31.0	13.2	52.1	29.2	0.0	40.8	15.8	2.1	43.1	21.9	4.5
Queue Length 50th (ft)	19	34	26	62	41	0	60	61	9	14	128	0
Queue Length 95th (ft)	50	59	53	#162	71	0	113	113	48	40	224	45
Internal Link Dist (ft)		734			1365			641			612	
Turn Bay Length (ft)	340		410	485		250	380		400	450		290
Base Capacity (vph)	304	1892	1072	333	1898	660	803	3344	2018	378	3068	838
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.10	0.18	0.71	0.13	0.01	0.43	0.20	0.42	0.15	0.39	0.20

Intersection Summary

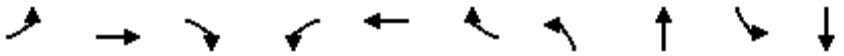
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	150	152	678	1390	915	512
v/c Ratio	0.47	0.46	0.70	0.55	0.28	0.42
Control Delay	25.7	25.2	19.3	10.0	4.3	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	25.2	19.3	10.0	4.3	1.6
Queue Length 50th (ft)	46	47	100	100	36	0
Queue Length 95th (ft)	96	96	158	133	50	23
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	316	327	969	2702	3432	1252
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.46	0.70	0.51	0.27	0.41

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	532	717	1458	725
v/c Ratio	0.55	0.77	0.61	0.29
Control Delay	16.8	14.8	9.4	7.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.8	14.8	9.4	7.0
Queue Length 50th (ft)	54	43	76	30
Queue Length 95th (ft)	132	142	190	81
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	2110	1633	3951	4174
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.44	0.37	0.17

Intersection Summary



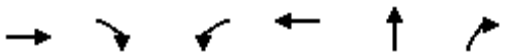
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	852	276	319	16	60	100	58	528	71	123
v/c Ratio	0.75	0.46	0.44	0.07	0.27	0.20	0.41	0.51	0.47	0.12
Control Delay	36.5	30.7	5.2	40.9	44.5	7.0	53.6	22.7	41.5	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	30.7	5.2	40.9	44.5	7.0	53.6	22.7	41.5	22.2
Queue Length 50th (ft)	244	136	0	10	37	0	38	105	47	35
Queue Length 95th (ft)	#382	239	64	30	78	39	77	145	87	63
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	1142	608	724	245	244	455	168	1149	171	1172
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.45	0.44	0.07	0.25	0.22	0.35	0.46	0.42	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

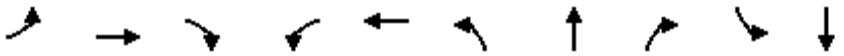
Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	31	32	107	1259	234
v/c Ratio	0.26	0.27	0.22	0.47	0.06
Control Delay	50.6	51.1	8.6	1.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	51.1	8.6	1.6	0.4
Queue Length 50th (ft)	21	22	0	15	0
Queue Length 95th (ft)	49	50	23	16	0
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	192	188	637	2683	4187
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.17	0.47	0.06

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	13	36	658	23	142	1205
v/c Ratio	0.02	0.10	0.38	0.02	0.37	0.49
Control Delay	31.9	0.6	21.3	7.3	41.6	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	0.6	21.3	7.3	41.6	7.3
Queue Length 50th (ft)	3	0	163	4	102	9
Queue Length 95th (ft)	11	0	236	16	148	239
Internal Link Dist (ft)	552			505	527	
Turn Bay Length (ft)						
Base Capacity (vph)	757	425	1745	1310	418	2473
Starvation Cap Reductn	0	0	0	0	0	11
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.08	0.38	0.02	0.34	0.49

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	205	279	1052	871	632	667	79	99	243
v/c Ratio	0.04	0.33	0.39	0.81	0.55	0.88	0.65	0.16	0.52	0.40
Control Delay	49.6	36.8	5.7	41.5	21.1	54.6	36.9	6.9	54.0	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	36.8	5.7	41.5	21.1	54.6	36.9	6.9	54.0	39.1
Queue Length 50th (ft)	4	56	0	190	169	174	178	0	53	65
Queue Length 95th (ft)	19	82	13	#337	267	#350	291	17	115	111
Internal Link Dist (ft)		924			708		1923			661
Turn Bay Length (ft)			350	420		300		300	195	
Base Capacity (vph)	470	1180	1104	1299	1584	715	1162	543	344	1142
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.17	0.25	0.81	0.55	0.88	0.57	0.15	0.29	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1415	762	732	793	465
v/c Ratio	1.02	0.76	0.83	0.50	0.43
Control Delay	57.0	17.5	39.4	16.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	17.5	39.4	16.9	2.4
Queue Length 50th (ft)	340	235	176	147	0
Queue Length 95th (ft)	#673	402	268	166	25
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1385	1275	1641	2950	1630
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.02	0.60	0.45	0.27	0.29

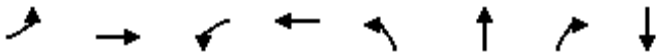
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	415	471	946	1655
v/c Ratio	0.82	0.48	0.37	0.95
Control Delay	54.7	25.1	5.1	37.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	54.7	25.1	5.1	37.0
Queue Length 50th (ft)	130	125	90	491
Queue Length 95th (ft)	189	171	141	#775
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	1757	1933	3466	1743
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.24	0.24	0.27	0.95

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	7	481	334	1293	157	158	227	4
v/c Ratio	0.09	0.28	0.84	0.49	0.66	0.67	0.55	0.02
Control Delay	54.2	18.9	59.9	8.9	58.9	59.1	10.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	18.9	59.9	8.9	58.9	59.1	10.6	0.2
Queue Length 50th (ft)	5	91	235	138	117	118	0	0
Queue Length 95th (ft)	20	193	314	429	174	175	63	0
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	142	1692	497	2632	393	393	530	246
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.28	0.67	0.49	0.40	0.40	0.43	0.02

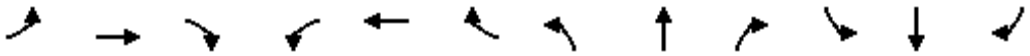
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	184	1043	292	248	724	424	629	524	112	688	80
v/c Ratio	0.54	0.63	0.27	0.61	0.42	0.65	0.61	0.44	0.42	0.57	0.18
Control Delay	53.7	33.1	4.1	52.8	28.0	49.8	35.5	4.0	54.7	38.2	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.7	33.1	4.1	52.8	28.0	49.8	35.5	4.0	54.7	38.2	6.0
Queue Length 50th (ft)	62	215	0	83	133	98	192	0	38	150	0
Queue Length 95th (ft)	115	324	35	146	208	157	297	43	78	230	29
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	687	1838	1172	695	1881	1000	1280	1330	695	1783	602
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.57	0.25	0.36	0.38	0.42	0.49	0.39	0.16	0.39	0.13

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	295	770	526	379	405	488	702	535	101	763	150
v/c Ratio	0.63	0.46	0.47	0.60	0.32	0.66	0.35	0.68	0.37	0.50	0.19
Control Delay	48.8	31.4	4.2	46.9	29.0	46.2	27.9	12.3	51.8	34.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	31.4	4.2	46.9	29.0	46.2	27.9	12.3	51.8	34.7	6.7
Queue Length 50th (ft)	87	113	0	77	67	98	93	49	29	113	0
Queue Length 95th (ft)	172	179	43	146	120	181	166	210	73	201	31
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	751	2499	1394	1091	1919	1091	2510	875	751	2405	1134
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.31	0.38	0.35	0.21	0.45	0.28	0.61	0.13	0.32	0.13

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	243	304	407	1059	87	58	179	1077	424	14	776	108
v/c Ratio	0.34	0.34	0.47	0.86	0.05	0.09	0.53	0.54	0.20	0.11	0.54	0.24
Control Delay	49.8	43.7	28.9	43.7	22.3	1.3	61.3	35.3	1.5	63.3	41.5	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	43.7	28.9	43.7	22.3	1.3	61.3	35.3	1.5	63.3	41.5	4.7
Queue Length 50th (ft)	91	73	110	363	13	0	46	189	5	5	154	0
Queue Length 95th (ft)	154	116	188	#640	30	7	85	273	28	19	202	30
Internal Link Dist (ft)		734			1365			641			612	
Turn Bay Length (ft)	340		410	485		250	380		400	450		290
Base Capacity (vph)	1073	1337	896	1338	2235	750	367	2487	2208	124	2213	637
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	0.45	0.79	0.04	0.08	0.49	0.43	0.19	0.11	0.35	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

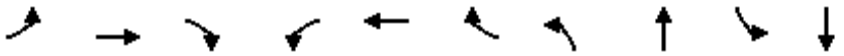
Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	317	320	753	856	1413	797
v/c Ratio	0.68	0.68	0.58	0.43	0.51	0.64
Control Delay	25.9	26.1	11.2	11.5	7.5	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	26.1	11.2	11.5	7.5	3.4
Queue Length 50th (ft)	87	88	75	61	78	0
Queue Length 95th (ft)	#189	#191	123	87	106	37
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	477	478	1257	2211	2996	1269
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.67	0.60	0.39	0.47	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	568	282	1671	1926
v/c Ratio	0.67	0.41	0.54	0.64
Control Delay	23.3	19.1	7.1	8.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.3	19.1	7.1	8.2
Queue Length 50th (ft)	82	39	95	121
Queue Length 95th (ft)	148	82	158	200
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	1825	1459	4037	3903
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.19	0.41	0.49

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	648	212	315	35	147	223	212	522	120	292
v/c Ratio	0.72	0.43	0.48	0.14	0.56	0.41	0.68	0.47	0.63	0.33
Control Delay	40.1	34.6	6.2	40.7	51.0	14.6	55.6	28.7	35.9	37.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	34.6	6.2	40.7	51.0	14.6	55.6	28.7	35.9	37.0
Queue Length 50th (ft)	196	114	0	21	94	48	131	138	72	111
Queue Length 95th (ft)	270	190	66	51	159	111	#324	187	147	155
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	946	524	669	267	275	537	314	1173	217	1148
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.40	0.47	0.13	0.53	0.42	0.68	0.45	0.55	0.25

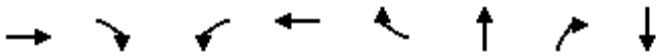
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	93	91	178	933	415
v/c Ratio	0.51	0.50	0.26	0.36	0.11
Control Delay	53.3	52.7	6.1	7.2	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	52.7	6.1	7.2	2.0
Queue Length 50th (ft)	63	62	0	69	16
Queue Length 95th (ft)	111	110	29	248	m12
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	294	294	824	2561	3938
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.31	0.22	0.36	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	8	109	1233	12	1	166	893	1
v/c Ratio	0.01	0.23	0.93	0.01	0.00	0.50	0.43	0.01
Control Delay	29.1	6.4	46.3	8.2	0.0	40.1	10.8	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	6.4	46.3	8.2	0.0	40.1	10.8	47.0
Queue Length 50th (ft)	2	0	389	2	0	115	157	1
Queue Length 95th (ft)	8	38	#736	12	0	181	232	7
Internal Link Dist (ft)	552			505		527		495
Turn Bay Length (ft)					200			
Base Capacity (vph)	814	484	1322	1321	1139	356	2086	289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.23	0.93	0.01	0.00	0.47	0.43	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	409	447	464	387	260	460	547	201	305	15
v/c Ratio	0.06	0.53	0.47	0.61	0.28	0.55	0.53	0.74	0.68	0.30	0.03
Control Delay	45.3	34.6	5.1	40.4	9.7	42.8	32.7	13.1	49.3	26.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	34.6	5.1	40.4	9.7	42.8	32.7	13.1	49.3	26.8	0.1
Queue Length 50th (ft)	6	105	0	85	29	70	114	34	103	67	0
Queue Length 95th (ft)	27	185	43	150	84	135	203	177	222	130	0
Internal Link Dist (ft)		924			708		1923			661	
Turn Bay Length (ft)			350	420		300		300	195		190
Base Capacity (vph)	542	1301	1287	1529	1437	825	1301	869	417	1344	658
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.31	0.35	0.30	0.27	0.32	0.35	0.63	0.48	0.23	0.02

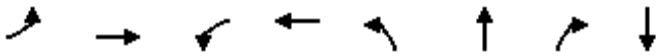
Intersection Summary

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	751	456	654	832	637
v/c Ratio	0.74	0.56	0.63	0.48	0.52
Control Delay	21.2	10.7	19.2	10.4	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	10.7	19.2	10.4	2.7
Queue Length 50th (ft)	95	63	84	77	0
Queue Length 95th (ft)	175	163	157	150	46
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	2365	1454	2752	3574	1863
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.31	0.24	0.23	0.34

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	205	392	828	1062
v/c Ratio	0.48	0.40	0.33	0.65
Control Delay	30.7	16.1	4.0	16.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.7	16.1	4.0	16.3
Queue Length 50th (ft)	38	59	48	157
Queue Length 95th (ft)	73	100	81	256
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	2696	2706	3539	2725
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.14	0.23	0.39

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	2	1498	321	642	92	90	686	9
v/c Ratio	0.03	0.94	0.85	0.26	0.27	0.26	0.94	0.11
Control Delay	61.0	46.7	69.4	9.9	43.3	43.2	33.1	53.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	46.7	69.4	9.9	43.3	43.2	33.1	53.7
Queue Length 50th (ft)	2	~652	261	103	65	63	153	6
Queue Length 95th (ft)	11	#992	348	189	123	121	#427	25
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	138	1591	481	2438	399	400	765	115
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.94	0.67	0.26	0.23	0.23	0.90	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

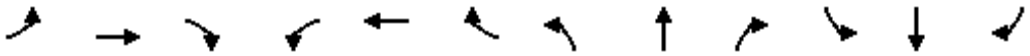
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	135	420	178	387	912	215	782	174	23	427	96
v/c Ratio	0.41	0.33	0.23	0.66	0.57	0.43	0.63	0.16	0.12	0.36	0.23
Control Delay	47.3	29.3	5.7	43.8	26.7	44.8	28.6	4.7	51.3	30.1	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	29.3	5.7	43.8	26.7	44.8	28.6	4.7	51.3	30.1	8.1
Queue Length 50th (ft)	34	65	0	94	135	37	165	0	5	69	0
Queue Length 95th (ft)	92	130	29	223	260	91	375	28	25	138	42
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	830	2183	1219	846	2204	1172	1561	1301	756	2195	697
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.19	0.15	0.46	0.41	0.18	0.50	0.13	0.03	0.19	0.14

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	114	210	156	634	962	263	522	313	59	1097	66
v/c Ratio	0.40	0.18	0.24	0.72	0.68	0.52	0.23	0.41	0.28	0.57	0.07
Control Delay	49.5	34.1	6.7	43.9	33.6	46.6	23.5	4.9	50.7	30.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	34.1	6.7	43.9	33.6	46.6	23.5	4.9	50.7	30.6	1.8
Queue Length 50th (ft)	33	31	0	123	184	52	63	0	17	157	0
Queue Length 95th (ft)	74	54	28	214	272	99	111	63	45	252	6
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	731	2298	1136	1073	1926	1052	2435	797	660	2411	1094
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.09	0.14	0.59	0.50	0.25	0.21	0.39	0.09	0.45	0.06

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	71	79	172	164	1269	117	445	574	1067	139	1133	167
v/c Ratio	0.31	0.06	0.14	0.59	0.81	0.21	0.71	0.25	0.55	0.49	0.55	0.27
Control Delay	50.5	27.5	11.0	55.0	37.0	6.7	48.5	22.1	2.1	51.1	28.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	27.5	11.0	55.0	37.0	6.7	48.5	22.1	2.1	51.1	28.6	5.2
Queue Length 50th (ft)	22	13	21	53	272	0	97	75	0	44	177	0
Queue Length 95th (ft)	48	28	48	#100	#385	43	146	98	34	81	214	45
Internal Link Dist (ft)		734			1066			641			612	
Turn Bay Length (ft)	340		410	485		250	405		400	450		290
Base Capacity (vph)	271	1687	1215	297	1692	605	716	2971	1956	338	2736	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.05	0.14	0.55	0.75	0.19	0.62	0.19	0.55	0.41	0.41	0.22

Intersection Summary

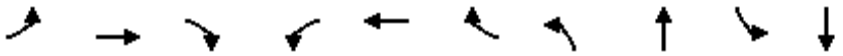
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	164	165	678	1279	755	528
v/c Ratio	0.51	0.49	0.68	0.52	0.24	0.44
Control Delay	26.1	25.6	17.8	9.8	4.1	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	25.6	17.8	9.8	4.1	1.7
Queue Length 50th (ft)	51	51	96	89	28	0
Queue Length 95th (ft)	104	104	154	120	41	23
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	324	335	1003	2770	3518	1275
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.49	0.68	0.46	0.21	0.41

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	715	718	1130	758
v/c Ratio	0.66	0.73	0.53	0.34
Control Delay	15.2	12.1	8.9	7.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.2	12.1	8.9	7.5
Queue Length 50th (ft)	62	38	52	31
Queue Length 95th (ft)	138	113	120	75
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	2389	1797	4306	4549
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.40	0.26	0.17

Intersection Summary



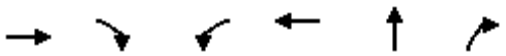
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	771	271	280	14	60	114	64	879	80	144
v/c Ratio	0.81	0.54	0.45	0.06	0.27	0.25	0.44	0.78	0.52	0.12
Control Delay	43.0	36.4	6.0	40.7	44.5	16.6	54.4	36.4	37.3	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	36.4	6.0	40.7	44.5	16.6	54.4	36.4	37.3	24.6
Queue Length 50th (ft)	245	153	0	8	37	28	41	270	53	45
Queue Length 95th (ft)	317	235	61	27	78	72	84	#360	103	80
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	984	524	640	245	244	425	170	1126	172	1230
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.52	0.44	0.06	0.25	0.27	0.38	0.78	0.47	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	36	37	548	1397	301
v/c Ratio	0.13	0.14	0.71	0.61	0.08
Control Delay	39.6	39.7	33.3	13.8	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	39.7	33.3	13.8	0.8
Queue Length 50th (ft)	21	21	144	232	4
Queue Length 95th (ft)	53	54	203	553	2
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	275	270	884	2339	3976
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.62	0.60	0.08

Intersection Summary

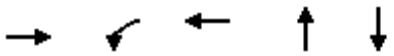


Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	171	106	337	1077	724	1217
v/c Ratio	0.23	0.25	0.44	1.10	1.04	0.54
Control Delay	33.9	6.9	36.9	87.4	79.0	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	33.9	6.9	36.9	87.4	79.0	6.4
Queue Length 50th (ft)	49	0	100	~826	~522	135
Queue Length 95th (ft)	73	30	132	#956	#698	189
Internal Link Dist (ft)	552			505	527	
Turn Bay Length (ft)						
Base Capacity (vph)	757	425	769	977	694	2272
Starvation Cap Reductn	0	0	0	0	0	203
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.25	0.44	1.10	1.04	0.59

Intersection Summary

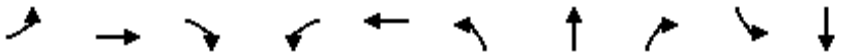
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	224	25	1627	23	19
v/c Ratio	0.08	0.14	0.53	0.03	0.07
Control Delay	5.2	32.3	5.0	0.1	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	32.3	5.0	0.1	22.5
Queue Length 50th (ft)	0	6	0	0	4
Queue Length 95th (ft)	49	34	372	0	21
Internal Link Dist (ft)	1242		627	261	357
Turn Bay Length (ft)		135			
Base Capacity (vph)	3090	182	3107	996	743
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.14	0.52	0.02	0.03

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	204	277	791	1440	668	669	79	91	237
v/c Ratio	0.04	0.31	0.37	0.78	0.97	0.86	0.60	0.15	0.46	0.37
Control Delay	47.8	33.8	5.5	42.0	45.1	48.3	33.1	6.8	49.8	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	33.8	5.5	42.0	45.1	48.3	33.1	6.8	49.8	36.5
Queue Length 50th (ft)	3	50	0	132	361	164	157	0	44	57
Queue Length 95th (ft)	19	81	13	228	524	#375	289	17	107	108
Internal Link Dist (ft)		924			708		1923			661
Turn Bay Length (ft)			350	420		300		300	195	
Base Capacity (vph)	512	1281	1173	1416	1479	779	1269	585	375	1245
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.16	0.24	0.56	0.97	0.86	0.53	0.14	0.24	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1377	877	707	545	454
v/c Ratio	1.11	0.83	0.86	0.30	0.39
Control Delay	92.7	21.2	45.6	13.4	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	92.7	21.2	45.6	13.4	2.1
Queue Length 50th (ft)	~513	334	217	92	0
Queue Length 95th (ft)	#637	518	258	110	25
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1236	1146	1465	2634	1502
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.11	0.77	0.48	0.21	0.30

Intersection Summary

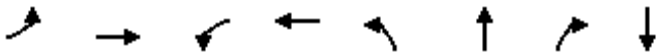
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	370	504	963	1591
v/c Ratio	0.80	0.52	0.37	0.91
Control Delay	55.0	25.8	4.7	32.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	55.0	25.8	4.7	32.5
Queue Length 50th (ft)	116	136	86	455
Queue Length 95th (ft)	171	184	135	#726
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	1758	1966	3467	1744
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.21	0.26	0.28	0.91

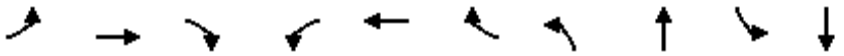
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	7	477	136	1498	122	122	227	4
v/c Ratio	0.09	0.23	0.67	0.56	0.58	0.58	0.58	0.02
Control Delay	54.2	11.2	63.4	9.4	56.5	56.5	11.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	11.2	63.4	9.4	56.5	56.5	11.6	0.2
Queue Length 50th (ft)	5	62	97	153	91	91	0	0
Queue Length 95th (ft)	20	153	156	544	138	138	63	0
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	142	2114	491	2686	393	393	530	246
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.23	0.28	0.56	0.31	0.31	0.43	0.02

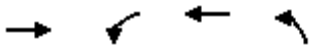
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	137	176	202	113	1409	73	60	23	65	194
v/c Ratio	0.85	0.07	0.17	0.17	0.71	0.08	0.42	0.08	0.29	0.51
Control Delay	79.0	3.9	1.2	9.2	14.0	2.8	36.3	12.2	29.8	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	3.9	1.2	9.2	14.0	2.8	36.3	12.2	29.8	13.5
Queue Length 50th (ft)	57	7	0	19	185	0	23	0	24	17
Queue Length 95th (ft)	#208	30	23	63	404	20	61	19	61	72
Internal Link Dist (ft)		598			4088			531		1450
Turn Bay Length (ft)	210		250	150		250	150		150	
Base Capacity (vph)	162	2988	1368	855	2536	1155	335	622	526	697
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.06	0.15	0.13	0.56	0.06	0.18	0.04	0.12	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	981	188	1447	153
v/c Ratio	0.46	0.76	0.44	0.36
Control Delay	7.5	46.9	6.7	15.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.5	46.9	6.7	15.1
Queue Length 50th (ft)	32	42	55	28
Queue Length 95th (ft)	91	#186	175	66
Internal Link Dist (ft)	1066		843	293
Turn Bay Length (ft)		150		
Base Capacity (vph)	2350	247	3576	988
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.76	0.40	0.15

Intersection Summary

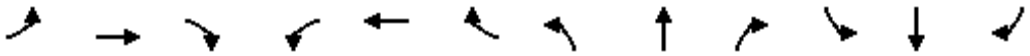
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	1367	276	247	732	424	635	551	127	676	80
v/c Ratio	0.55	0.78	0.25	0.63	0.40	0.67	0.63	0.47	0.46	0.57	0.19
Control Delay	55.2	37.0	7.7	54.5	27.5	51.5	37.5	4.1	55.5	39.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	37.0	7.7	54.5	27.5	51.5	37.5	4.1	55.5	39.2	5.9
Queue Length 50th (ft)	60	309	14	84	136	98	195	0	43	147	0
Queue Length 95th (ft)	112	447	53	145	208	157	303	44	86	225	30
Internal Link Dist (ft)		589			719		560			779	
Turn Bay Length (ft)	270		240	260		250		240	280		215
Base Capacity (vph)	655	1754	1085	661	1834	952	1214	1306	661	1698	578
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.78	0.25	0.37	0.40	0.45	0.52	0.42	0.19	0.40	0.14

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	286	1099	565	373	411	488	716	594	109	724	148
v/c Ratio	0.64	0.56	0.46	0.62	0.28	0.68	0.38	0.79	0.41	0.51	0.20
Control Delay	52.2	32.3	4.2	50.1	27.9	49.2	31.0	19.9	54.5	37.8	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	32.3	4.2	50.1	27.9	49.2	31.0	19.9	54.5	37.8	6.9
Queue Length 50th (ft)	94	180	3	85	72	110	108	110	36	121	0
Queue Length 95th (ft)	164	255	48	141	119	178	169	314	76	190	30
Internal Link Dist (ft)		661			907		451			715	
Turn Bay Length (ft)	250		300	380		355			280		250
Base Capacity (vph)	695	2317	1362	1010	1783	1010	2304	827	695	2226	1059
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.47	0.41	0.37	0.23	0.48	0.31	0.72	0.16	0.33	0.14

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	243	965	184	744	104	80	175	1051	466	151	740	108
v/c Ratio	0.62	0.73	0.17	0.82	0.05	0.11	0.51	0.61	0.28	1.19	0.49	0.23
Control Delay	56.9	44.0	15.0	47.4	22.0	3.7	58.8	37.8	10.3	186.9	38.8	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	44.0	15.0	47.4	22.0	3.7	58.8	37.8	10.3	186.9	38.8	4.6
Queue Length 50th (ft)	86	227	24	255	15	0	42	192	78	~66	135	0
Queue Length 95th (ft)	153	#375	68	378	35	24	82	262	106	#172	190	29
Internal Link Dist (ft)		734			1066			641			612	
Turn Bay Length (ft)	340		410	485		250	405		400	450		290
Base Capacity (vph)	936	1372	1096	1373	2157	727	377	2553	2043	127	2272	657
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.70	0.17	0.54	0.05	0.11	0.46	0.41	0.23	1.19	0.33	0.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

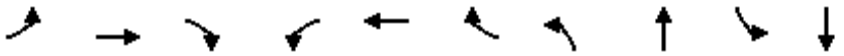
Lane Group	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	367	370	591	1028	876	781
v/c Ratio	0.78	0.78	0.47	0.51	0.31	0.64
Control Delay	31.5	31.8	10.4	12.3	6.3	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	31.8	10.4	12.3	6.3	3.3
Queue Length 50th (ft)	105	106	58	76	42	0
Queue Length 95th (ft)	#230	#232	97	107	60	36
Internal Link Dist (ft)		377		311	651	
Turn Bay Length (ft)	140		140			220
Base Capacity (vph)	473	474	1267	2195	2975	1259
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.78	0.47	0.47	0.29	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	571	448	1827	1684
v/c Ratio	0.65	0.62	0.61	0.58
Control Delay	21.6	20.9	7.9	7.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.6	20.9	7.9	7.7
Queue Length 50th (ft)	74	59	103	93
Queue Length 95th (ft)	149	129	181	164
Internal Link Dist (ft)	429		834	429
Turn Bay Length (ft)	275	275		
Base Capacity (vph)	1942	1557	4225	4083
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.29	0.43	0.41

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	363	197	233	42	140	226	143	521	160	445
v/c Ratio	0.58	0.57	0.48	0.17	0.54	0.37	0.65	0.40	0.70	0.34
Control Delay	42.2	44.6	7.9	41.2	50.1	7.7	59.2	24.2	49.6	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	44.6	7.9	41.2	50.1	7.7	59.2	24.2	49.6	23.3
Queue Length 50th (ft)	116	122	0	25	89	16	91	120	83	141
Queue Length 95th (ft)	148	178	59	58	151	74	#205	186	#212	210
Internal Link Dist (ft)		425			472			683		834
Turn Bay Length (ft)	575		380	250		250	360			
Base Capacity (vph)	882	488	584	266	274	598	220	1302	239	1341
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.40	0.40	0.16	0.51	0.38	0.65	0.40	0.67	0.33

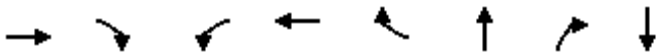
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	79	78	256	637	911
v/c Ratio	0.45	0.44	0.35	0.25	0.23
Control Delay	51.4	51.1	5.7	6.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	51.1	5.7	6.6	0.6
Queue Length 50th (ft)	53	52	0	33	9
Queue Length 95th (ft)	98	97	34	143	m9
Internal Link Dist (ft)		679		834	527
Turn Bay Length (ft)	115		475		
Base Capacity (vph)	294	295	873	2576	3959
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.26	0.29	0.25	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

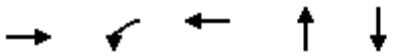


Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	930	518	1273	78	1	282	584	1
v/c Ratio	1.14	0.66	1.13	0.06	0.00	0.66	0.29	0.01
Control Delay	115.2	7.5	102.8	8.8	0.0	45.3	7.8	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	115.2	7.5	102.8	8.8	0.0	45.3	7.8	47.0
Queue Length 50th (ft)	~386	0	~505	18	0	165	9	1
Queue Length 95th (ft)	#513	89	#765	47	0	280	144	7
Internal Link Dist (ft)	552			505		527		495
Turn Bay Length (ft)					200			
Base Capacity (vph)	814	782	1131	1216	1053	426	1981	289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.66	1.13	0.06	0.00	0.66	0.29	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1350	54	226	37	18
v/c Ratio	0.52	0.36	0.08	0.14	0.07
Control Delay	10.6	32.6	3.4	8.4	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	32.6	3.4	8.4	16.4
Queue Length 50th (ft)	47	15	0	1	5
Queue Length 95th (ft)	#419	#55	36	15	15
Internal Link Dist (ft)	1242		627	261	357
Turn Bay Length (ft)		135			
Base Capacity (vph)	2591	152	2923	708	687
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.36	0.08	0.05	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	899	460	420	357	264	459	438	176	295	15
v/c Ratio	0.07	0.80	0.40	0.63	0.22	0.61	0.59	0.64	0.69	0.34	0.03
Control Delay	47.5	39.0	6.0	46.0	8.8	48.2	38.0	8.1	55.9	31.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	39.0	6.0	46.0	8.8	48.2	38.0	8.1	55.9	31.8	0.1
Queue Length 50th (ft)	6	265	11	88	25	80	133	1	104	78	0
Queue Length 95th (ft)	26	#480	60	139	78	138	205	84	197	127	0
Internal Link Dist (ft)		924			708		1923			661	
Turn Bay Length (ft)			350	420		300		300	195		190
Base Capacity (vph)	471	1130	1163	1328	1592	716	1130	795	362	1165	582
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.80	0.40	0.32	0.22	0.37	0.41	0.55	0.49	0.25	0.03

Intersection Summary

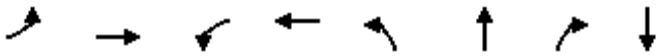
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	775	459	572	818	635
v/c Ratio	0.75	0.54	0.58	0.48	0.52
Control Delay	20.3	9.1	18.8	10.7	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	9.1	18.8	10.7	2.8
Queue Length 50th (ft)	93	53	72	76	0
Queue Length 95th (ft)	170	139	136	148	47
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	2410	1513	2804	3574	1863
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.30	0.20	0.23	0.34

Intersection Summary

Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	118	389	851	1074
v/c Ratio	0.34	0.41	0.33	0.64
Control Delay	29.1	16.5	3.4	15.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.1	16.5	3.4	15.1
Queue Length 50th (ft)	21	58	43	150
Queue Length 95th (ft)	45	95	68	237
Internal Link Dist (ft)	342		409	1423
Turn Bay Length (ft)	255	255		
Base Capacity (vph)	2760	2724	3539	2790
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.14	0.24	0.38

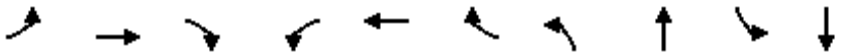
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	2	1546	322	614	80	78	436	9
v/c Ratio	0.03	0.78	0.85	0.22	0.48	0.47	0.80	0.11
Control Delay	61.0	27.8	68.3	5.5	62.8	62.1	16.0	53.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	27.8	68.3	5.5	62.8	62.1	16.0	53.7
Queue Length 50th (ft)	2	471	262	41	69	67	0	6
Queue Length 95th (ft)	11	#1025	345	172	111	109	99	25
Internal Link Dist (ft)		594		855		459		223
Turn Bay Length (ft)	75		360		175			
Base Capacity (vph)	138	1974	484	2812	354	355	673	115
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.78	0.67	0.22	0.23	0.22	0.65	0.08

Intersection Summary

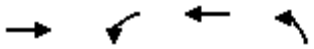
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	190	1157	107	41	126	68	218	102	82	190
v/c Ratio	0.58	0.54	0.11	0.25	0.13	0.14	0.55	0.18	0.20	0.30
Control Delay	33.9	10.0	2.7	19.9	14.6	3.9	19.3	9.4	13.2	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	10.0	2.7	19.9	14.6	3.9	19.3	9.4	13.2	3.8
Queue Length 50th (ft)	51	100	0	8	12	0	51	14	17	0
Queue Length 95th (ft)	#176	237	22	36	36	18	106	39	41	31
Internal Link Dist (ft)		598			4088			531		1450
Turn Bay Length (ft)	210		250	150		250	150		150	
Base Capacity (vph)	326	2300	1066	251	1493	720	732	994	793	1050
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.50	0.10	0.16	0.08	0.09	0.30	0.10	0.10	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

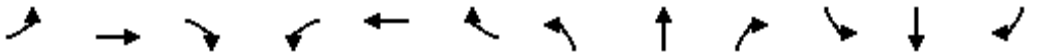


Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1565	41	491	317
v/c Ratio	0.58	0.34	0.16	0.66
Control Delay	12.1	41.8	6.0	26.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.1	41.8	6.0	26.7
Queue Length 50th (ft)	152	17	26	106
Queue Length 95th (ft)	243	#57	51	192
Internal Link Dist (ft)	1066		843	293
Turn Bay Length (ft)		150		
Base Capacity (vph)	3187	120	3883	1102
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.34	0.13	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

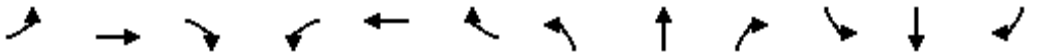
Appendix 8
Existing LOS Worksheets
(Mitigated)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	17	127	45	968	98	499	431	315	28	938	161
Future Volume (vph)	68	17	127	45	968	98	499	431	315	28	938	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9	4.0	5.3	4.9	4.9
Lane Util. Factor	0.97	0.95	0.88	1.00	0.91		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3610	2608	1770	5015		3367	3471	1615	1805	3574	1578
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3610	2608	1770	5015		3367	3471	1615	1805	3574	1578
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	18	134	47	1019	103	525	454	332	29	987	169
RTOR Reduction (vph)	0	0	71	0	10	0	0	0	146	0	0	110
Lane Group Flow (vph)	72	18	63	47	1112	0	525	454	186	29	987	59
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	2%	0%	9%	2%	2%	2%	4%	4%	0%	0%	1%	1%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8	1	7	4	
Permitted Phases									8			4
Actuated Green, G (s)	4.1	30.1	57.4	7.6	33.6		22.0	60.2	67.8	3.8	42.0	42.0
Effective Green, g (s)	4.1	30.1	57.4	7.6	33.6		22.0	60.2	67.8	3.8	42.0	42.0
Actuated g/C Ratio	0.03	0.25	0.47	0.06	0.28		0.18	0.50	0.56	0.03	0.35	0.35
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9	4.0	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0	2.0	2.0	4.0	4.0
Lane Grp Cap (vph)	116	896	1235	110	1390		611	1724	903	56	1238	546
v/s Ratio Prot	0.02	0.00	0.02	c0.03	c0.22		c0.16	0.13	0.01	0.02	c0.28	
v/s Ratio Perm									0.10			0.04
v/c Ratio	0.62	0.02	0.05	0.43	0.80		0.86	0.26	0.21	0.52	0.80	0.11
Uniform Delay, d1	57.8	34.4	17.2	54.7	40.7		48.1	17.7	13.3	57.8	35.8	26.9
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	7.2	0.0	0.0	1.0	3.1		11.2	0.1	0.0	3.3	3.9	0.1
Delay (s)	65.0	34.4	17.2	55.7	43.8		59.3	17.8	13.3	61.1	39.6	27.0
Level of Service	E	C	B	E	D		E	B	B	E	D	C
Approach Delay (s)		34.0			44.3			33.3			38.4	
Approach LOS		C			D			C			D	

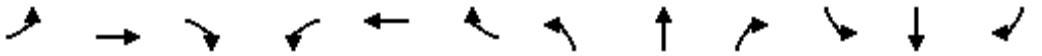
Intersection Summary			
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	19.5
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	65	66	230	439	0	810	0	871	0	0	0
Future Volume (vph)	0	65	66	230	439	0	810	0	871	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0		4.2	4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	1.00		0.95	0.95	0.88			
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	1900		1698	1698	2787			
Flt Permitted		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	1900		1698	1698	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	77	79	274	523	0	964	0	1037	0	0	0
RTOR Reduction (vph)	0	0	65	0	0	0	0	0	308	0	0	0
Lane Group Flow (vph)	0	77	14	274	523	0	482	482	729	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		19.2	19.2	28.8	54.0		40.8	40.8	73.8			
Effective Green, g (s)		19.2	19.2	28.8	54.0		40.8	40.8	73.8			
Actuated g/C Ratio		0.18	0.18	0.27	0.51		0.39	0.39	0.70			
Clearance Time (s)		6.0	6.0	6.0	6.0		4.2	4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)		605	268	923	977		659	659	1958			
v/s Ratio Prot		0.02		0.08	c0.28		c0.28	0.28	0.26			
v/s Ratio Perm			0.01									
v/c Ratio		0.13	0.05	0.30	0.54		0.73	0.73	0.37			
Uniform Delay, d1		35.9	35.4	30.1	17.1		27.4	27.4	6.3			
Progression Factor		1.00	1.00	1.00	1.00		1.18	1.18	11.44			
Incremental Delay, d2		0.1	0.1	0.8	2.1		3.4	3.4	0.1			
Delay (s)		36.0	35.5	30.9	19.2		35.7	35.7	71.9			
Level of Service		D	D	C	B		D	D	E			
Approach Delay (s)		35.7			23.2			54.5			0.0	
Approach LOS		D			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	45.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	54.0%	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												
Traffic Volume (vph)	222	458	120	114	4	2	130	782	3	80	601	94
Future Volume (vph)	222	458	120	114	4	2	130	782	3	80	601	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9	4.9	5.3	4.9	4.9
Lane Util. Factor	0.97	0.95	0.88	1.00	0.91		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3610	2760	1770	4831		3400	3574	1615	1805	3539	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3610	2760	1770	4831		3400	3574	1615	1805	3539	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	244	503	132	125	4	2	143	859	3	88	660	103
RTOR Reduction (vph)	0	0	78	0	6	0	0	0	2	0	0	66
Lane Group Flow (vph)	244	503	54	125	0	0	143	859	1	88	660	37
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	23.6	23.0	34.2	5.2	4.6		5.9	28.5	28.5	6.9	29.5	29.5
Effective Green, g (s)	23.6	23.0	34.2	5.2	4.6		5.9	28.5	28.5	6.9	29.5	29.5
Actuated g/C Ratio	0.28	0.28	0.41	0.06	0.06		0.07	0.34	0.34	0.08	0.35	0.35
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9	4.9	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	994	999	1135	110	267		241	1225	553	149	1256	573
v/s Ratio Prot	0.07	c0.14	0.02	c0.07	0.00		0.04	c0.24		c0.05	0.19	
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.25	0.50	0.05	1.14	0.00		0.59	0.70	0.00	0.59	0.53	0.06
Uniform Delay, d1	22.9	25.3	14.7	38.9	37.1		37.4	23.6	17.9	36.7	21.3	17.7
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	0.0	0.5	0.0	127.2	0.0		2.6	2.0	0.0	4.1	0.5	0.1
Delay (s)	22.9	25.8	14.7	166.1	37.1		40.0	25.6	18.0	40.9	21.8	17.8
Level of Service	C	C	B	F	D		D	C	B	D	C	B
Approach Delay (s)		23.3			160.2			27.6			23.3	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	19.5
Intersection Capacity Utilization	61.3%	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												
Traffic Volume (vph)	0	470	277	836	29	1	190	0	412	0	1	0
Future Volume (vph)	0	470	277	836	29	1	190	0	412	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0	4.2	4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	1.00	1.00	0.95	0.95	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	1900	1615	1665	1665	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	1900	1615	1665	1665	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	516	304	919	32	1	209	0	453	0	1	0
RTOR Reduction (vph)	0	0	226	0	0	0	0	0	191	0	0	0
Lane Group Flow (vph)	0	516	78	919	32	1	104	105	262	0	1	0
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		27.0	27.0	42.9	75.9	75.9	13.7	13.7	60.8		1.2	
Effective Green, g (s)		27.0	27.0	42.9	75.9	75.9	13.7	13.7	60.8		1.2	
Actuated g/C Ratio		0.26	0.26	0.41	0.72	0.72	0.13	0.13	0.58		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0	4.2	4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		814	398	1416	1373	1167	217	217	1629		21	
v/s Ratio Prot		c0.16		c0.27	0.02		0.06	c0.06	0.09		c0.00	
v/s Ratio Perm			0.05			0.00						
v/c Ratio		0.63	0.20	0.65	0.02	0.00	0.48	0.48	0.16		0.05	
Uniform Delay, d1		34.6	30.5	25.0	4.1	4.0	42.3	42.4	10.3		51.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.04	1.04	3.81		1.00	
Incremental Delay, d2		1.6	0.2	2.3	0.0	0.0	1.6	1.7	0.0		0.9	
Delay (s)		36.2	30.8	27.3	4.1	4.0	45.6	45.7	39.2		52.3	
Level of Service		D	C	C	A	A	D	D	D		D	
Approach Delay (s)		34.2			26.5			41.2			52.3	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Appendix 9
Existing Queue Worksheets
(Mitigated)

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	72	18	134	47	1122	525	454	332	29	987	169
v/c Ratio	0.61	0.02	0.10	0.42	0.79	0.84	0.26	0.30	0.32	0.83	0.26
Control Delay	80.4	34.6	3.2	66.8	43.5	61.3	18.9	2.1	67.1	44.1	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	34.6	3.2	66.8	43.5	61.3	18.9	2.1	67.1	44.1	5.3
Queue Length 50th (ft)	29	5	0	36	295	208	111	0	22	366	0
Queue Length 95th (ft)	#69	16	19	78	349	#330	167	41	57	494	48
Internal Link Dist (ft)		734			1066		641			612	
Turn Bay Length (ft)	340		340	250		380		250	130		215
Base Capacity (vph)	119	1328	1328	194	2230	623	1755	1175	103	1272	673
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.01	0.10	0.24	0.50	0.84	0.26	0.28	0.28	0.78	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	77	79	274	523	482	482	1037
v/c Ratio	0.12	0.20	0.29	0.54	0.73	0.73	0.44
Control Delay	32.9	3.6	32.9	19.6	39.0	39.0	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	3.6	32.9	19.6	39.0	39.0	5.2
Queue Length 50th (ft)	21	0	79	225	297	297	103
Queue Length 95th (ft)	38	12	109	291	441	441	118
Internal Link Dist (ft)	552			505		527	
Turn Bay Length (ft)							
Base Capacity (vph)	757	425	961	977	659	659	2331
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.19	0.29	0.54	0.73	0.73	0.44

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	244	503	132	125	6	143	859	3	88	660	103
v/c Ratio	0.23	0.56	0.11	1.08	0.01	0.57	0.67	0.00	0.47	0.53	0.16
Control Delay	28.9	29.3	3.8	148.8	0.0	49.5	26.1	0.0	45.7	21.8	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	29.3	3.8	148.8	0.0	49.5	26.1	0.0	45.7	21.8	2.9
Queue Length 50th (ft)	42	115	0	~73	0	36	191	0	42	129	0
Queue Length 95th (ft)	#175	184	18	#221	0	#93	317	0	101	211	22
Internal Link Dist (ft)		734			1066		641			612	
Turn Bay Length (ft)	340		340	250		380		250	130		215
Base Capacity (vph)	1049	1464	1246	116	2021	255	1562	809	273	1817	891
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.34	0.11	1.08	0.00	0.56	0.55	0.00	0.32	0.36	0.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

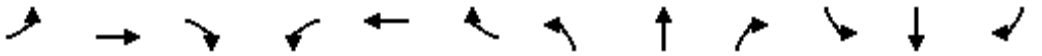
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	516	304	919	32	1	104	105	453	1
v/c Ratio	0.63	0.49	0.60	0.02	0.00	0.48	0.48	0.23	0.01
Control Delay	38.8	6.6	26.5	5.2	0.0	49.8	50.0	4.1	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	6.6	26.5	5.2	0.0	49.8	50.0	4.1	47.0
Queue Length 50th (ft)	162	0	228	4	0	67	68	0	1
Queue Length 95th (ft)	220	66	#408	19	0	130	131	88	7
Internal Link Dist (ft)	552			505			527		495
Turn Bay Length (ft)					200				
Base Capacity (vph)	814	623	1521	1431	1229	289	289	1918	289
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.49	0.60	0.02	0.00	0.36	0.36	0.24	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

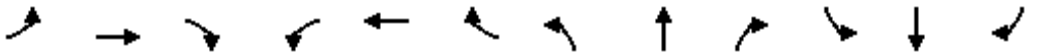
Appendix 10
2025 Near-Term LOS Worksheets (Mitigated)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	29	156	45	1114	100	499	492	413	32	1013	161
Future Volume (vph)	68	29	156	45	1114	100	499	492	413	32	1013	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9	4.0	5.3	4.9	4.9
Lane Util. Factor	0.97	0.95	0.88	1.00	0.91		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3610	2608	1770	5023		3367	3471	1615	1805	3574	1578
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3610	2608	1770	5023		3367	3471	1615	1805	3574	1578
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	31	164	47	1173	105	525	518	435	34	1066	169
RTOR Reduction (vph)	0	0	84	0	8	0	0	0	200	0	0	111
Lane Group Flow (vph)	72	31	80	47	1270	0	525	518	235	34	1066	58
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	2%	0%	9%	2%	2%	2%	4%	4%	0%	0%	1%	1%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8	1	7	4	
Permitted Phases									8			4
Actuated Green, G (s)	4.1	36.2	63.5	7.8	39.9		22.0	62.5	70.3	3.9	44.4	44.4
Effective Green, g (s)	4.1	36.2	63.5	7.8	39.9		22.0	62.5	70.3	3.9	44.4	44.4
Actuated g/C Ratio	0.03	0.28	0.49	0.06	0.31		0.17	0.48	0.54	0.03	0.34	0.34
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9	4.0	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0	2.0	2.0	4.0	4.0
Lane Grp Cap (vph)	108	1006	1274	106	1542		570	1670	874	54	1221	539
v/s Ratio Prot	0.02	0.01	0.03	c0.03	c0.25		c0.16	0.15	0.02	0.02	c0.30	
v/s Ratio Perm									0.13			0.04
v/c Ratio	0.67	0.03	0.06	0.44	0.82		0.92	0.31	0.27	0.63	0.87	0.11
Uniform Delay, d1	62.2	34.1	17.5	59.0	41.7		53.1	20.6	16.0	62.3	40.1	29.2
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	11.4	0.0	0.0	1.1	3.5		20.1	0.1	0.1	15.4	7.3	0.1
Delay (s)	73.6	34.1	17.5	60.0	45.3		73.2	20.7	16.1	77.6	47.5	29.3
Level of Service	E	C	B	E	D		E	C	B	E	D	C
Approach Delay (s)		34.6			45.8			38.0			45.8	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	129.9	Sum of lost time (s)	19.5
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	65	67	278	443	0	829	0	871	0	0	0
Future Volume (vph)	0	65	67	278	443	0	829	0	871	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0		4.2	4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	1.00		0.95	0.95	0.88			
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	1900		1698	1698	2787			
Flt Permitted		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	1900		1698	1698	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	77	80	331	527	0	987	0	1037	0	0	0
RTOR Reduction (vph)	0	0	65	0	0	0	0	0	308	0	0	0
Lane Group Flow (vph)	0	77	15	331	527	0	493	494	729	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		19.2	19.2	28.8	54.0		40.8	40.8	73.8			
Effective Green, g (s)		19.2	19.2	28.8	54.0		40.8	40.8	73.8			
Actuated g/C Ratio		0.18	0.18	0.27	0.51		0.39	0.39	0.70			
Clearance Time (s)		6.0	6.0	6.0	6.0		4.2	4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)		605	268	923	977		659	659	1958			
v/s Ratio Prot		0.02		0.10	c0.28		0.29	c0.29	0.26			
v/s Ratio Perm			0.01									
v/c Ratio		0.13	0.05	0.36	0.54		0.75	0.75	0.37			
Uniform Delay, d1		35.9	35.4	30.7	17.1		27.7	27.7	6.3			
Progression Factor		1.00	1.00	1.00	1.00		1.18	1.18	12.04			
Incremental Delay, d2		0.1	0.1	1.1	2.1		3.7	3.7	0.1			
Delay (s)		36.0	35.5	31.8	19.3		36.2	36.3	75.7			
Level of Service		D	D	C	B		D	D	E			
Approach Delay (s)		35.7			24.1			56.4			0.0	
Approach LOS		D			C			E			A	

Intersection Summary			
HCM 2000 Control Delay	46.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	604	120	114	16	6	212	782	107	83	643	95
Future Volume (vph)	222	604	120	114	16	6	212	782	107	83	643	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0		5.3	4.9	4.9	5.3	4.9	4.9
Lane Util. Factor	0.97	0.95	0.88	1.00	0.91		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3610	2760	1770	4872		3400	3574	1615	1805	3539	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3610	2760	1770	4872		3400	3574	1615	1805	3539	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	244	664	132	125	18	7	233	859	118	91	707	104
RTOR Reduction (vph)	0	0	76	0	6	0	0	0	78	0	0	67
Lane Group Flow (vph)	244	664	56	125	19	0	233	859	40	91	707	37
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.4	25.9	37.1	5.2	14.7		5.9	30.1	30.1	7.2	31.4	31.4
Effective Green, g (s)	16.4	25.9	37.1	5.2	14.7		5.9	30.1	30.1	7.2	31.4	31.4
Actuated g/C Ratio	0.19	0.29	0.42	0.06	0.17		0.07	0.34	0.34	0.08	0.36	0.36
Clearance Time (s)	5.3	5.3		4.0	4.0		5.3	4.9	4.9	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	653	1063	1164	104	814		228	1223	553	147	1264	576
v/s Ratio Prot	0.07	c0.18	0.02	c0.07	0.00		c0.07	c0.24		0.05	0.20	
v/s Ratio Perm									0.03			0.02
v/c Ratio	0.37	0.62	0.05	1.20	0.02		1.02	0.70	0.07	0.62	0.56	0.06
Uniform Delay, d1	31.3	26.8	15.0	41.4	30.6		41.0	25.0	19.5	39.0	22.7	18.6
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	0.1	1.3	0.0	152.3	0.0		65.4	2.0	0.1	5.4	0.7	0.1
Delay (s)	31.4	28.1	15.0	193.7	30.6		106.4	27.0	19.6	44.4	23.4	18.7
Level of Service	C	C	B	F	C		F	C	B	D	C	B
Approach Delay (s)		27.2			166.5			41.6			24.9	
Approach LOS		C			F			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	87.9	Sum of lost time (s)	19.5
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	470	277	854	29	1	192	0	477	0	1	0
Future Volume (vph)	0	470	277	854	29	1	192	0	477	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0	4.2	4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	1.00	1.00	0.95	0.95	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	1900	1615	1665	1665	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	1900	1615	1665	1665	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	516	304	938	32	1	211	0	524	0	1	0
RTOR Reduction (vph)	0	0	226	0	0	0	0	0	221	0	0	0
Lane Group Flow (vph)	0	516	78	938	32	1	105	106	303	0	1	0
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA	Perm	Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2			6				4		
Actuated Green, G (s)		27.0	27.0	42.6	75.6	75.6	14.0	14.0	60.8		1.2	
Effective Green, g (s)		27.0	27.0	42.6	75.6	75.6	14.0	14.0	60.8		1.2	
Actuated g/C Ratio		0.26	0.26	0.41	0.72	0.72	0.13	0.13	0.58		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0	4.2	4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		814	398	1406	1368	1162	222	222	1629		21	
v/s Ratio Prot		c0.16		c0.27	0.02		0.06	c0.06	0.11		c0.00	
v/s Ratio Perm			0.05			0.00						
v/c Ratio		0.63	0.20	0.67	0.02	0.00	0.47	0.48	0.19		0.05	
Uniform Delay, d1		34.6	30.5	25.4	4.2	4.1	42.1	42.1	10.4		51.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.03	1.03	4.63		1.00	
Incremental Delay, d2		1.6	0.2	2.5	0.0	0.0	1.6	1.6	0.1		0.9	
Delay (s)		36.2	30.8	27.9	4.2	4.1	44.8	44.9	48.4		52.3	
Level of Service		D	C	C	A	A	D	D	D		D	
Approach Delay (s)		34.2			27.1			47.3			52.3	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Appendix 11
2025 Near-Term Queue Worksheets (Mitigated)

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	72	31	164	47	1278	525	518	435	34	1066	169
v/c Ratio	0.65	0.03	0.12	0.44	0.81	0.91	0.31	0.39	0.40	0.90	0.27
Control Delay	89.3	33.2	2.7	71.6	44.4	73.0	22.2	2.4	74.7	52.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.3	33.2	2.7	71.6	44.4	73.0	22.2	2.4	74.7	52.9	5.6
Queue Length 50th (ft)	30	10	0	38	352	221	143	0	28	441	0
Queue Length 95th (ft)	#74	23	20	84	407	#361	212	50	68	#644	50
Internal Link Dist (ft)		734			1066		641			612	
Turn Bay Length (ft)	340		340	250		380		250	130		215
Base Capacity (vph)	110	1232	1360	180	2073	579	1697	1178	96	1181	637
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.03	0.12	0.26	0.62	0.91	0.31	0.37	0.35	0.90	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	77	80	331	527	493	494	1037
v/c Ratio	0.12	0.21	0.34	0.54	0.75	0.75	0.44
Control Delay	32.9	3.7	33.6	19.7	39.6	39.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	3.7	33.6	19.7	39.6	39.7	5.5
Queue Length 50th (ft)	21	0	98	228	337	338	156
Queue Length 95th (ft)	38	12	130	293	447	449	102
Internal Link Dist (ft)	552			505		527	
Turn Bay Length (ft)							
Base Capacity (vph)	757	425	961	977	659	659	2331
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.19	0.34	0.54	0.75	0.75	0.44

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	244	664	132	125	25	233	859	118	91	707	104
v/c Ratio	0.36	0.65	0.11	1.17	0.03	0.99	0.68	0.17	0.50	0.57	0.16
Control Delay	42.5	31.0	3.6	180.2	19.5	101.8	28.5	1.3	49.7	24.2	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	31.0	3.6	180.2	19.5	101.8	28.5	1.3	49.7	24.2	3.0
Queue Length 50th (ft)	~79	171	0	~88	2	~74	216	0	49	158	0
Queue Length 95th (ft)	#177	247	18	#224	9	#171	323	8	105	232	23
Internal Link Dist (ft)		734			1066		641			612	
Turn Bay Length (ft)	340		340	250		380		250	130		215
Base Capacity (vph)	674	1350	1246	107	1786	235	1441	761	252	1677	832
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.49	0.11	1.17	0.01	0.99	0.60	0.16	0.36	0.42	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

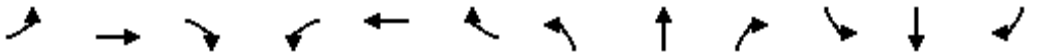
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	516	304	938	32	1	105	106	524	1
v/c Ratio	0.63	0.49	0.62	0.02	0.00	0.48	0.48	0.27	0.01
Control Delay	38.8	6.6	27.1	5.4	0.0	48.8	49.0	4.6	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	6.6	27.1	5.4	0.0	48.8	49.0	4.6	47.0
Queue Length 50th (ft)	162	0	235	4	0	70	71	0	1
Queue Length 95th (ft)	220	66	#435	20	0	131	132	111	7
Internal Link Dist (ft)	552			505			527		495
Turn Bay Length (ft)					200				
Base Capacity (vph)	814	623	1514	1427	1226	292	292	1945	289
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.49	0.62	0.02	0.00	0.36	0.36	0.27	0.00

Intersection Summary

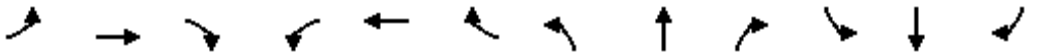
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Appendix 12
2040 Cumulative LOS Worksheets (Mitigated)



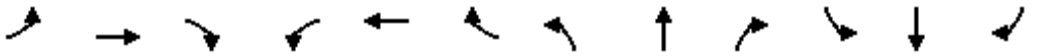
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	144	89	283	905	0	608	0	1022	0	0	0
Future Volume (vph)	0	144	89	283	905	0	608	0	1022	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0		4.2	4.2	4.2			
Lane Util. Factor		0.95	1.00	0.97	0.95		0.95	0.95	0.88			
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)		3312	1468	3367	3610		1698	1698	2787			
Flt Permitted		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)		3312	1468	3367	3610		1698	1698	2787			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	0	171	106	337	1077	0	724	0	1217	0	0	0
RTOR Reduction (vph)	0	0	65	0	0	0	0	0	636	0	0	0
Lane Group Flow (vph)	0	171	41	337	1077	0	362	362	581	0	0	0
Heavy Vehicles (%)	0%	9%	10%	4%	0%	0%	1%	0%	2%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA		Split	NA	pt+ov			
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2							4		
Actuated Green, G (s)		34.0	34.0	12.0	52.0		25.8	25.8	42.0			
Effective Green, g (s)		34.0	34.0	12.0	52.0		25.8	25.8	42.0			
Actuated g/C Ratio		0.39	0.39	0.14	0.59		0.29	0.29	0.48			
Clearance Time (s)		6.0	6.0	6.0	6.0		4.2	4.2				
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)		1279	567	459	2133		497	497	1330			
v/s Ratio Prot		0.05		c0.10	c0.30		c0.21	0.21	0.21			
v/s Ratio Perm			0.03									
v/c Ratio		0.13	0.07	0.73	0.50		0.73	0.73	0.44			
Uniform Delay, d1		17.5	17.0	36.5	10.5		28.0	28.0	15.2			
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00			
Incremental Delay, d2		0.0	0.1	10.0	0.9		5.3	5.3	0.2			
Delay (s)		17.5	17.1	46.5	11.4		33.2	33.2	15.4			
Level of Service		B	B	D	B		C	C	B			
Approach Delay (s)		17.4			19.7			22.1			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	52.6%	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												
Traffic Volume (vph)	0	0	0	1129	0	719	0	580	0	0	447	372
Future Volume (vph)	0	0	0	1129	0	719	0	580	0	0	447	372
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.7		4.7		6.3			5.7	5.7
Lane Util. Factor				0.97		1.00		0.95			0.95	1.00
Frpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00			1.00	1.00
Frt				1.00		0.85		1.00			1.00	1.00
Flt Protected				0.95		1.00		1.00			1.00	1.00
Satd. Flow (prot)				3242		1599		3539			3539	1863
Flt Permitted				0.95		1.00		1.00			1.00	1.00
Satd. Flow (perm)				3242		1599		3539			3539	1863
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	1377	0	877	0	707	0	0	545	454
RTOR Reduction (vph)	0	0	0	0	0	19	0	0	0	0	0	282
Lane Group Flow (vph)	0	0	0	1377	0	858	0	707	0	0	545	172
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	8%	0%	1%	0%	2%	6%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	2	0	0
Turn Type				Prot		custom		NA			NA	Perm
Protected Phases				8		8 1		2			6	
Permitted Phases												6
Actuated Green, G (s)				32.1		40.9		16.6			26.0	26.0
Effective Green, g (s)				32.1		40.9		16.6			26.0	26.0
Actuated g/C Ratio				0.47		0.60		0.24			0.38	0.38
Clearance Time (s)				4.7				6.3			5.7	5.7
Vehicle Extension (s)				0.2				0.2			0.2	0.2
Lane Grp Cap (vph)				1519		954		857			1343	707
v/s Ratio Prot				0.42		c0.54		c0.20			0.15	
v/s Ratio Perm												0.09
v/c Ratio				0.91		0.90		0.82			0.41	0.24
Uniform Delay, d1				16.8		12.0		24.6			15.6	14.5
Progression Factor				1.00		1.00		1.00			1.00	1.00
Incremental Delay, d2				7.9		10.9		6.2			0.1	0.1
Delay (s)				24.7		22.9		30.8			15.7	14.6
Level of Service				C		C		C			B	B
Approach Delay (s)		0.0			24.0			30.8			15.2	
Approach LOS		A			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	15.7
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	878	167	677	95	73	159	956	424	137	673	98
Future Volume (vph)	221	878	167	677	95	73	159	956	424	137	673	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91	1.00	0.94	0.86	0.88	0.97	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	5187	2760	3433	5085	1583	4942	6471	2842	3502	6408	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	5187	2760	3433	5085	1583	4942	6471	2842	3502	6408	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	243	965	184	744	104	80	175	1051	466	151	740	108
RTOR Reduction (vph)	0	0	78	0	0	53	0	0	71	0	0	74
Lane Group Flow (vph)	243	965	106	744	104	27	175	1051	395	151	740	34
Heavy Vehicles (%)	0%	0%	3%	2%	2%	2%	3%	1%	0%	0%	2%	0%
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	2 3	1	6		3	8	1	7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	10.8	27.5	36.8	17.1	33.8	33.8	4.0	26.9	44.0	8.1	31.0	31.0
Effective Green, g (s)	10.8	27.5	36.8	17.1	33.8	33.8	4.0	26.9	44.0	8.1	31.0	31.0
Actuated g/C Ratio	0.11	0.28	0.37	0.17	0.34	0.34	0.04	0.27	0.44	0.08	0.31	0.31
Clearance Time (s)	5.3	5.3		4.0	4.0	4.0	5.3	4.9	4.0	5.3	4.9	4.9
Vehicle Extension (s)	2.0	4.0		2.0	2.0	2.0	2.0	4.0	2.0	2.0	4.0	4.0
Lane Grp Cap (vph)	381	1439	1024	592	1734	539	199	1756	1261	286	2004	505
v/s Ratio Prot	0.07	c0.19	0.04	c0.22	0.02		0.04	c0.16	0.05	c0.04	c0.12	
v/s Ratio Perm						0.02			0.08			0.02
v/c Ratio	0.64	0.67	0.10	1.26	0.06	0.05	0.88	0.60	0.31	0.53	0.37	0.07
Uniform Delay, d1	42.3	31.8	20.4	41.0	22.0	21.9	47.3	31.4	17.8	43.7	26.5	23.9
Progression Factor	1.00	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	2.6	1.4	0.1	128.9	0.0	0.0	31.8	0.6	0.1	0.8	0.2	0.1
Delay (s)	44.8	33.1	20.4	169.9	22.0	21.9	79.2	32.1	17.8	44.5	26.6	24.0
Level of Service	D	C	C	F	C	C	E	C	B	D	C	C
Approach Delay (s)		33.5			140.5			33.0			29.0	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	52.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	99.1	Sum of lost time (s)	19.5
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	846	471	1158	71	1	257	0	531	0	1	0
Future Volume (vph)	0	846	471	1158	71	1	257	0	531	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0		4.2	4.2	4.2		4.0	
Lane Util. Factor		0.95	1.00	0.97	0.95		0.95	0.95	0.88		1.00	
Frpb, ped/bikes		1.00	0.99	1.00	1.00		1.00	1.00	1.00		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (prot)		3167	1548	3467	3603		1665	1665	2814		1900	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)		3167	1548	3467	3603		1665	1665	2814		1900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	930	518	1273	78	1	282	0	584	0	1	0
RTOR Reduction (vph)	0	0	261	0	0	0	0	0	279	0	0	0
Lane Group Flow (vph)	0	930	257	1273	79	0	141	141	305	0	1	0
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	0%	14%	3%	1%	0%	0%	3%	0%	1%	0%	0%	0%
Turn Type		NA	Perm	Prot	NA		Split	NA	pt+ov		NA	
Protected Phases		2		1	6		8	8	8 1		4	
Permitted Phases			2							4		
Actuated Green, G (s)		37.0	37.0	44.1	87.1		10.8	10.8	59.1		1.1	
Effective Green, g (s)		37.0	37.0	44.1	87.1		10.8	10.8	59.1		1.1	
Actuated g/C Ratio		0.33	0.33	0.39	0.77		0.10	0.10	0.52		0.01	
Clearance Time (s)		6.0	6.0	6.0	6.0		4.2	4.2			4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1035	505	1350	2772		158	158	1469		18	
v/s Ratio Prot		c0.29		c0.37	0.02		c0.08	0.08	0.11		c0.00	
v/s Ratio Perm			0.17									
v/c Ratio		0.90	0.51	0.94	0.03		0.89	0.89	0.21		0.06	
Uniform Delay, d1		36.3	30.8	33.3	3.1		50.6	50.6	14.5		55.5	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		10.3	0.8	14.2	0.0		41.8	41.8	0.1		1.3	
Delay (s)		46.7	31.6	47.5	3.1		92.4	92.4	14.6		56.8	
Level of Service		D	C	D	A		F	F	B		E	
Approach Delay (s)		41.3			44.9			39.9			56.8	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	113.2	Sum of lost time (s)	20.2
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Appendix 13
2040 Cumulative Queue Worksheets (Mitigated)

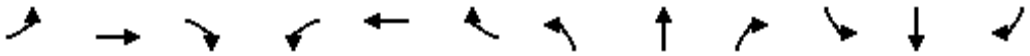
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Group Flow (vph)	171	106	337	1077	362	362	1217
v/c Ratio	0.13	0.17	0.73	0.50	0.73	0.73	0.61
Control Delay	17.9	4.5	47.1	11.5	38.0	38.0	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	4.5	47.1	11.5	38.0	38.0	2.3
Queue Length 50th (ft)	31	0	93	168	189	189	0
Queue Length 95th (ft)	49	26	128	195	268	268	18
Internal Link Dist (ft)	552			505		527	
Turn Bay Length (ft)							
Base Capacity (vph)	1279	632	459	2133	497	497	1998
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.17	0.73	0.50	0.73	0.73	0.61

Intersection Summary

Lane Group	WBL	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1377	877	707	545	454
v/c Ratio	0.91	0.90	0.83	0.41	0.46
Control Delay	27.4	26.6	35.4	17.6	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	26.6	35.4	17.6	3.5
Queue Length 50th (ft)	268	284	161	95	0
Queue Length 95th (ft)	318	#439	197	122	36
Internal Link Dist (ft)			1423	1923	
Turn Bay Length (ft)		460			
Base Capacity (vph)	1748	1011	999	1488	1046
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.79	0.87	0.71	0.37	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

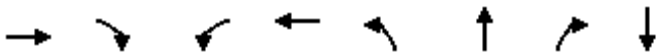


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	243	965	184	744	104	80	175	1051	466	151	740	108
v/c Ratio	0.64	0.67	0.17	1.26	0.06	0.12	0.88	0.60	0.32	0.53	0.37	0.18
Control Delay	51.7	35.1	8.6	165.1	24.1	0.4	88.0	33.3	11.6	52.4	27.1	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	35.1	8.6	165.1	24.1	0.4	88.0	33.3	11.6	52.4	27.1	3.8
Queue Length 50th (ft)	78	199	13	~319	16	0	40	174	71	48	108	0
Queue Length 95th (ft)	127	270	42	#482	32	0	#93	213	111	87	136	27
Internal Link Dist (ft)		734			1066			641			612	
Turn Bay Length (ft)	340		410	485		250	405		400	450		290
Base Capacity (vph)	458	1605	1076	592	1791	672	200	2207	1466	334	2536	716
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.60	0.17	1.26	0.06	0.12	0.88	0.48	0.32	0.45	0.29	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	930	518	1273	79	141	141	584	1
v/c Ratio	0.87	0.67	0.92	0.03	0.87	0.87	0.32	0.01
Control Delay	45.0	12.7	43.1	2.8	92.0	92.0	1.6	52.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	12.7	43.1	2.8	92.0	92.0	1.6	52.0
Queue Length 50th (ft)	313	64	417	4	103	103	0	1
Queue Length 95th (ft)	#490	211	#644	13	#246	#246	29	7
Internal Link Dist (ft)	552			505		527		495
Turn Bay Length (ft)								
Base Capacity (vph)	1066	778	1388	2853	163	163	1818	570
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.67	0.92	0.03	0.87	0.87	0.32	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Appendix 14
Model Validation/Land Use

Dublin Ext - 2017
Turning Movements
AM Peak Hour

2017 Count AM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	136	620	151	15	421	72	116	309	102	268	466	55	2731
2	Tassajara	Dublin	249	490	128	21	1007	88	101	135	130	471	460	29	3309
3	Fallon	Dublin	326	529	0	0	960	162	68	0	140	0	0	0	2185
4	Fallon	I580 WB	0	477	292	0	545	497	0	0	0	230	62	654	2757
5	El Charro	I580 EB	0	463	92	0	539	445	246	0	256	0	0	0	2041
6	Airway	I580 EB	19	271	180	64	92	78	666	230	155	14	53	90	1912
7	Airway	I-580 WB	0	922	196	0	189	412	0	0	0	49	5	92	1865
8	Airway	N Canyons	119	0	912	0	0	0	0	11	30	486	14	0	1572
9	Doolan	N Canyons	0	0	19	16	0	0	0	2	0	21	1	11	70
10	Isabel	Portola	474	500	32	44	110	0	5	154	209	305	374	168	2375
11	Isabel	I-580 WB	0	489	534	0	327	303	0	0	0	1066	0	520	3239
12	Isabel	I-580 EB	0	842	498	0	1298	96	201	3	346	0	0	0	3284
13	Murrieta	Portola	171	0	203	1	0	3	6	297	87	276	955	3	2002
14	Cross st West	Dublin Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
		sum	1494	5603	3237	161	5488	2156	1409	1141	1455	3186	2390	1622	29342

2013 Model AM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	38	169	12	4	325	129	25	50	16	308	2240	57	3373
2	Tassajara	Dublin	566	235	45	5	565	260	18	16	67	181	1676	15	3649
3	Fallon	Dublin	1551	66	0	0	124	131	4	0	64	0	0	0	1940
4	Fallon	I580 WB	570	284	0	0	221	158	0	0	0	214	0	1326	2773
5	El Charro	I580 EB	0	802	126	165	271	0	51	0	198	0	0	0	1613
6	Airway	I580 EB	17	947	26	20	66	35	387	70	169	40	0	268	2045
7	Airway	I-580 WB	0	583	1020	0	73	336	0	0	0	49	0	189	2250
8	Airway	N Canyons	58	0	688	0	0	0	0	16	8	400	7	0	1177
9	Doolan	N Canyons	0	0	4	10	0	0	0	1	0	0	0	0	15
10	Isabel	Portola	190	582	14	26	39	0	0	38	49	337	425	361	2061
11	Isabel	I-580 WB	147	496	0	1	152	334	0	0	0	545	0	287	1962
12	Isabel	I-580 EB	0	323	501	82	615	0	321	0	221	0	0	0	2063
13	Murrieta	Portola	63	0	63	0	0	0	0	189	12	279	1496	0	2102
14	Cross st West	Dublin Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
		sum	3200	4487	2499	313	2451	1383	806	380	804	2353	5844	2503	27023

Dublin Ext - 2017
Turning Movements
PM Peak Hour

2017 Count PM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	163	507	378	59	501	57	169	960	181	217	478	19	3689
2	Tassajara	Dublin	404	648	357	74	720	118	283	739	505	224	249	31	4352
3	Fallon	Dublin	130	783	0	0	653	94	221	1	370	0	1	0	2253
4	Fallon	I580 WB	0	589	306	0	835	371	0	0	0	209	2	462	2774
5	El Charro	I580 EB	0	611	313	0	562	503	517	0	257	0	0	0	2763
6	Airway	I580 EB	41	157	102	114	102	94	513	193	299	22	114	189	1940
7	Airway	I-580 WB	0	645	239	0	242	755	0	0	0	43	2	162	2088
8	Airway	N Canyons	151	0	645	0	1	0	0	7	99	842	11	1	1757
9	Doolan	N Canyons	2	2	27	15	0	0	0	0	0	45	0	22	113
10	Isabel	Portola	239	318	121	121	243	14	10	312	411	190	146	139	2264
11	Isabel	I-580 WB	0	438	578	0	552	295	0	0	0	698	0	248	2809
12	Isabel	I-580 EB	0	782	839	0	999	322	172	0	344	0	0	0	3458
13	Murrieta	Portola	114	2	317	6	1	2	2	843	119	294	407	0	2107
14	Cross st West	Dublin Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
		sum	1244	5482	4222	389	5411	2625	1887	3055	2585	2784	1410	1273	32367

2013 Model PM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	29	228	117	58	224	52	204	1288	59	24	35	9	2327
2	Tassajara	Dublin	67	587	193	26	421	15	218	821	353	87	10	4	2802
3	Fallon	Dublin	58	119	0	0	183	2	112	0	760	0	0	0	1234
4	Fallon	I580 WB	270	195	0	0	856	128	0	0	0	227	0	148	1824
5	El Charro	I580 EB	0	333	725	632	451	0	132	0	615	0	0	0	2888
6	Airway	I580 EB	78	399	39	28	309	136	306	53	538	74	0	116	2076
7	Airway	I-580 WB	0	456	364	0	396	516	0	0	0	76	0	165	1973
8	Airway	N Canyons	24	0	584	0	0	0	0	21	68	806	13	0	1516
9	Doolan	N Canyons	0	0	1	2	0	0	0	0	0	1	0	5	9
10	Isabel	Portola	118	111	262	244	166	0	0	550	236	39	159	129	2014
11	Isabel	I-580 WB	223	372	0	0	381	73	0	0	0	758	0	186	1993
12	Isabel	I-580 EB	12	347	782	277	841	21	249	0	171	0	0	0	2700
13	Murrieta	Portola	43	0	89	0	0	0	0	1411	101	111	596	0	2351
14	Cross st West	Dublin Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
		sum	922	3147	3156	1267	4228	943	1221	4144	2901	2203	813	762	25707

Table: Dublin Extension/ABAG and Fallon Village Area Land Uses

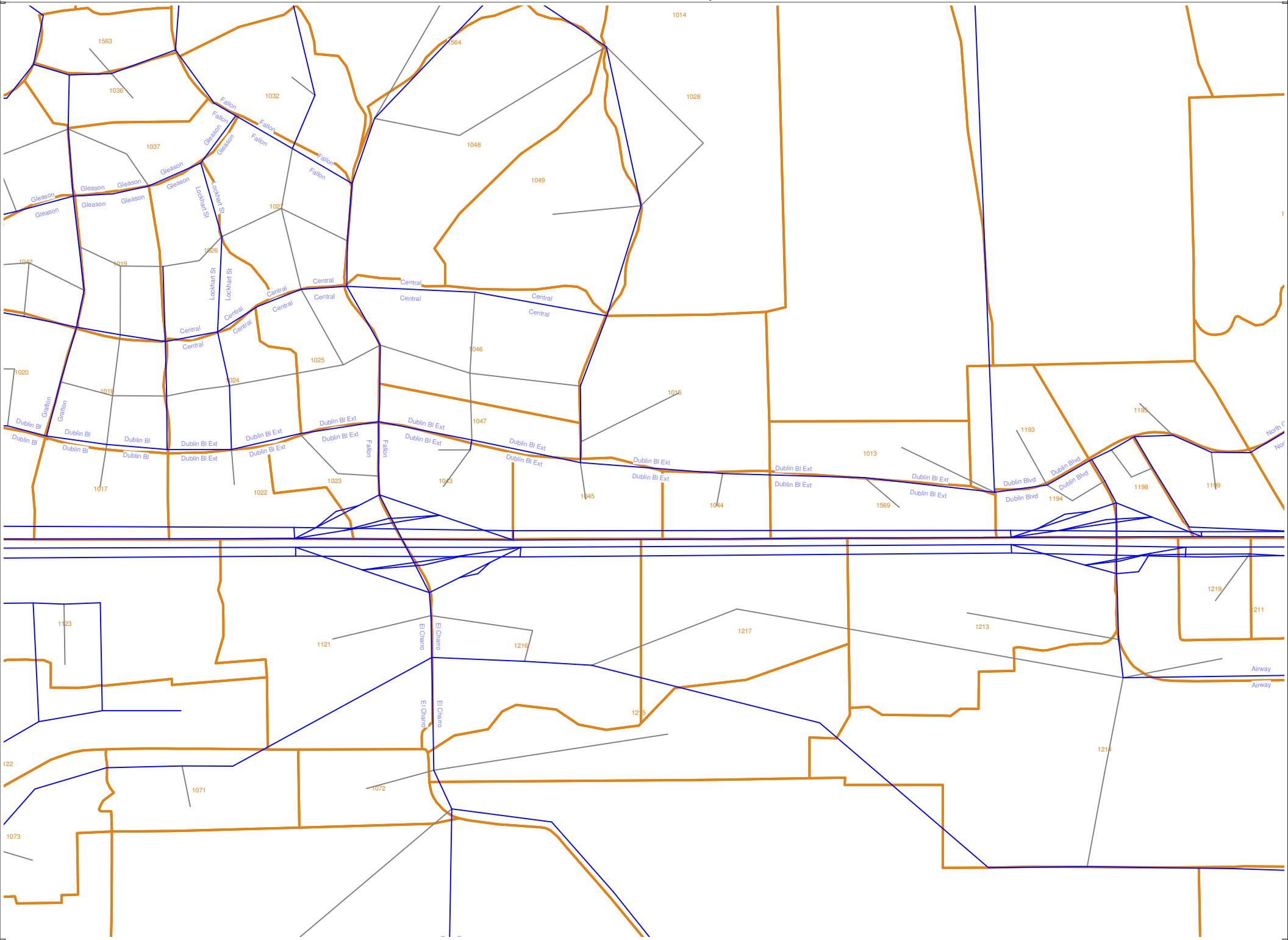
Comparison of 2040 ABAG Land Use (From ACTC Model) in the Dublin Externsion Corridor

	2013 ACTC Model (ABAG)		2025 ACTC Model (ABAG)		2040 ACTC Model (ABAG)			2025 Dublin Extension Project		2040 Dublin Extension Project	
TAZ	HH	Jobs	HH	Jobs	HH	Jobs		HH	Jobs	HH	Jobs
1013	0	0	0	0	0	0		0	0	0	0
1015	161	0	166	117	172	263		166	117	172	807
1022	0	0	0	0	0	0		0	408	0	9500
1043	0	17	0	101	0	205		0	101	98	2653
1044	0	0	0	76	0	170		0	76	49	539
1045	0	0	0	82	0	185		0	82	102	1648
1046	107	3	155	15	214	29		155	15	200	467
1047	0	0	0	28	0	64		0	28	43	1249
1569	0	0	0	0	0	0		0	0	0	0
Total	**268**	**20**	**321**	**419**	**386**	**916**		**321**	**827**	**664**	**16,863**

Source: ABAG Plan Bay Area and City of Dublin General Plan

Note: TAZ 1022 represents the Kaiser Medical Center

Dublin Blvd Ext - Traffic Analysis Zones



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Appendix 15
Model Forecasts

Dublin Ext - 2017
Turning Movements
AM Peak Hour

2025 No-Project Forecasts AM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	161	666	157	19	421	76	128	361	124	268	466	86	2933
2	Tassajara	Dublin	249	490	397	55	1007	88	106	182	130	568	460	43	3775
3	Fallon	Dublin	326	590	98	4	1035	162	68	12	169	92	146	2	2704
4	Fallon	I580 WB	0	601	292	0	681	497	0	0	0	256	62	654	3043
5	El Charro	I580 EB	0	544	120	106	595	445	280	0	480	0	0	0	2570
6	Airway	I580 EB	19	271	180	64	92	78	784	238	155	14	54	90	2039
7	Airway	I-580 WB	0	982	196	0	192	459	0	0	0	49	5	92	1975
8	Airway	N Canyons	138	0	912	0	0	0	0	11	31	534	18	0	1644
9	Doolan	N Canyons	0	0	19	16	0	0	0	2	0	21	1	28	87
10	Isabel	Portola	593	500	44	44	143	0	5	154	246	485	381	168	2763
11	Isabel	I-580 WB	0	489	759	0	439	509	0	0	0	1095	0	520	3811
12	Isabel	I-580 EB	0	942	1044	0	1383	225	201	0	526	0	0	0	4321
13	Murrieta	Portola	171	0	206	1	0	3	6	297	87	276	955	3	2005
14	Cross st West	Dublin Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
		sum	1657	6075	4424	309	5988	2542	1578	1257	1948	3658	2548	1686	33670

2025 Plus-Project Forecasts AM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	157	663	157	19	420	77	128	362	124	334	675	89	3205
2	Tassajara	Dublin	221	488	397	56	996	96	106	183	130	613	759	44	4089
3	Fallon	Dublin	499	492	413	32	1013	161	68	29	156	45	1114	100	4122
4	Fallon	I580 WB	0	403	456	0	594	502	0	0	0	246	62	654	2917
5	El Charro	I580 EB	0	502	121	11	592	445	288	0	480	0	0	0	2439
6	Airway	I580 EB	19	580	178	67	103	102	727	235	151	14	53	102	2331
7	Airway	I-580 WB	0	1275	167	0	231	197	0	0	0	49	5	446	2370
8	Airway	N Canyons	829	0	871	0	0	0	0	65	67	278	443	0	2553
9	Doolan	N Canyons	0	0	19	16	0	0	1	103	0	21	1128	27	1315
10	Isabel	Portola	599	498	44	44	142	0	5	154	246	436	531	166	2865
11	Isabel	I-580 WB	0	490	633	0	429	461	0	0	0	1069	0	526	3608
12	Isabel	I-580 EB	0	823	1070	0	1348	225	195	0	518	0	0	0	4179
13	Murrieta	Portola	158	0	206	1	0	3	6	295	85	268	1115	3	2140
14	Cross st West	Dublin Ext	1	0	0	56	0	177	54	58	7	5	1089	27	1474
		sum	2483	6214	4732	302	5868	2446	1578	1484	1964	3378	6974	2184	39607

2025 Difference Forecasts AM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	-4	-3	0	0	-1	1	0	1	0	66	209	3	272
2	Tassajara	Dublin	-28	-2	0	1	-11	8	0	1	0	45	299	1	314
3	Fallon	Dublin	173	-98	315	28	-22	-1	0	17	-13	-47	968	98	1418
4	Fallon	I580 WB	0	-198	164	0	-87	5	0	0	0	-10	0	0	-126
5	El Charro	I580 EB	0	-42	1	-95	-3	0	8	0	0	0	0	0	-131
6	Airway	I580 EB	0	309	-2	3	11	24	-57	-3	-4	0	-1	12	292
7	Airway	I-580 WB	0	293	-29	0	39	-262	0	0	0	0	0	354	395
8	Airway	N Canyons	691	0	-41	0	0	0	0	54	36	-256	425	0	909
9	Doolan	N Canyons	0	0	0	0	0	0	1	101	0	0	1127	-1	1228
10	Isabel	Portola	6	-2	0	0	-1	0	0	0	0	-49	150	-2	102
11	Isabel	I-580 WB	0	1	-126	0	-10	-48	0	0	0	-26	0	6	-203
12	Isabel	I-580 EB	0	-119	26	0	-35	0	-6	0	-8	0	0	0	-142
13	Murrieta	Portola	-13	0	0	0	0	0	0	-2	-2	-8	160	0	135
14	Cross st West	Dublin Ext	1	0	0	56	0	177	54	58	7	5	1089	27	1474
		sum	826	139	308	-7	-120	-96	0	227	16	-280	4426	498	5937

Dublin Ext - 2017
Turning Movements
PM Peak Hour

2025 No-Project Forecasts PM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	205	523	461	83	562	69	169	960	213	222	511	28	4006
2	Tassajara	Dublin	419	648	427	93	720	125	310	739	525	550	278	65	4899
3	Fallon	Dublin	212	783	104	3	695	95	221	147	370	164	13	4	2811
4	Fallon	I580 WB	0	589	566	0	875	404	0	0	0	314	2	519	3269
5	El Charro	I580 EB	0	928	553	0	928	626	517	0	257	0	0	0	3809
6	Airway	I580 EB	41	157	102	118	102	103	597	197	299	22	118	195	2051
7	Airway	I-580 WB	0	741	239	0	242	807	0	0	0	43	2	162	2236
8	Airway	N Canyons	153	0	710	0	1	0	0	7	99	860	11	1	1842
9	Doolan	N Canyons	2	2	27	16	0	0	0	0	0	45	0	22	114
10	Isabel	Portola	333	343	121	121	243	14	10	312	612	257	146	139	2651
11	Isabel	I-580 WB	0	585	1030	0	763	374	0	0	0	1030	0	301	4083
12	Isabel	I-580 EB	0	1165	994	0	1497	614	189	0	470	0	0	0	4929
13	Murrieta	Portola	114	2	365	6	1	2	2	843	119	295	424	0	2173
14	Cross st West	Dublin Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
		sum	1479	6466	5699	440	6629	3233	2015	3205	2964	3802	1505	1436	38873

2025 Plus-Project Forecasts PM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	205	524	479	88	557	69	170	1051	204	222	511	28	4108
2	Tassajara	Dublin	419	645	477	94	714	125	310	882	496	540	278	65	5045
3	Fallon	Dublin	212	782	107	83	643	95	222	604	120	114	16	6	3004
4	Fallon	I580 WB	0	652	556	0	519	406	0	0	0	315	2	455	2905
5	El Charro	I580 EB	0	982	580	130	809	506	517	0	351	0	0	0	3875
6	Airway	I580 EB	40	161	101	135	172	210	352	187	270	24	120	195	1967
7	Airway	I-580 WB	0	508	231	0	436	784	0	0	0	42	2	190	2193
8	Airway	N Canyons	192	0	477	0	1	0	0	470	277	854	29	1	2301
9	Doolan	N Canyons	2	2	27	16	0	0	1	662	0	45	69	21	845
10	Isabel	Portola	329	336	84	118	244	14	10	503	620	249	145	138	2790
11	Isabel	I-580 WB	0	533	1023	0	776	366	0	0	0	1038	0	302	4038
12	Isabel	I-580 EB	0	1139	996	0	1508	624	156	0	438	0	0	0	4861
13	Murrieta	Portola	112	2	332	6	1	2	2	999	114	295	415	0	2280
14	Cross st West	Dublin Ext	9	0	5	42	0	101	176	614	4	2	15	57	1025
		sum	1520	6266	5475	712	6380	3302	1916	5972	2894	3740	1602	1458	41237

2025 Difference Forecasts PM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	0	1	18	5	-5	0	1	91	-9	0	0	0	102
2	Tassajara	Dublin	0	-3	50	1	-6	0	0	143	-29	-10	0	0	146
3	Fallon	Dublin	0	-1	3	80	-52	0	1	457	-250	-50	3	2	193
4	Fallon	I580 WB	0	63	-10	0	-356	2	0	0	0	1	0	-64	-364
5	El Charro	I580 EB	0	54	27	130	-119	-120	0	0	94	0	0	0	66
6	Airway	I580 EB	-1	4	-1	17	70	107	-245	-10	-29	2	2	0	-84
7	Airway	I-580 WB	0	-233	-8	0	194	-23	0	0	0	-1	0	28	-43
8	Airway	N Canyons	39	0	-233	0	0	0	0	463	178	-6	18	0	459
9	Doolan	N Canyons	0	0	0	0	0	0	1	662	0	0	69	-1	731
10	Isabel	Portola	-4	-7	-37	-3	1	0	0	191	8	-8	-1	-1	139
11	Isabel	I-580 WB	0	-52	-7	0	13	-8	0	0	0	8	0	1	-45
12	Isabel	I-580 EB	0	-26	2	0	11	10	-33	0	-32	0	0	0	-68
13	Murrieta	Portola	-2	0	-33	0	0	0	0	156	-5	0	-9	0	107
14	Cross st West	Dublin Ext	9	0	5	42	0	101	176	614	4	2	15	57	1025
		sum	41	-200	-224	272	-249	69	-99	2767	-70	-62	97	22	2364

Dublin Ext - 2017
Turning Movements
AM Peak Hour

2040 No-Project Forecasts AM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	197	724	162	21	421	72	125	440	166	268	466	109	3171
2	Tassajara	Dublin	249	490	294	48	1007	88	107	244	147	544	460	47	3725
3	Fallon	Dublin	326	651	807	53	1133	162	72	187	179	223	233	5	4031
4	Fallon	I580 WB	0	1348	562	0	888	497	0	0	0	231	62	658	4246
5	El Charro	I580 EB	0	1356	409	208	674	445	495	0	667	0	0	0	4254
6	Airway	I580 EB	52	271	204	64	111	79	767	248	287	14	54	90	2241
7	Airway	I-580 WB	0	1083	196	0	201	466	0	0	0	49	5	92	2092
8	Airway	N Canyons	119	0	1012	0	0	0	0	11	30	553	19	0	1744
9	Doolan	N Canyons	0	0	19	16	0	0	0	2	0	21	1	11	70
10	Isabel	Portola	474	500	59	74	182	0	5	154	209	789	477	176	3099
11	Isabel	I-580 WB	0	600	675	0	650	381	0	0	0	1160	0	625	4091
12	Isabel	I-580 EB	0	842	706	0	1473	237	369	0	419	0	0	0	4046
13	Murrieta	Portola	287	0	207	1	0	3	6	333	105	304	1174	3	2423
14	Cross st West	Dublin Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
		sum	1704	7865	5312	485	6740	2430	1946	1619	2209	4156	2951	1816	39233

2040 Plus-Project Forecasts AM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	200	727	162	21	397	89	126	391	166	360	741	107	3487
2	Tassajara	Dublin	247	491	294	55	1031	62	107	197	147	596	858	46	4131
3	Fallon	Dublin	423	545	1014	132	1076	159	67	75	163	156	1206	111	5127
4	Fallon	I580 WB	0	1241	534	0	732	512	0	0	0	257	62	658	3996
5	El Charro	I580 EB	0	1051	426	47	705	445	665	0	668	0	0	0	4007
6	Airway	I580 EB	58	581	210	72	130	119	694	244	252	13	54	103	2530
7	Airway	I-580 WB	0	1201	329	0	259	194	0	0	0	58	5	471	2517
8	Airway	N Canyons	608	0	1022	0	0	0	0	144	89	283	905	0	3051
9	Doolan	N Canyons	0	0	19	16	0	0	0	206	0	21	1485	11	1758
10	Isabel	Portola	501	502	59	68	178	0	5	153	208	593	987	93	3347
11	Isabel	I-580 WB	0	580	670	0	447	372	0	0	0	1129	0	719	3917
12	Isabel	I-580 EB	0	857	680	0	1416	234	329	0	449	0	0	0	3965
13	Murrieta	Portola	222	0	207	1	0	3	6	336	98	124	1360	3	2360
14	Cross st West	Dublin Ext	55	1	20	60	2	177	126	162	186	104	1296	67	2256
		sum	2314	7777	5646	472	6373	2366	2125	1908	2426	3694	8959	2389	46449

2040 Difference Forecasts AM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	3	3	0	0	-24	17	1	-49	0	92	275	-2	316
2	Tassajara	Dublin	-2	1	0	7	24	-26	0	-47	0	52	398	-1	406
3	Fallon	Dublin	97	-106	207	79	-57	-3	-5	-112	-16	-67	973	106	1096
4	Fallon	I580 WB	0	-107	-28	0	-156	15	0	0	0	26	0	0	-250
5	El Charro	I580 EB	0	-305	17	-161	31	0	170	0	1	0	0	0	-247
6	Airway	I580 EB	6	310	6	8	19	40	-73	-4	-35	-1	0	13	289
7	Airway	I-580 WB	0	118	133	0	58	-272	0	0	0	9	0	379	425
8	Airway	N Canyons	489	0	10	0	0	0	0	133	59	-270	886	0	1307
9	Doolan	N Canyons	0	0	0	0	0	0	0	204	0	0	1484	0	1688
10	Isabel	Portola	27	2	0	-6	-4	0	0	-1	-1	-196	510	-83	248
11	Isabel	I-580 WB	0	-20	-5	0	-203	-9	0	0	0	-31	0	94	-174
12	Isabel	I-580 EB	0	15	-26	0	-57	-3	-40	0	30	0	0	0	-81
13	Murrieta	Portola	-65	0	0	0	0	0	0	3	-7	-180	186	0	-63
14	Cross st West	Dublin Ext	55	1	20	60	2	177	126	162	186	104	1296	67	2256
		sum	610	-88	334	-13	-367	-64	179	289	217	-462	6008	573	7216

Dublin Ext - 2017
Turning Movements
PM Peak Hour

2040 No-Project Forecasts PM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	390	579	482	103	633	74	169	960	269	228	628	38	4553
2	Tassajara	Dublin	468	674	514	97	732	144	283	739	505	364	327	61	4908
3	Fallon	Dublin	163	980	386	13	706	98	221	277	370	964	79	53	4310
4	Fallon	I580 WB	0	813	937	0	1342	757	0	0	0	603	2	715	5169
5	El Charro	I580 EB	0	1521	551	0	1753	627	517	0	257	0	0	0	5226
6	Airway	I580 EB	201	364	132	114	277	177	616	201	299	33	140	212	2766
7	Airway	I-580 WB	0	849	370	0	378	949	0	0	0	166	2	162	2876
8	Airway	N Canyons	151	0	813	0	1	0	0	7	99	1122	11	1	2205
9	Doolan	N Canyons	2	2	27	15	0	0	0	0	0	45	0	22	113
10	Isabel	Portola	239	423	503	185	281	14	10	376	411	427	154	202	3225
11	Isabel	I-580 WB	0	608	666	0	774	586	0	0	0	698	0	424	3756
12	Isabel	I-580 EB	0	811	901	0	1041	712	201	0	384	0	0	0	4050
13	Murrieta	Portola	171	2	652	6	1	2	2	1029	394	305	610	0	3174
14	Cross st West	Dublin Ext	0	0	0	0	0	0	0	0	0	0	0	0	0
		sum	1785	7626	6934	533	7919	4140	2019	3589	2988	4955	1953	1890	46331

2040 Plus-Project Forecasts PM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	390	584	507	117	622	74	165	1258	254	227	636	38	4872
2	Tassajara	Dublin	468	687	570	105	695	142	275	1055	542	358	333	61	5291
3	Fallon	Dublin	159	956	424	137	673	98	221	878	167	677	95	73	4558
4	Fallon	I580 WB	0	977	917	0	832	742	0	0	0	698	2	561	4729
5	El Charro	I580 EB	0	1663	656	85	1532	512	520	0	408	0	0	0	5376
6	Airway	I580 EB	136	362	133	152	423	419	345	187	221	40	133	215	2766
7	Airway	I-580 WB	0	580	370	0	829	897	0	0	0	141	2	233	3052
8	Airway	N Canyons	257	0	531	0	1	0	0	846	471	1158	71	1	3336
9	Doolan	N Canyons	2	2	27	15	0	0	0	1242	0	45	183	22	1538
10	Isabel	Portola	243	422	403	162	271	14	10	827	423	386	140	189	3490
11	Isabel	I-580 WB	0	532	680	0	761	584	0	0	0	721	0	427	3705
12	Isabel	I-580 EB	0	834	885	0	1053	709	116	0	381	0	0	0	3978
13	Murrieta	Portola	148	2	414	6	1	2	2	1260	209	306	583	0	2933
14	Cross st West	Dublin Ext	201	3	91	75	2	173	175	1064	98	38	116	63	2099
		sum	2004	7604	6608	854	7695	4366	1829	8617	3174	4795	2294	1883	51723

2040 Difference Forecasts PM Peak

	Intersection		Northbound			Southbound			Eastbound			Westbound			
No.	N/S Street	E/W Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	sum
1	Hacienda	Dublin	0	5	25	14	-11	0	-4	298	-15	-1	8	0	319
2	Tassajara	Dublin	0	13	56	8	-37	-2	-8	316	37	-6	6	0	383
3	Fallon	Dublin	-4	-24	38	124	-33	0	0	601	-203	-287	16	20	248
4	Fallon	I580 WB	0	164	-20	0	-510	-15	0	0	0	95	0	-154	-440
5	El Charro	I580 EB	0	142	105	85	-221	-115	3	0	151	0	0	0	150
6	Airway	I580 EB	-65	-2	1	38	146	242	-271	-14	-78	7	-7	3	0
7	Airway	I-580 WB	0	-269	0	0	451	-52	0	0	0	-25	0	71	176
8	Airway	N Canyons	106	0	-282	0	0	0	0	839	372	36	60	0	1131
9	Doolan	N Canyons	0	0	0	0	0	0	0	1242	0	0	183	0	1425
10	Isabel	Portola	4	-1	-100	-23	-10	0	0	451	12	-41	-14	-13	265
11	Isabel	I-580 WB	0	-76	14	0	-13	-2	0	0	0	23	0	3	-51
12	Isabel	I-580 EB	0	23	-16	0	12	-3	-85	0	-3	0	0	0	-72
13	Murrieta	Portola	-23	0	-238	0	0	0	0	231	-185	1	-27	0	-241
14	Cross st West	Dublin Ext	201	3	91	75	2	173	175	1064	98	38	116	63	2099
		sum	219	-22	-326	321	-224	226	-190	5028	186	-160	341	-7	5392