Final Report

Chiquita Canyon Landfill Master Plan Revision Traffic Analysis

Prepared for

Los Angeles County Department of Public Works, Traffic and Lighting Division

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1. Introduction

This report documents the potential traffic-related impacts of the proposed Chiquita Canyon Landfill (CCL) Master Plan Revision.

The scope of the analysis in this report is in accordance with direction provided by Los Angeles County Department of Public Works, Traffic and Lighting Division staff. The signed Memorandum of Understanding (MOU), which outlines the agreed upon scope of this traffic study, is provided in Appendix A. This report satisfies the Traffic Impact requirements of the Congestion Management Program (CMP) for Los Angeles County. The analysis focuses on on-site circulation and access, off-site traffic impacts, and addresses the project impact at area intersections.

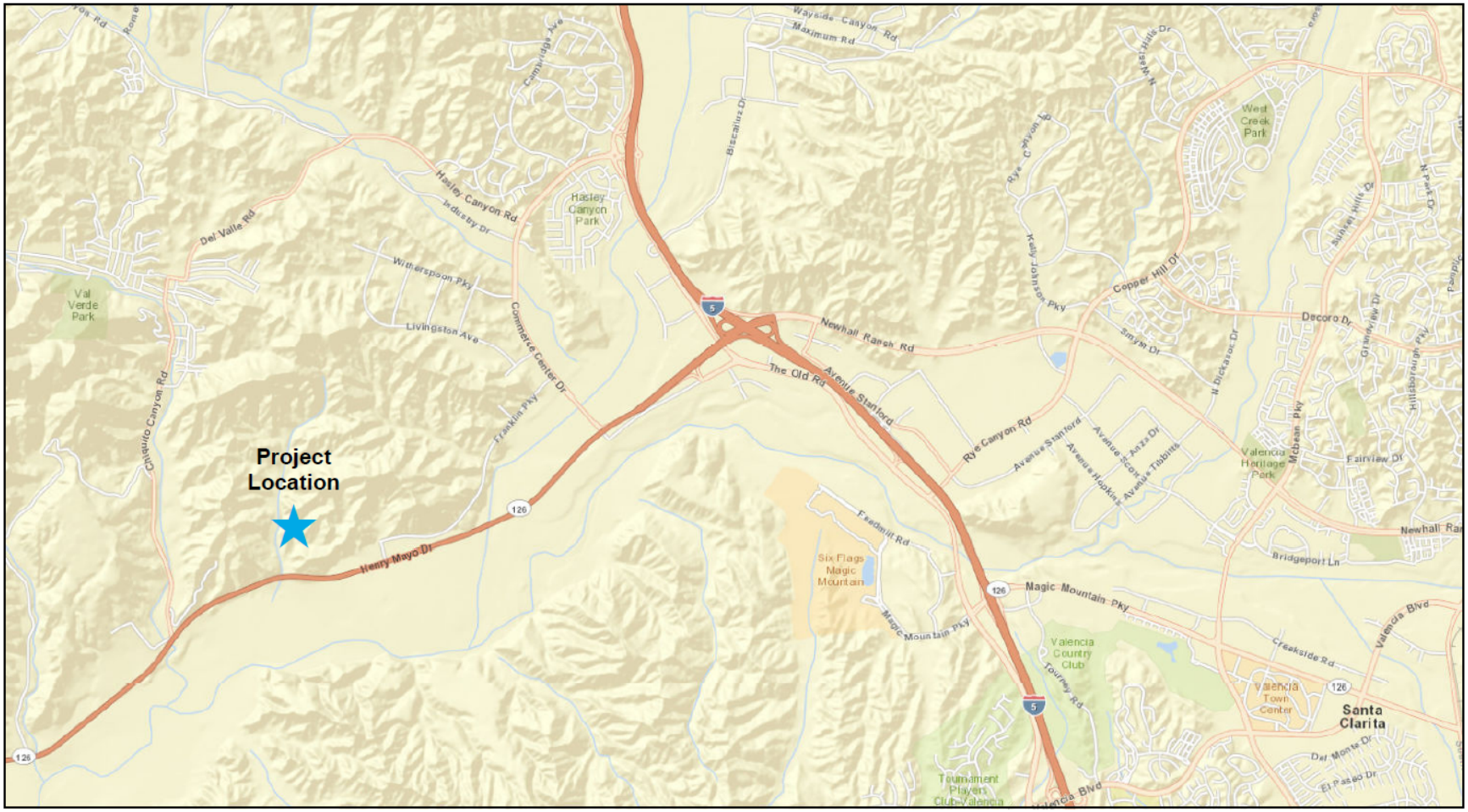
1.1 Project Description and Location

CCL is located in the northwestern portion of unincorporated Los Angeles County, approximately three miles west of the intersection of Interstate 5 (I-5) and State Route 126 (SR-126). A regional vicinity map is provided on **Figure 1-1.** Access to the project site is from SR-126 (Henry Mayo Drive), a four-lane paved highway running east-west along the southern boundary of CCL. Access to the existing CCL at SR-126 includes left-turn and right-turn deceleration lanes for traffic entering the site.

CCL is located within the planning area of the City of Santa Clarita, but outside its city limits and sphere of influence. The landfill site is also located within the Santa Clarita Valley Area Plan of the Los Angeles County General Plan and in the Castaic Area Community Standards District.

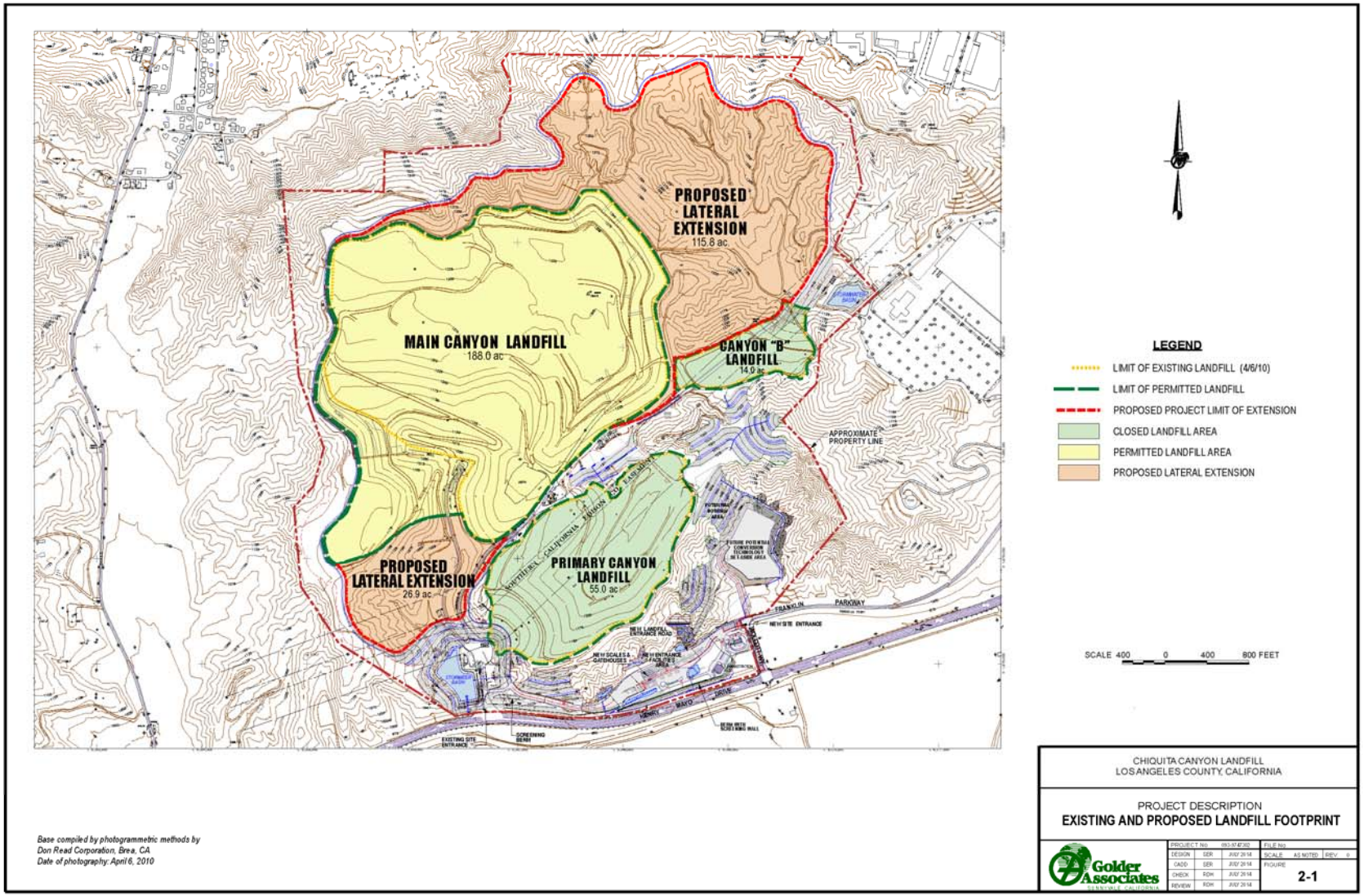
The proposed project would continue the landfill operation by extending the waste footprint at CCL by approximately 143 acres within the confines of the existing property boundary, relocating the site entrance, better utilizing the landfill's remaining and potential disposal capacity, and allowing for the disposal of all nonhazardous wastes acceptable at a Class III solid waste disposal landfill. The proposed project would also include the continued diversion of such materials as green waste, asphalt/concrete, and metal through ongoing as well as permitted, but not yet developed, landfill waste diversion programs on which numerous jurisdictions depend to comply with state-mandated waste diversion goals, and continued landfill gas control and recovery for beneficial use. Figure 1-2 illustrates the existing and proposed CCL project footprint.

FIGURE 1-1
Vicinity Map



Basemap Source: ESRI

FIGURE 1-2
Existing and Proposed Landfill Footprint



1.2 Study Area

This traffic study includes documentation of existing conditions, analysis of project build-out traffic conditions and identification of project-related impacts at the following study intersections:

- Chiquito Canyon Road @ SR-126
- Chiquita Canyon Landfill Entrance (existing) @ SR-126
- Wolcott Way @ SR-126
- Commerce Center Drive @ SR-126
- I-5 Southbound Ramps @ SR-126
- I-5 Northbound Ramps @ SR-126
- Franklin Parkway @ Commerce Center Drive
- Wolcott Way @ Franklin Parkway (proposed CCL entrance)

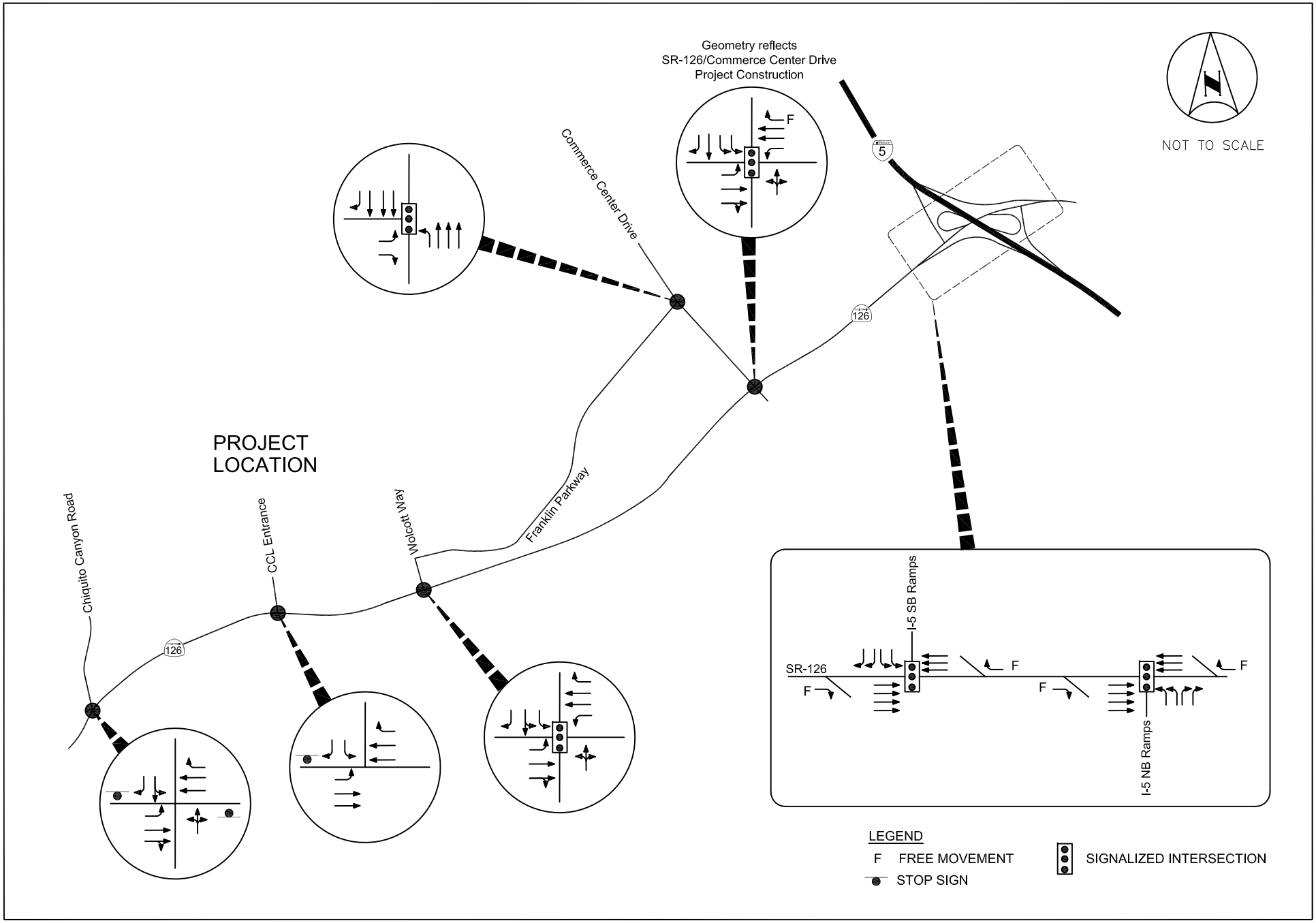
The existing lane configurations of the study intersections are illustrated in Figure 1-3. For each of the study intersections, five analysis scenarios were analyzed for the morning and evening peak hours:

- Existing Conditions
- Existing plus Growth (2015) Conditions without Project
- Existing plus Growth (2015) plus Other Development Conditions without Project
- Existing plus Growth (2015) Conditions with Project
- Existing plus Growth (2015) plus Other Development Conditions with Project

1.3 Analysis Methodology

Traffic analysis for the intersections was conducted using two different methods to accommodate the requirements of the both Caltrans and the County. The Highway Capacity Manual (HCM) and Intersection Capacity Utilization (ICU) methodologies were used to analyze intersection operations.

Caltrans uses the HCM methodology for intersection analysis. The HCM methodology assesses Level of Service (LOS) based on average delay per vehicle. The delay is calculated using peak hourly traffic volumes, peak hour factors, number of lanes, type of operation (signalized or unsignalized), and other factors. For this study, the HCM methodology was implemented using the Synchro software (Version 8). The HCM delay forecast translates to a LOS assessment, ranging from LOS A to LOS F using the delay ranges shown in Table 1-1.



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EXISTING LANE CONFIGURATIONS

FIGURE 1-3

TABLE 1-1
HCM-Based Level of Service and Delay Ranges

Average Delay (seconds / vehicle)		LOS
Signalized Intersections	**Unsignalized intersections**	
< 10.0	< 10.0	A
> 10.0 to < 20.0	> 10.0 to < 15.0	B
> 20.0 to < 35.0	> 15.0 to < 25.0	C
> 35.0 to < 55.0	> 25.0 to < 35.0	D
> 55.0 to < 80.0	> 35.0 to < 50.0	E
> 80.0	> 50.0	F

Source: Highway Capacity Manual, 2010

The ICU methodology provides a comparison of the number of vehicles actually passing through an intersection during a given hour to the theoretical hourly vehicular capacity of that intersection. A saturation flow rate of 1,600 vehicles/hour/lane for all through/turn lanes and 2,880 vehicles/hour/lane for all dual turn lanes was used in the ICU calculation, consistent with the guidance provided in the Los Angeles County CMP. The ICU calculation returns a volume-to-capacity (V/C) ratio that translates into a corresponding LOS. A summary description of each LOS and the corresponding V/C ratio is provided in Table 1-2.

TABLE 1-2
ICU Level of Service Criteria

LOS	V/C Ratio	Definition
A	0.00 - 0.60	At LOS A, there are no cycles that are fully loaded, and few are even close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	>0.60 - 0.70	LOS B represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted with platoons of vehicles.
C	>0.70 - 0.80	In LOS C stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait through more than one red signal indication and back-ups may develop behind turning vehicles.
D	>0.80 – 0.90	LOS D encompasses a zone of increasing restriction, approaching instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive back-ups.
E	>0.90 – 1.00	LOS E represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00) there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).
F	> 1.00	LOS F represents jammed conditions. Back-ups from location downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.

Source: 2010 Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority.

For comparison purposes, both the HCM and ICU analysis values are reported in the summary tables.

1.4 Congestion Management Program Compliance

The Los Angeles County CMP was established in 1992. The 1992 CMP forged new ground in linking transportation, land use and air quality decisions for the most populous and one of the most complex urban areas in the country. The 2010 CMP is the eighth CMP adopted for Los Angeles County since the requirement became effective with the passage of Proposition 111 in 1990. The hallmark of the CMP program is that it is intended to address the impact of local growth on the regional transportation system. Compliance with the CMP requirements ensures a local jurisdiction's eligibility to compete for State gas tax funds for local transportation projects. SR-126 (Henry Mayo Drive) is a CMP Highway and Roadway System arterial in the project study area.

The Los Angeles County CMP states that "a CMP Transportation Impact Analysis (TIA) is required for all projects required to prepare and Environmental Impact Report (EIR) based on local determination." The proposed CCL Master Plan Revision is required to prepare an EIR. Therefore, a CMP-level analysis is required for this project. The traffic analysis documented in this report is consistent with the Guidelines for CMP Transportation Impact Analysis in Appendix D of the Los Angeles County CMP.

1.5 Traffic Impact Criteria

The purpose of a traffic impact study is to identify the impacts of a proposed development, and to determine whether or not those impacts are significant. If determined to be significant, the project would be required to mitigate the project's traffic-related impacts.

Based on the County of Los Angeles Department of Public Works Traffic Impact Analysis Guidelines, a significant impact occurs if the project related increase in the V/C ratio equals or exceeds the threshold shown in Table 1-3.

TABLE 1-3
Significant Impact Thresholds

INTERSECTIONS		
Pre-Project		Project V/C Increase
LOS	V/C	
C	0.71 to 0.80	0.04 or more
D	0.81 to 0.90	0.02 or more
E/F	0.91 or more	0.01 or more

V/C calculations are done using the ICU methodology only. All impacts are assessed using the ICU methodology only. The HCM analysis is provided for Caltrans review purposes since SR-126 is a Caltrans facility.

2. Existing Conditions

2.1 Existing Traffic Volumes

Morning and evening peak hour turning movement traffic counts were conducted at the study intersections in March 2013, and are depicted on Figure 2-1. Copies of the traffic count data sheets are provided in Appendix B.

2.2 Level of Service Analysis

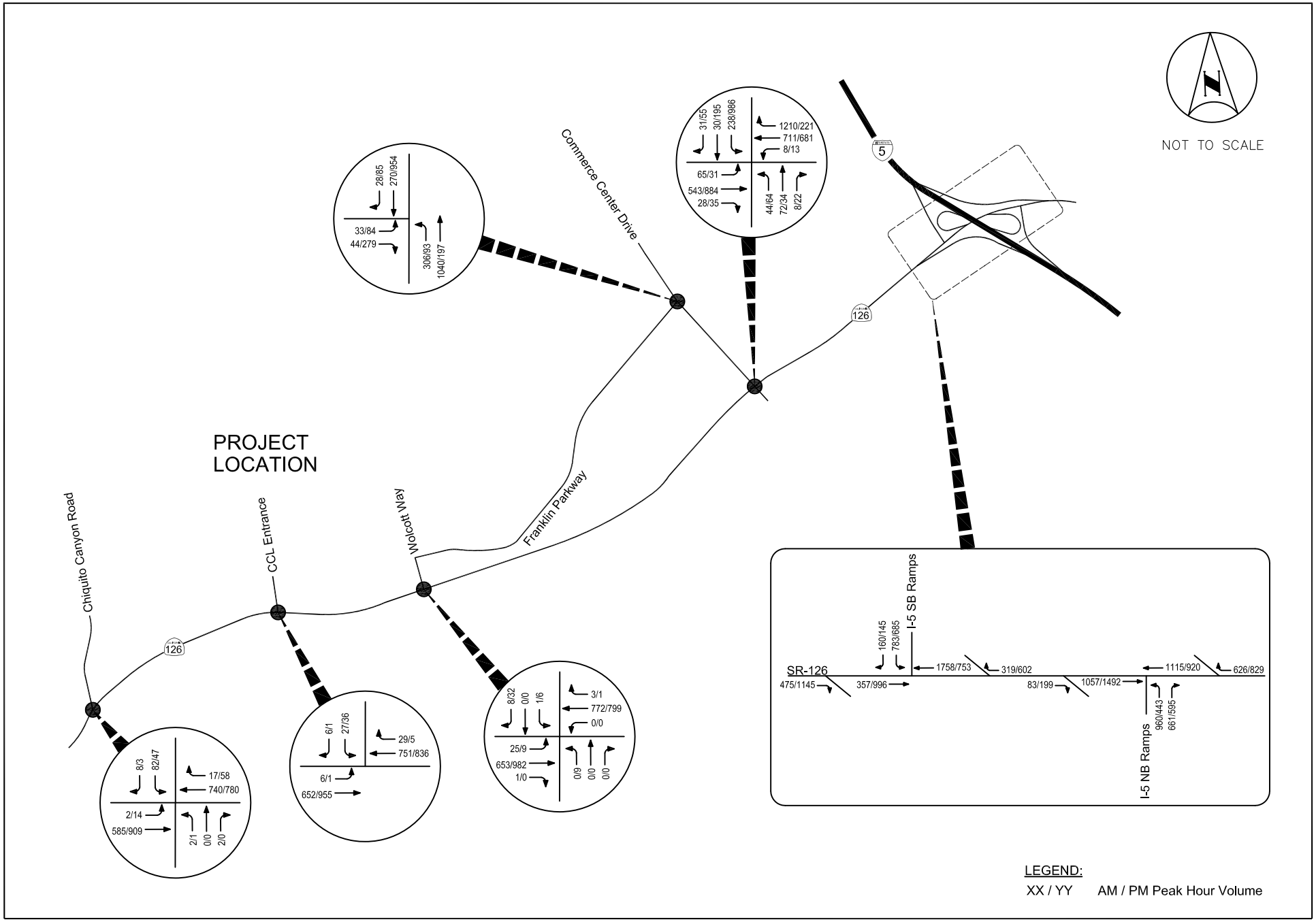
Existing morning and evening peak hour operating conditions were evaluated using the HCM and ICU methodologies. The results of the existing conditions analysis are summarized on Table 2-1. Copies of intersection analysis worksheets are provided in Appendix C.

TABLE 2-1
Summary of Intersection Analysis – Existing Conditions

			Existing Conditions							
			AM Peak				PM Peak			
Intersection		Control	Delay (sec/veh)	LOS	ICU	LOS	Delay (sec/veh)	LOS	ICU	LOS
1	Chiquito Canyon Road @ SR-126	Unsignalized*	40.1	E	0.386	A	53.0	F	0.414	A
2	Chiquita Canyon Landfill Entrance @ SR-126	Unsignalized*	23.5	C	0.355	A	38.9	E	0.421	A
3	Wolcott Way @ SR-126	Signalized	13.5	B	0.357	A	26.6	C	0.415	A
4	Commerce Center Drive @ SR-126	Signalized	26.4	C	0.490	A	66.7	E	0.759	C
5	I-5 Southbound Ramps @ SR-126	Signalized	18.6	B	0.738	C	11.2	B	0.495	A
6	I-5 Northbound Ramps @ SR-126	Signalized	24.3	C	0.532	A	25.0	C	0.425	A
7	Franklin Parkway @ Commerce Center Drive	Signalized	8.8	A	0.368	A	18.2	B	0.409	A
8	Wolcott Way @ Franklin Parkway	Unsignalized**	Intersection does not exist currently							

* HCM results (delay) reported for worst stop controlled approach

** HCM results (delay) reported for overall stop controlled intersection



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EXISTING PEAK HOUR VOLUMES

FIGURE 2-1

Table 2-1 shows that all study intersections are currently operating at LOS C or better using the ICU methodology.

Using the HCM methodology, the following intersections currently operate at LOS E or worse:

- Chiquito Canyon Road @ SR-126 (two-way stop controlled, LOS E in the AM, LOS F in the PM)
- Chiquita Canyon Landfill Entrance @ SR-126 (two-way stop controlled, LOS E in the PM)
- Commerce Center Drive @ SR-126 (signalized, LOS E in the PM)

Peak hour volume traffic signal warrants indicate that signals are not warranted at Chiquito Canyon Road/SR-126 and Chiquita Canyon Landfill Entrance/SR-126 under existing conditions. Copies of the peak hour volume warrant worksheets are provided in Appendix D.

3. Cumulative Conditions

3.1 Ambient Growth

Future peak hour traffic projections for the study intersections have been developed for the proposed project buildout year of 2015. An annual ambient growth rate of 2.75% per year has been applied to the existing (2013) traffic volumes. The annual growth rate is based upon direction received from Los Angeles County Department of Public Works, Traffic and Lighting Division staff (see the signed MOU in Appendix A). The 2015 buildout year without project volumes (Existing plus Growth traffic) at each of the study intersections is shown on Figure 3-1.

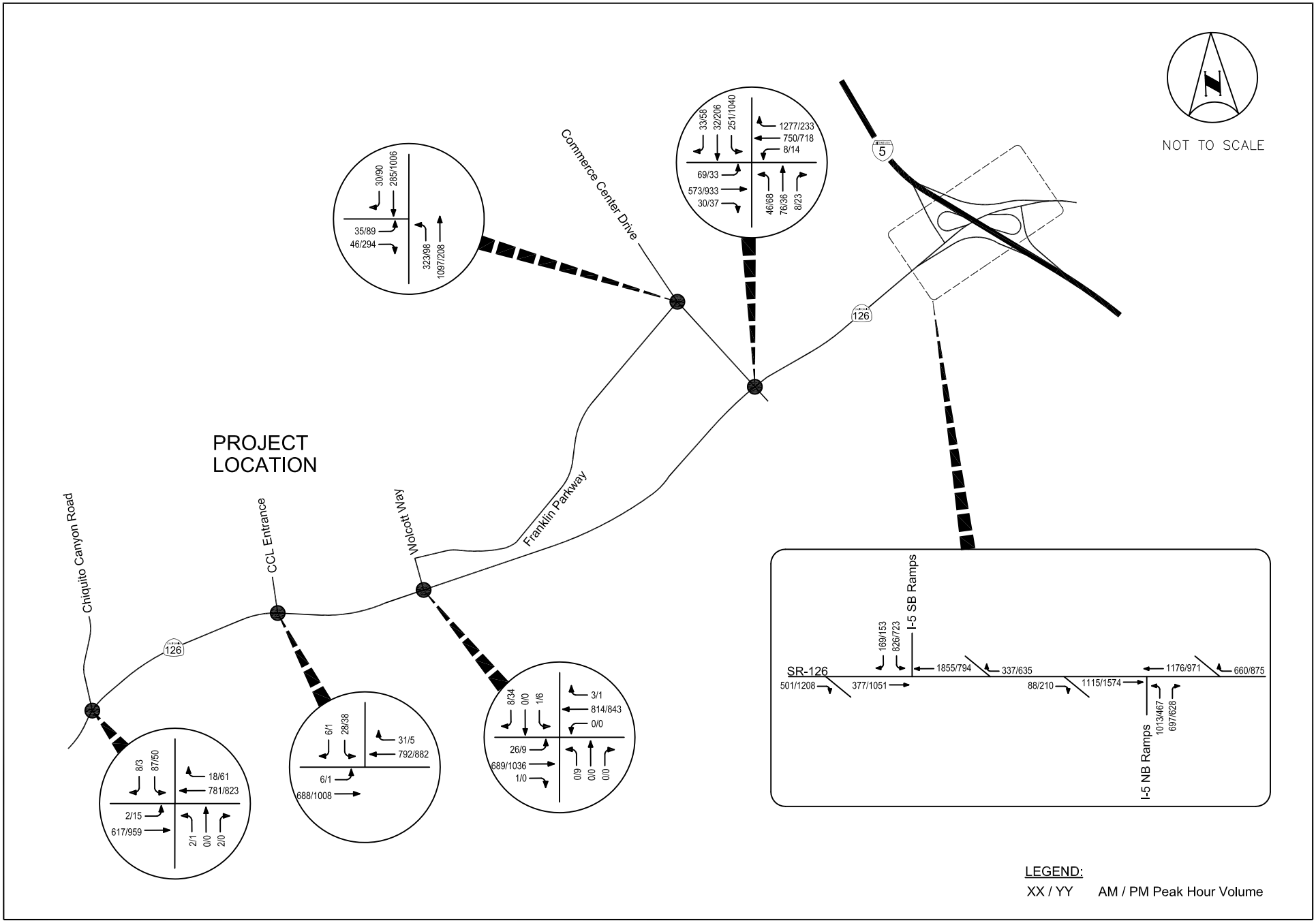
3.2 Other Development

In addition to the ambient growth rate, anticipated traffic from other development in the vicinity of the project was added to existing traffic volumes. Other development includes any project that has already been approved but is not yet constructed, or any project that is in the application process, and is a reasonably foreseeable development. The projects currently planned or proposed in the cumulative impact area of the Proposed Project were provided by the Los Angeles County Department of Regional Planning (LADRP). The cumulative project information is based on the best information available at the time this Draft Environmental Impact Report (DEIR) was prepared. A summary of other development is provided in Table 3-1. The location of each of these projects and their associated trip distribution information is attached in Appendix E. Cumulatively, all other development has the potential to generate a total of 919 trips in the morning peak hour, and 1,249 trips in the evening peak hour by 2015 in the vicinity of the project.

Traffic from the other development projects was assigned to the study intersections by referencing the traffic studies for each project. The assumed trip distribution of each of these projects through the study area is also included in Appendix E. The total combined traffic generated in the Cumulative condition (Existing plus Growth plus Other Development traffic) at each of the study intersections is shown on Figure 3-2.

TABLE 3-1
Summary of Other Development Land Use and Trip Generation

PROJECT					PEAK HOUR					
					AM			PM		
County ID	**Name**	**LAND USE**	**QUANTITY**	**UNITS**	**IN**	**OUT**	**TOTAL**	**IN**	**OUT**	**TOTAL**
PM060030	Sterling Gateway	Insustrial Park	1,221.36	TSF	672	122	794	159	635	794
PM060734	Valencia Gateway	Shopping Center	135.01	TSF	76	49	125	218	237	455
TOTAL FORECASTED TRIPS BY THE YEAR 2015					***748***	***171***	***919***	***377***	***872***	***1,249***



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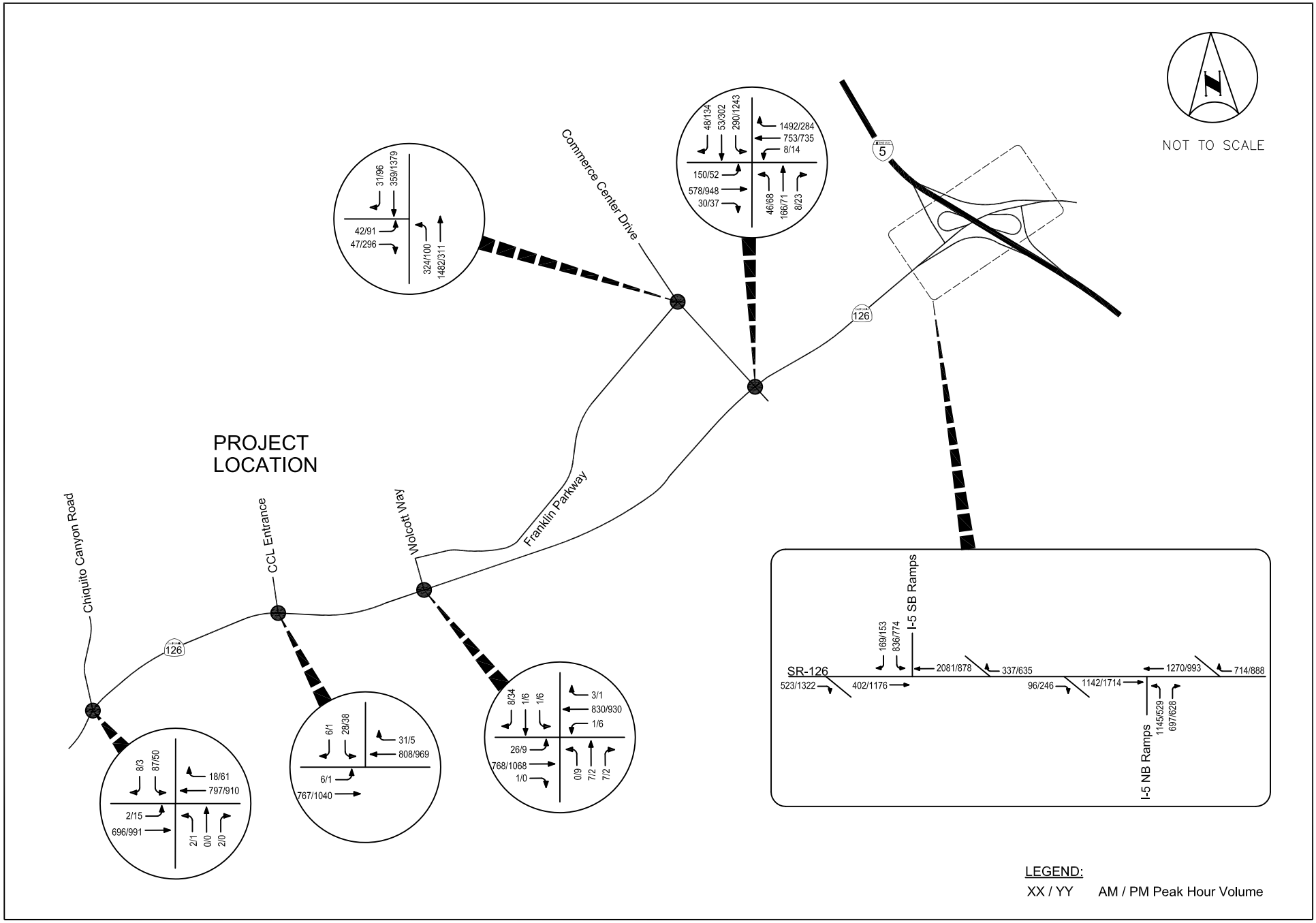
EXISTING PLUS GROWTH WITHOUT PROJECT PEAK HOUR VOLUMES

FIGURE 3-1



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EXISTING PLUS GROWTH PLUS OTHER DEVELOPMENT WITHOUT PROJECT PEAK HOUR VOLUMES

FIGURE 3-2

3.3 Level of Service Analysis

3.3.1 Existing plus Growth Conditions

The results of the Existing plus Growth analysis are summarized on Table 3-2. Morning and evening peak hour operating conditions were evaluated using HCM and ICU methodologies. Copies of intersection analysis worksheets are provided in Appendix C.

TABLE 3-2
Summary of Intersection Analysis – Existing plus Growth Conditions

			Existing plus Growth Conditions							
			AM Peak				PM Peak			
Intersection		Control	Delay (sec/veh)	LOS	ICU	LOS	Delay (sec/veh)	LOS	ICU	LOS
1	Chiquito Canyon Road @ SR-126	Unsignalized*	49.7	E	0.402	A	65.9	F	0.432	A
2	Chiquita Canyon Landfill Entrance @ SR-126	Unsignalized*	25.7	D	0.369	A	45.5	E	0.439	A
3	Wolcott Way @ SR-126	Signalized	14.2	B	0.371	A	29.2	C	0.432	A
4	Commerce Center Drive @ SR-126	Signalized	27.0	C	0.546	A	71.0	E	0.852	D
5	I-5 Southbound Ramps @ SR-126	Signalized	20.6	C	0.773	C	11.8	B	0.516	A
6	I-5 Northbound Ramps @ SR-126	Signalized	26.3	C	0.556	A	26.7	C	0.443	A
7	Franklin Parkway @ Commerce Center Drive	Signalized	9.1	A	0.383	A	19.2	B	0.426	A
8	Wolcott Way @ Franklin Parkway	Unsignalized**	Intersection does not exist without project							

* HCM results (delay) reported for worst stop controlled approach

** HCM results (delay) reported for overall stop controlled intersection

Table 3-2 shows that all study intersections will operate at LOS D or better using the ICU methodology in the Existing plus Growth (2015 buildout year) without project conditions.

Using the HCM methodology, the following intersections will operate at LOS E or worse (same as existing conditions):

- Chiquito Canyon Road @ SR-126 (two-way stop controlled, LOS E in the AM, LOS F in the PM)
- Chiquita Canyon Landfill Entrance @ SR-126 (two-way stop controlled, LOS E in the PM)
- Commerce Center Drive @ SR-126 (signalized, LOS E in the PM)

Peak hour volume traffic signal warrants indicate that signals are not warranted at Chiquito Canyon Road/SR-126 and Chiquita Canyon Landfill Entrance/SR-126 under Existing plus Growth (2015 buildout year) without project conditions. Copies of the peak hour volume warrant worksheets are provided in Appendix D.

3.3.2 Existing plus Growth plus Other Development Conditions

The results of the Existing plus Growth plus Other Development analysis are summarized on Table 3-3. Morning and evening peak hour operating conditions were evaluated using HCM and ICU methodologies. Copies of intersection analysis worksheets are provided in Appendix C.

TABLE 3-3
Summary of Intersection Analysis – Existing plus Growth plus Other Development Conditions

			Existing plus Growth plus Other Development Conditions							
			AM Peak				PM Peak			
Intersection		Control	Delay (sec/veh)	LOS	ICU	LOS	Delay (sec/veh)	LOS	ICU	LOS
1	Chiquito Canyon Road @ SR-126	Unsignalized*	58.7	F	0.407	A	88.9	F	0.442	A
2	Chiquita Canyon Landfill Entrance @ SR-126	Unsignalized*	27.9	D	0.374	A	55.7	F	0.449	A
3	Wolcott Way @ SR-126	Signalized	35.0	D	0.385	A	42.6	D	0.448	A
4	Commerce Center Drive @ SR-126	Signalized	36.0	D	0.667	B	97.8	F	0.949	E
5	I-5 Southbound Ramps @ SR-126	Signalized	24.0	C	0.824	D	12.6	B	0.553	A
6	I-5 Northbound Ramps @ SR-126	Signalized	27.4	C	0.603	A	26.7	C	0.478	A
7	Franklin Parkway @ Commerce Center Drive	Signalized	8.3	A	0.435	A	19.5	B	0.507	A
8	Wolcott Way @ Franklin Parkway	Unsignalized**	Intersection does not exist without project							

* HCM results (delay) reported for worst stop controlled approach

** HCM results (delay) reported for overall stop controlled intersection

Table 3-3 shows that all but one study intersection will operate at LOS D or better using the ICU methodology in the Existing plus Growth plus Other Development without project conditions. The intersection of Commerce Center Drive and SR-126 is projected to operate at LOS E in the PM peak hour using the ICU methodology. It is important to note that the intersection of Commerce Center Drive and SR-126 will still be under construction in 2015 as part of the Commerce Center Drive/SR-126 improvement project. The Commerce Center Drive/SR-126 improvement project is schedule to be complete in 2016. Upon completion, the planned improvements at this intersection (interchange) will return operations to LOS D or better in both the morning and evening peak hours.

Using the HCM methodology, the following intersections will operate at LOS E or worse:

- Chiquito Canyon Road @ SR-126 (two-way stop controlled, LOS F in the AM and PM)
- Chiquita Canyon Landfill Entrance @ SR-126 (two-way stop controlled, LOS F in the PM)
- Commerce Center Drive @ SR-126 (signalized, LOS F in the PM)

Peak hour volume traffic signal warrants indicate that signals are not warranted at Chiquito Canyon Road/SR-126 and Chiquita Canyon Landfill Entrance/SR-126 under Existing plus Growth plus Other Development without project conditions. Copies of the peak hour volume warrant worksheets are provided in Appendix D.

4.0 Project Traffic

4.1 Project Trip Generation

In addition to traffic at CCL that results from incoming waste, there are several other sources of inbound and outbound traffic at CCL. A wide variety of material that is diverted from the waste stream is accepted at CCL for other uses, including alternative daily cover, road base, compost, and erosion control material. Material from CCL, including clean soil, compost products, and recycled materials, may also be trucked from the site to other locations. Additionally, periodic cell construction occurs at CCL, during which time additional traffic related to construction occurs. Table 4-1 details the potential maximum daily traffic volume at CCL under baseline project conditions. Table 4-2 details the potential maximum daily traffic volume at CCL under proposed project conditions. Table 4-3 details the potential maximum daily net new trips of the proposed project (i.e., proposed project minus baseline project).

Tables 4-1 through 4-3 are based on historical records for different vehicle and material types, so the data represent a typical day of CCL operations. Also, Tables 4-1 through 4-3 summarize the project trips in passenger car equivalents (PCEs). A PCE factor of 2.0 was used to convert truck trips to PCEs. This factor was agreed upon by Los Angeles County staff during the scoping process for the traffic report.

From Table 4-3, there will be 2,332 net new trips with the proposed. These values were determined on a daily basis, so it was necessary to convert to peak hours for the traffic analysis. AM and PM peak hour project trips (net new trips) were developed to reflect the peak of the surrounding network system (one hour between 7 and 9 AM and one hour between 4 and 6 PM). Peak hour project trips were developed with historical time of day gate receipt data collected by CCL. Table 4-4 summarizes time of day vehicle count information for a typical weekday in April 2013 at CCL. Based on the historical data presented in Table 4-4, approximately 6.4% of the net new trips for the proposed project will occur in the AM peak hour (8 to 9 AM) and 6.5% will occur in the PM peak hour (4 to 5 PM). The majority of the net new trips will occur outside the peak hours of the surrounding roadway system.

4.2 Project Trip Distribution and Assignment

Project trip distribution assumptions for the proposed project were based on historical gate receipt information from CCL. Final trip distribution assumptions are shown on Figure 4-1. Based on these trip distribution patterns, the net new trips to be added to the street system by the proposed project were calculated, and are shown on Figure 4-2 (volumes are shown as PCEs).

TABLE 4-1
Summary of Baseline Peak Potential Daily Inbound and Outbound Traffic

Traffic Source	Number of Vehicles Peak Potential Daily[a,b]	Number of Vehicles Peak Potential Daily - PCE	Number of Trip Ends Peak Potential Daily - PCE
Inbound			
Trash (Disposal)[c]			
Transfer	273	546	1092
Route	300	600	1200
Roll-offs	460	920	1840
Self Haul	500	500	1000
Other Materials (Beneficial Reuse)			
Shredded Curbside Green Waste	40	80	160
Clean Soil	200	400	800
Contaminated Soil[d]			
Large Trucks	300	600	1200
10-Wheelers	60	120	240
Protective Cover			
TASW	200	400	800
MRF Fines	40	80	160
Tire Shred	15	30	60
C&D Fines	25	50	100
Road Base			
Concrete	50	100	200
Asphalt	50	100	200
Processed C&D Material	30	60	120
Composting[e]	55	110	220
Outbound			
Clean Soil	100	200	400
Compost Products	8	16	32
Other	25	50	100
Special Projects[f]			
Cell Construction			
Mobilize/Demobilize Traffic	20	20	40
Contractor Employees	80	80	160
Employees			
Landfill – Permanent	34	34	68
Landfill – Temporary	25	25	50
LFGTE Plant	2	2	4
Transfer Drivers	4	4	8
Total	**2,896**	**5,127**	**10,254**

Notes:
[a] These numbers are one-way trips and based on 5 days per week.
[b] The maximum number of trash vehicles in each category does not happen simultaneously. The daily maximum tonnage is still 6,000 tons per day.
[c] Regardless of actual vehicle mix, incoming waste tonnage would not exceed 6,000 tons per day per existing CUP condition 9e.
[d] Contaminated soils may also be disposed and not put to beneficial reuse.
[e] The existing CUP allows for operation of up to a 560-tons-per-day composting facility for windrow or in-vessel technology composting operation.
[f] These projects occur periodically. Typically once every 2-3 years.
TASW = treated auto shredder waste

TABLE 4-2
Summary of Proposed Peak Potential Daily Inbound and Outbound Traffic

Traffic Source	Number of Vehicles Peak Potential Daily[a,b]	Number of Vehicles Peak Potential Daily - PCE	Number of Trip Ends Peak Potential Daily - PCE
Inbound			
Trash (Disposal)[c]			
Transfer	545	1090	2180
Route	600	1200	2400
Roll-offs	460	920	1840
Self Haul	500	500	1000
Other Materials (Beneficial Reuse)			
Shredded Curbside Green Waste	40	80	160
Clean Soil	200	400	800
Contaminated Soil[d]			
Large Trucks	300	600	1200
10-Wheelers	60	120	240
Protective Cover			
TASW	200	400	800
MRF Fines	40	80	160
Tire Shred	15	30	60
C&D Fines	25	50	100
Road Base			
Concrete	50	100	200
Asphalt	50	100	200
Processed C&D Material	30	60	120
Composting[e]	55	110	220
Outbound			
Clean Soil	100	200	400
Compost Products	8	16	32
Other	25	50	100
Special Projects[f]			
Cell Construction			
Mobilize/Demobilize Traffic	20	20	40
Contractor Employees	80	80	160
Employees			
Landfill – Permanent	55	55	110
Landfill – Temporary	25	25	50
LFGTE Plant	3	3	6
Transfer Drivers	4	4	8
Total	**3,490**	**6,293**	**12,586**

Notes:
[a] These numbers are one-way trips and based on 5 days per week.
[b] The maximum number of trash vehicles in each category does not happen simultaneously. The daily maximum tonnage is still 12,000 tons per day.
[c] Regardless of actual vehicle mix, incoming waste tonnage would not exceed 12,000 tons per day.
[d] Contaminated soils may also be disposed and not put to beneficial reuse.
[e] The existing CUP allows for operation of up to a 560-tons-per-day composting facility for windrow or in-vessel technology composting operation.
[f] These projects occur periodically. Typically once every 2 to 3 years.

TABLE 4-3
Summary of Proposed Net New Peak Potential Daily Inbound and Outbound Traffic

Traffic Source	Number of Vehicles Peak Potential Daily[a,b]	Number of Vehicles Peak Potential Daily - PCE	Number of Trip Ends Peak Potential Daily - PCE
Inbound			
Trash (Disposal)[c]			
Transfer	272	544	1088
Route	300	600	1200
Roll-offs	0	0	0
Self Haul	0	0	0
Other Materials (Beneficial Reuse)			
Shredded Curbside Green Waste	0	0	0
Clean Soil	0	0	0
Contaminated Soil[d]			
Large Trucks	0	0	0
10-Wheelers	0	0	0
Protective Cover			
TASW	0	0	0
MRF Fines	0	0	0
Tire Shred	0	0	0
C&D Fines	0	0	0
Road Base			
Concrete	0	0	0
Asphalt	0	0	0
Processed C&D Material	0	0	0
Composting[e]	0	0	0
Outbound			
Clean Soil	0	0	0
Compost Products	0	0	0
Other	0	0	0
Special Projects[f]			
Cell Construction			
Mobilize/Demobilize Traffic	0	0	0
Contractor Employees	0	0	0
Employees			
Landfill – Permanent	21	21	42
Landfill – Temporary	0	0	0
LFGTE Plant	1	1	2
Transfer Drivers	0	0	0
Total	**594**	**1,166**	**2,332**

Notes:
[a] These numbers are one-way trips and based on 5 days per week.
[b] The maximum number of trash vehicles in each category does not happen simultaneously. The daily maximum tonnage is still 12,000 tons per day.
[c] Regardless of actual vehicle mix, incoming waste tonnage would not exceed 12,000 tons per day.
[d] Contaminated soils may also be disposed and not put to beneficial reuse.
[e] The existing CUP allows for operation of up to a 560-tons-per-day composting facility for windrow or in-vessel technology composting operation.
[f] These projects occur periodically. Typically once every 2 to 3 years.

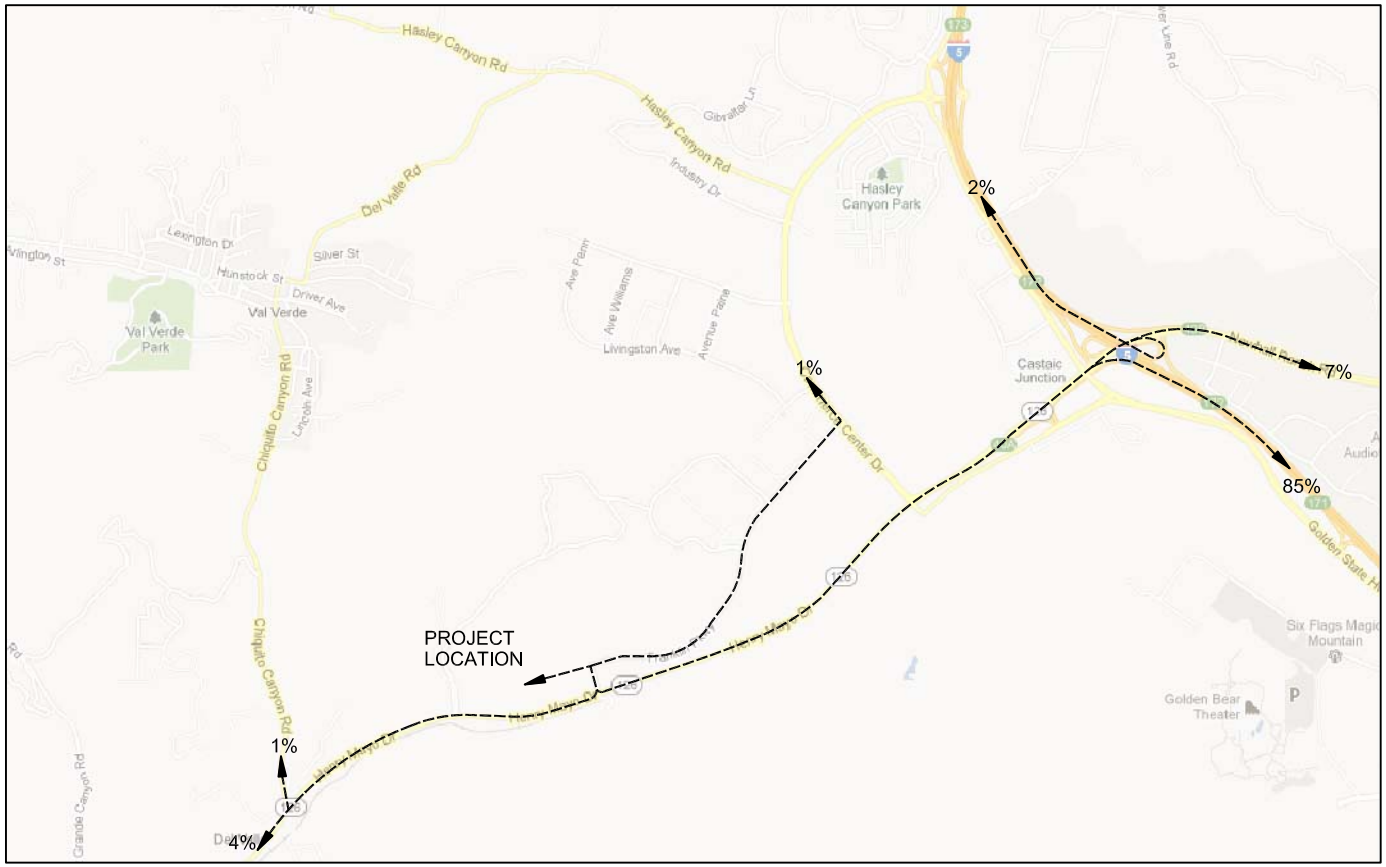
TABLE 4-4
CCL Time of Day Vehicle Distribution based on Historical Gate Receipts

Time of Day			Inbound Vehicles	Outbound Vehicles
12:00 AM	to	1:00 AM	3	3
1:00 AM	to	2:00 AM	2	2
2:00 AM	to	3:00 AM	5	5
3:00 AM	to	4:00 AM	7	7
4:00 AM	to	5:00 AM	21	21
5:00 AM	to	6:00 AM	21	21
6:00 AM	to	7:00 AM	19	19
7:00 AM	to	8:00 AM	27	27
8:00 AM	to	9:00 AM	30	30
9:00 AM	to	10:00 AM	41	41
10:00 AM	to	11:00 AM	57	57
11:00 AM	to	12:00 PM	47	47
12:00 PM	to	1:00 PM	34	34
1:00 PM	to	2:00 PM	32	32
2:00 PM	to	3:00 PM	38	38
3:00 PM	to	4:00 PM	36	36
4:00 PM	to	5:00 PM	31	31
5:00 PM	to	6:00 PM	0	0
6:00 PM	to	7:00 PM	0	0
7:00 PM	to	8:00 PM	0	0
8:00 PM	to	9:00 PM	0	0
9:00 PM	to	10:00 PM	0	0
10:00 PM	to	11:00 PM	11	11
11:00 PM	to	12:00 AM	10	10
Daily Total			**472**	**472**

Note: Data based on three-day weekday average collected in April 2013. Data represents actual vehicles entering the site (not PCEs).

The proposed project will remove the existing CCL entrance which is currently located on SR-126 between Chiquito Canyon Road and Wolcott Way and construct a new entrance on the corner of Wolcott Way and Franklin Parkway. Therefore, existing and new CCL trips will access CCL from Wolcott Way. It is assumed that the new entrance will operate as an all-way stop controlled intersection at Wolcott Way and Franklin Parkway. The intersection of SR-126 and Wolcott Way will see a change in traffic patterns due to the fact that all CCL trips (existing and new) will take access to the site via Wolcott Way. These changes are noted in Figure 4-2. Additional discussion and analysis of the new entrance is provided in Section 7 and 8 of this report.

NOT TO SCALE



LEGEND:

XX% Project Distribution (to/from distribution assumed to be identical)

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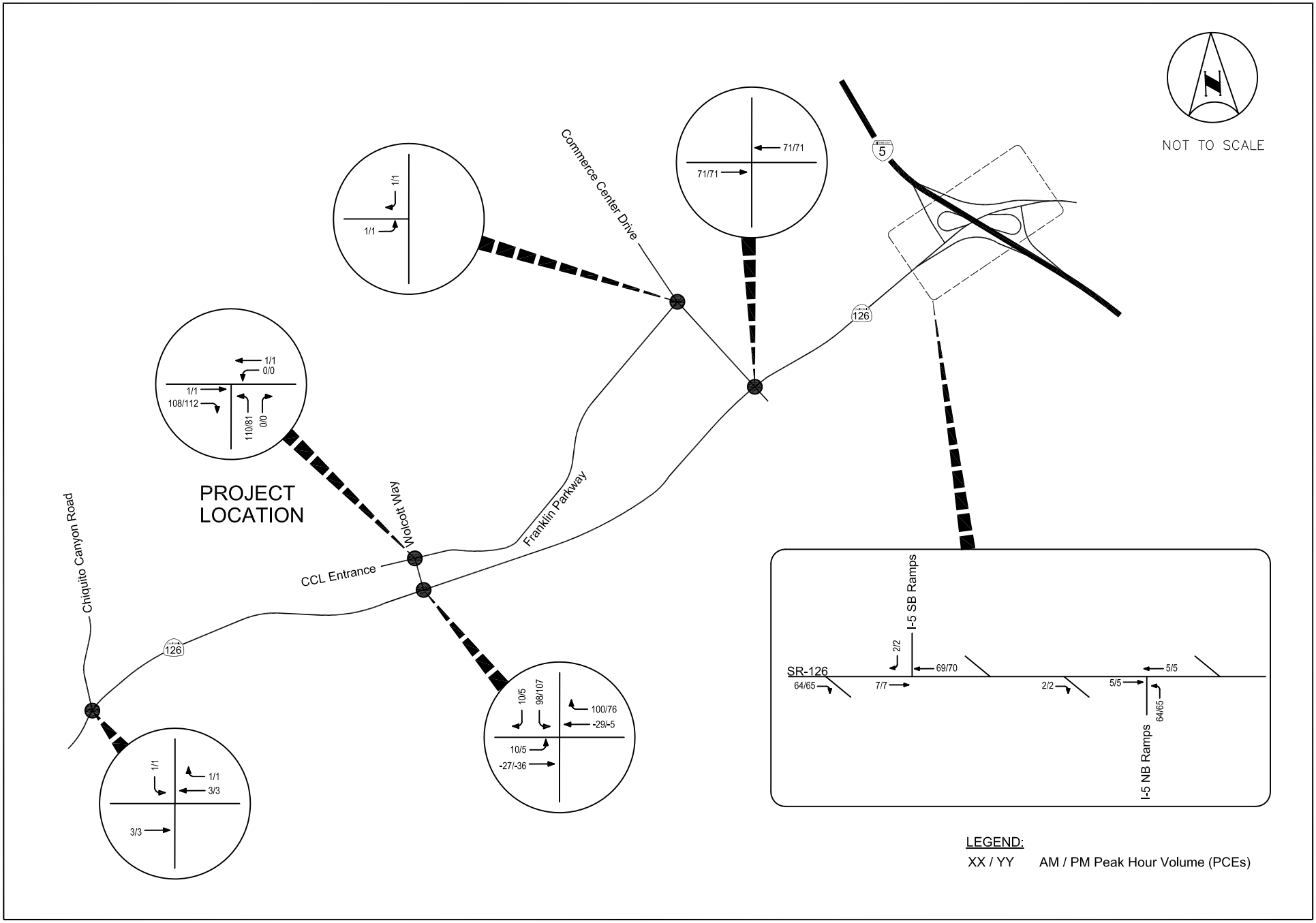
PROPOSED PROJECT TRIP DISTRIBUTION

FIGURE 4-1



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PROPOSED PROJECT PEAK HOUR VOLUMES

FIGURE 4-2

5. Project Buildout Year with Project Conditions

5.1 Level of Service Analysis

Project traffic volumes were added to the 2015 buildout year conditions (Existing plus Growth, Existing plus Growth plus Other Development) to assess potential traffic impacts. The resulting Existing plus Growth plus Project traffic volumes are shown on Figure 5-1. Existing plus Growth plus Other Development plus Project traffic volumes are shown on Figure 5-2. The study intersections were re-analyzed with these traffic volumes to determine the project's impact on peak hour intersection operations. The results of the analysis are summarized on Table 5-1 and 5-2. Table 5-1 summarizes Existing plus Growth conditions with and without project. Table 5-2 summarizes Existing plus Growth plus Other Development conditions with and without project. Tables 5-1 and 5-2 also indicate whether or not the project has a significant impact at any of the study intersections. Copies of intersection analysis worksheets are provided in Appendix C.

5.1.1 Existing plus Growth plus Project Conditions

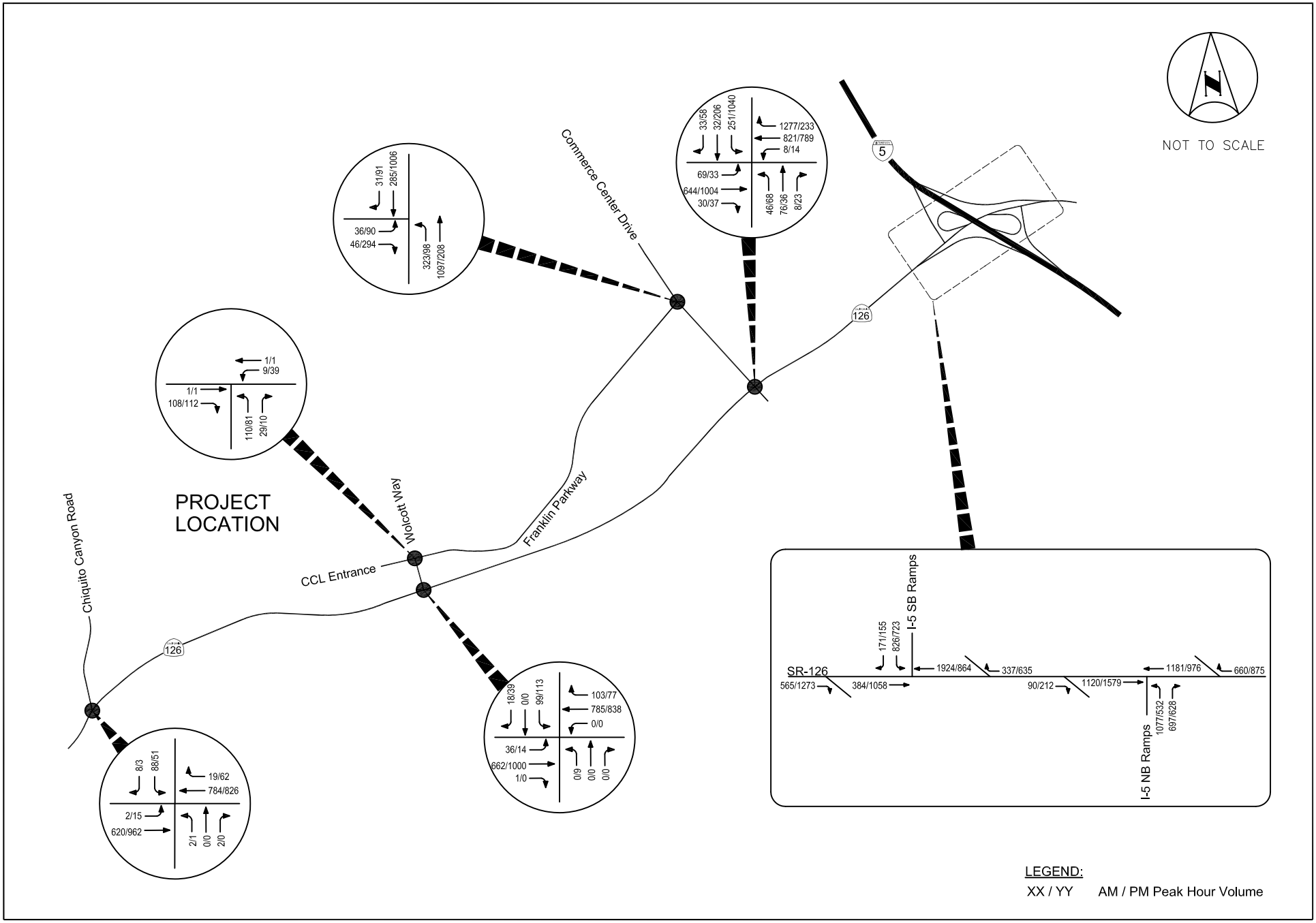
Table 5-1 shows that all study intersections will operate at LOS D or better using the ICU methodology in the Existing plus Growth plus Project condition.

Using the HCM methodology, the following intersections will operate at LOS E or worse:

- Chiquito Canyon Road @ SR-126 (two-way stop controlled, LOS F in the AM and PM)
- Commerce Center Drive @ SR-126 (signalized, LOS E in the PM)

The proposed project will have a significant impact at the intersection of Commerce Center Drive and SR-126 based on the Los Angeles County CMP guidelines (see Section 1.5 of this report). However, the intersection of Commerce Center Drive and SR-126 will still be under construction in 2015 as part of the Commerce Center Drive/SR-126 improvement project. The Commerce Center Drive/SR-126 improvement project is schedule to be complete in 2016. Upon completion, the planned improvements at this intersection (interchange) will return operations to LOS D or better in both the morning and evening peak hours. Therefore, no mitigation is required of the CCL project since mitigation measures during construction conditions would interfere with the planned staging of the Commerce Center Drive/SR-126 improvement project.

Peak hour volume traffic signal warrants indicate that signals are not warranted at Chiquito Canyon Road/SR-126 under Existing plus Growth plus Project conditions. Copies of the peak hour volume warrant worksheets are provided in Appendix D.



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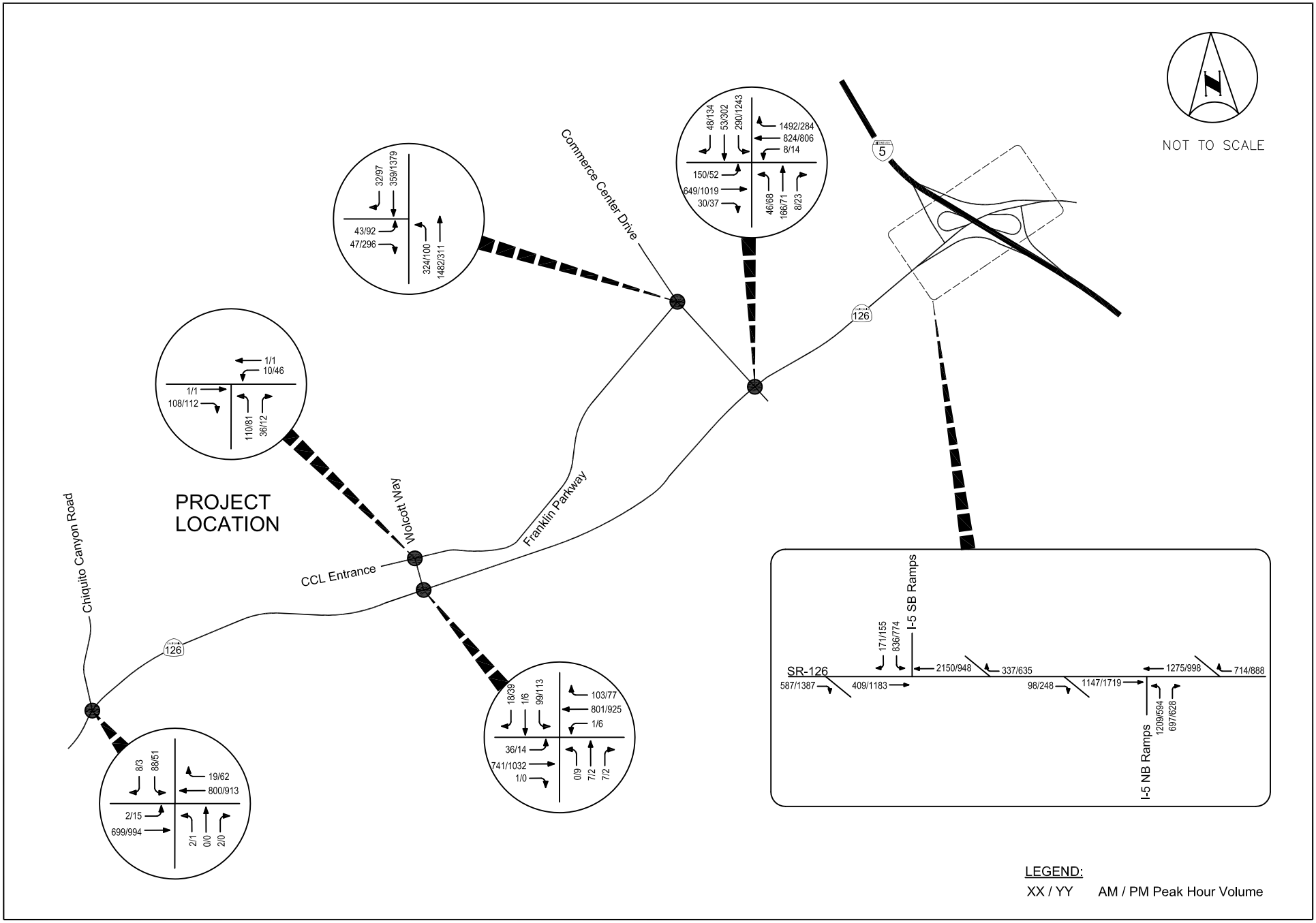
EXISTING PLUS GROWTH WITH PROJECT PEAK HOUR VOLUMES

FIGURE 5-1



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EXISTING PLUS GROWTH PLUS OTHER DEVELOPMENT WITH PROJECT PEAK HOUR VOLUMES

FIGURE 5-2

TABLE 5-1
Summary of Intersection Analysis – Existing plus Growth plus Project Conditions

			Existing plus Growth Conditions								Existing plus Growth plus Project Conditions									
			AM Peak				PM Peak				AM Peak					PM Peak				
Intersection		Control	Delay (sec/veh)	LOS	ICU	LOS	Delay (sec/veh)	LOS	ICU	LOS	Delay (sec/veh)	LOS	ICU	LOS	Significant Impact?	Delay (sec/veh)	LOS	ICU	LOS	Significant Impact?
1	Chiquito Canyon Road @ SR-126	Unsignalized*	49.7	E	0.402	A	65.9	F	0.432	A	50.8	F	0.404	A	No	68.0	F	0.433	A	No
2	Chiquita Canyon Landfill Entrance @ SR-126	Unsignalized*	25.7	D	0.369	A	45.5	E	0.439	A	Intersection does not exist with project									
3	Wolcott Way @ SR-126	Signalized	14.2	B	0.371	A	29.2	C	0.432	A	13.6	B	0.409	A	No	27.3	C	0.465	A	No
4	Commerce Center Drive @ SR-126	Signalized	27.0	C	0.546	A	71.0	E	0.852	D	28.1	C	0.568	A	No	73.9	E	0.875	D	**Yes**
5	I-5 Southbound Ramps @ SR-126	Signalized	20.6	C	0.773	C	11.8	B	0.516	A	21.1	C	0.788	C	No	12.0	B	0.531	A	No
6	I-5 Northbound Ramps @ SR-126	Signalized	26.3	C	0.556	A	26.7	C	0.443	A	26.2	C	0.570	A	No	26.5	C	0.458	A	No
7	Franklin Parkway @ Commerce Center Drive	Signalized	9.1	A	0.383	A	19.2	B	0.426	A	9.1	A	0.384	A	No	19.2	B	0.427	A	No
8	Wolcott Way @ Franklin Parkway	Unsignalized**	Intersection does not exist without project								7.8	A	0.206	A	No	8.0	A	0.199	A	No

* HCM results (delay) reported for worst stop controlled approach

** HCM results (delay) reported for overall stop controlled intersection

TABLE 5-2
Summary of Intersection Analysis – Existing plus Growth plus Other Development plus Project Conditions

			Existing plus Growth plus Other Development Conditions								Existing plus Growth plus Other Development plus Project Conditions									
			AM Peak				PM Peak				AM Peak					PM Peak				
Intersection		Control	Delay (sec/veh)	LOS	ICU	LOS	Delay (sec/veh)	LOS	ICU	LOS	Delay (sec/veh)	LOS	ICU	LOS	Significant Impact?	Delay (sec/veh)	LOS	ICU	LOS	Significant Impact?
1	Chiquito Canyon Road @ SR-126	Unsignalized*	58.7	F	0.407	A	88.9	F	0.442	A	60.3	F	0.409	A	No	90.5	F	0.443	A	No
2	Chiquita Canyon Landfill Entrance @ SR-126	Unsignalized*	27.9	D	0.374	A	55.7	F	0.449	A	Intersection does not exist with project									
3	Wolcott Way @ SR-126	Signalized	35.0	D	0.385	A	42.6	D	0.448	A	50.9	D	0.423	A	No	37.1	D	0.481	A	No
4	Commerce Center Drive @ SR-126	Signalized	36.0	D	0.667	B	97.8	F	0.949	E	37.7	D	0.689	B	No	105.8	F	0.972	E	**Yes**
5	I-5 Southbound Ramps @ SR-126	Signalized	24.0	C	0.824	D	12.6	B	0.553	A	25.4	C	0.838	D	No	12.8	B	0.566	A	No
6	I-5 Northbound Ramps @ SR-126	Signalized	27.4	C	0.603	A	26.7	C	0.478	A	27.4	C	0.618	B	No	26.5	C	0.492	A	No
7	Franklin Parkway @ Commerce Center Drive	Signalized	8.3	A	0.435	A	19.5	B	0.507	A	8.3	A	0.436	A	No	19.5	B	0.507	A	No
8	Wolcott Way @ Franklin Parkway	Unsignalized**	Intersection does not exist without project								7.7	A	0.206	A	No	8	A	0.199	A	No

* HCM results (delay) reported for worst stop controlled approach

** HCM results (delay) reported for overall stop controlled intersection

5.1.2 Existing plus Growth plus Other Development plus Project Conditions

Table 5-2 shows that all but one of the study intersections will operate at LOS D or better using the ICU methodology in the Existing plus Growth plus Other Development plus Project condition. The intersection of Commerce Center Drive and SR-126 is projected to operate at LOS E in the PM peak hour.

Using the HCM methodology, the following intersections will operate at LOS E or worse:

- Chiquito Canyon Road @ SR-126 (two-way stop controlled, LOS F in the AM and PM)
- Commerce Center Drive @ SR-126 (signalized, LOS F in the PM)

The proposed project will have a significant impact at the intersection of Commerce Center Drive and SR-126 based on the Los Angeles County CMP guidelines (see Section 1.5 of this report). However, the intersection of Commerce Center Drive and SR-126 will still be under construction in 2015 as part of the Commerce Center Drive/SR-126 improvement project. The Commerce Center Drive/SR-126 improvement project is schedule to be complete in 2016. Upon completion, the planned improvements at this intersection (interchange) will return operations to LOS D or better in both the morning and evening peak hours. Therefore, no mitigation is required of the CCL project since mitigation measures during construction conditions would interfere with the planned staging of the Commerce Center Drive/SR-126 improvement project.

Peak hour volume traffic signal warrants indicate that signals are not warranted at Chiquito Canyon Road/SR-126 under Existing plus Growth plus Other Development plus Project conditions. Copies of the peak hour volume warrant worksheets are provided in Appendix D.

6. I-5 Freeway Ramp Queuing Analysis

Queue lengths at the northbound and southbound I-5 off-ramps were examined to evaluate whether or not adequate storage is available to accommodate peak hour traffic with the proposed project. Table 6-1 reports the available I-5 northbound and southbound off-ramp storage at SR-126 and the anticipated queue lengths in the following scenarios:

- Existing Conditions
- Existing plus Growth (2015) Conditions without Project
- Existing plus Growth (2015) plus Other Development Conditions without Project
- Existing plus Growth (2015) Conditions with Project
- Existing plus Growth (2015) plus Other Development Conditions with Project

The queue lengths reported in Table 6-1 represent the 95th percentile queue length as calculated in Synchro. The worse peak hour queue length is reported.

Review of the anticipated 95th percentile queue lengths in Table 6-1 shows that the peak hour queue lengths do not exceed the available off-ramp storage in any of the five scenarios analyzed. In addition, the proposed project will only cause a slight increase (less than 10 feet) the queue length in the Existing plus Growth plus Other Development plus Project conditions (based on Synchro analysis).

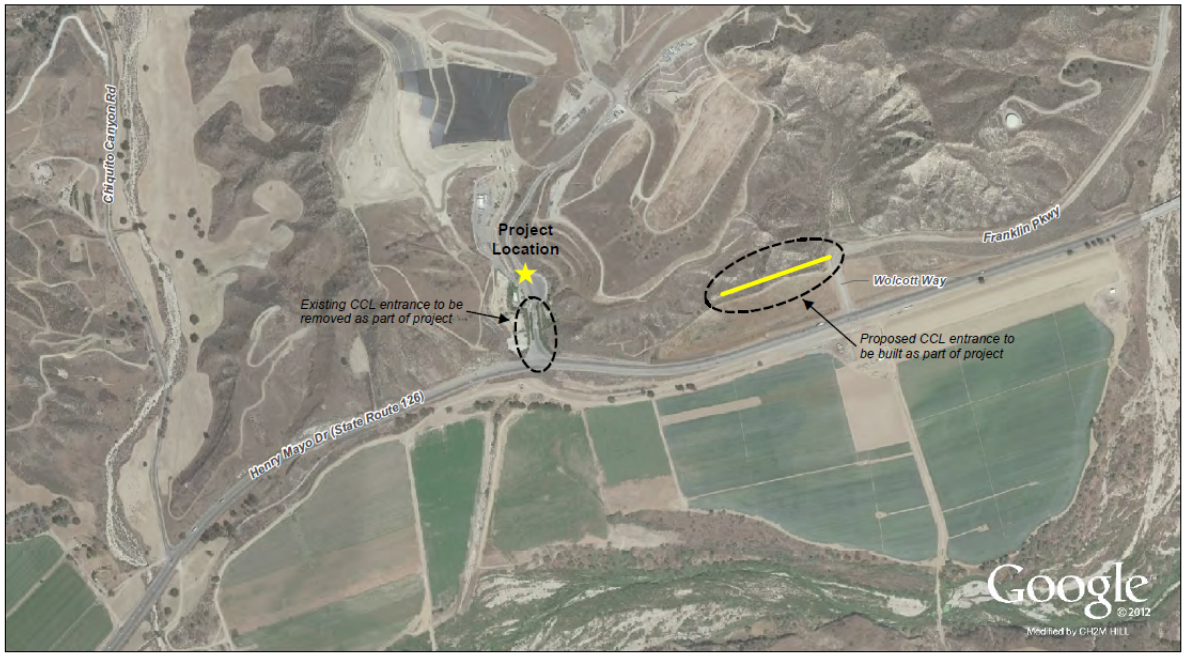
TABLE 6-1
I-5 Off-Ramp Queue Analysis at SR-126

	I-5 Southbound off-ramp and SR-126	I-5 Northbound off-ramp and SR-126
Available Off-Ramp Storage Length (ft)	1,600	1,300
Existing Conditions Queue Length (ft)	237	507
Existing plus Growth Queue Length (ft)	281	556
Existing plus Growth plus Other Development Queue Length (ft)	303	564
Existing plus Growth plus Project Queue Length (ft)	281	556
Existing plus Growth plus Other Development plus Project Queue Length (ft)	311	565

7. Project Site Entrance Queuing Analysis

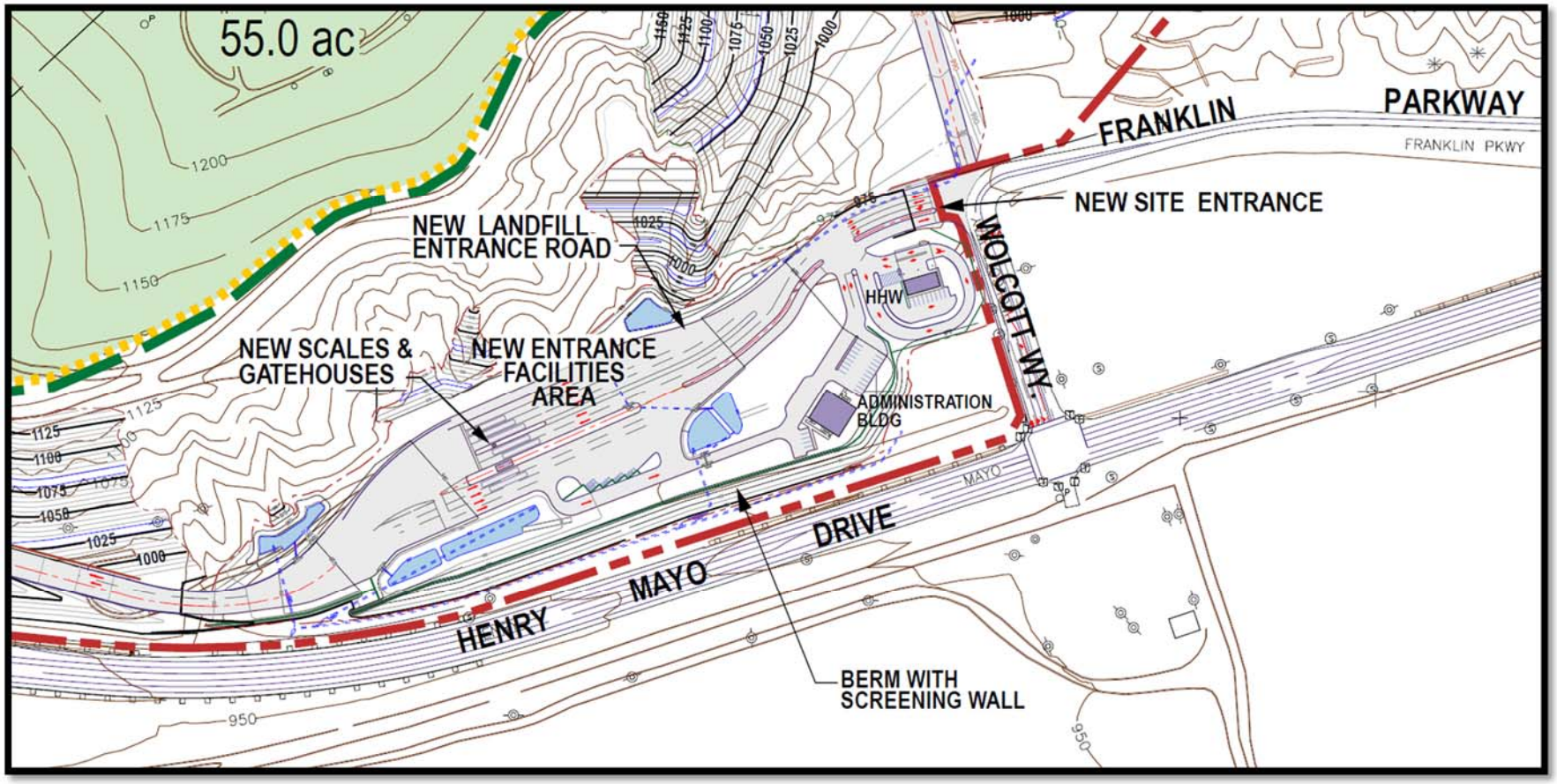
The proposed project will remove the existing CCL entrance which is currently located on SR-126 between Chiquito Canyon Road and Wolcott Way and construct a new entrance on the corner of Wolcott Way and Franklin Parkway. Figure 7-1 illustrates the location of the existing entrance and proposed entrance to CCL. Figure 7-2 illustrates a detailed plan of the proposed entrance. It is assumed that the new entrance will operate as an all-way stop controlled intersection at Wolcott Way and Franklin Parkway.

FIGURE 7-1
Location of Existing and Proposed CCL Entrance



The new entrance of the CCL facility will bring vehicles to the site from Wolcott Way/Franklin Parkway. Vehicles will enter the site and drive westbound to the scales and gatehouses located approximately 900 feet west of the intersection of Wolcott Way and Franklin Parkway.

FIGURE 7-2
Proposed CCL Entrance Plan



7.1 Main Entrance

Queuing calculations were done for the main entrance to ensure that projected CCL traffic will not queue through the Wolcott Way/Franklin Parkway intersection. The following factors were used in the queue calculations:

- The distance between the Wolcott Way and the limit line where vehicles must wait to enter the scales is 900 feet.
- There are two lanes of storage between the limit line where vehicles must wait to enter the scales and Wolcott Street (site entrance). These two lanes provide a total of 1,800 feet of storage.
- There is a third lane that extends from the limit line to approximately 480 feet east.
- There is a fourth lane that extends from the limit line to approximately 290 feet east.
- There is a fifth lane that extends from the limit line to approximately 200 feet east.
- There is a sixth lane that extends from the limit line to approximately 130 feet east.
- The combined storage of these four lanes is 2,900 feet.
- The average vehicle length is assumed to be 50 feet (truck).
- The proposed entrance can store 58 vehicles (50 feet per vehicle) at any given time.
- Based on historical gate receipt data, the average wait time at the scales is one minute per vehicle.
- The proposed entrance will have four scales on opening day. Each scale can process 60 vehicles per hour based on historical data. This will allow the CCL entrance to process approximately 240 vehicles per hour (4 vehicles per minute).
- CCL is permitted to be open 24 hours per day, 6 days per week. This gives CCL the operational flexibility to coordinate with customers and truck arrival times and can arrange to be open when loads are anticipated. Therefore, there are never extended periods of time when vehicles would not be processed through the scales and forced to queue without release. Table 4-4 shows that historically there are no trips between 5:00 PM and 10:00 PM. This is because CCL customers have historically not arranged to bring loads during this time. If needed, CCL would serve customers during this time as well.
- The vehicle arrival rate is typically spread out over the course of each hour. However, a peak 15-minute analysis was completed to analyze a worst-case scenario. A peak hour factor (PHF) of 0.95 was used to generate the anticipated peak 15-minute arrival rate. The PHF of 0.95 was chosen because this is consistent with the PHF observed on SR-126 in the study area during the peak periods (see Appendix B). This type of analysis will project the worst-case queue length at the CCL entrance.

Based on the factors above, queue calculations were done for the projected CCL traffic that will arrive over the course of a typical day. Table 7-1 summarizes the results of the queue calculations. The analysis shows that the storage provided at the new CCL entrance will be able to accommodate the projected number of vehicles arriving to the site throughout the day. In addition, the peak 15-minute analysis shows that the provided storage will also accommodate the peak periods within each hour and not queue through the Wolcott Way/Franklin Parkway intersection. Therefore, the proposed CCL entrance will provide enough storage to accommodate projected CCL traffic without queuing onto public roadways.

Intersection spacing on Wolcott Way between Franklin Parkway and SR-126 was also evaluated to assess the available storage for queuing on Wolcott Way. When the proposed CCL entrance is constructed, there will be approximately 450 feet of storage on Wolcott Way between SR-126 and Franklin Parkway/CCL entrance. Peak hour intersection analysis shows that the northbound queue at Wolcott Way/Franklin Parkway and the southbound queue at Wolcott Way/SR-126 will not exceed 100 feet in either peak hour. Therefore, there is adequate storage on Wolcott Way to accommodate the increase in traffic due to the proposed CCL entrance.

7.2 Household Hazardous Waste Facility Entrance

As shown in Figure 7-2, the project will build a Household Hazardous Waste (HHW) facility located immediately south of the main entrance to CCL (west of Wolcott Way). Drivers will enter the CCL main entrance and turn left to enter the HHW facility through a two-way driveway located immediately west of Wolcott Way. Upon completion of their drop-off at the HHW facility, drivers will exit through the same driveway they came in and turn right to exit through the CCL main driveway.

Queuing calculations were also done for the HHW facility driveway to determine how many vehicles the HHW facility can accommodate on a typical event day without queuing through the CCL main entrance. The following factors were used in the queue calculations:

- The HHW facility will be a permanent center which offers a twice a month service, between the hours 9 AM and 3 PM (off-peak hours of the surrounding roadway network).
- It is assumed that the peak arrival period will occur between 9 and 11 AM.
- It takes approximately 10 minutes per car to unload.
- The entrance driveway for the HHW facility provides 680 feet of storage.
- The average vehicle length is assumed to be 25 feet (passenger car).
- The proposed entrance can store 27 vehicles (25 feet per vehicle) at any given time.

TABLE 7-1
Summary of Queuing Analysis at Proposed CCL Main Entrance

Time of Day	(A) Hourly Processing Rate (veh/hour)*	(B) Total Inbound Vehicles per hour	Will Queue Exceed Storage (Is B > A)?	(C) Peak 15-Minute Processing Rate (veh/15-minute)**	(D) Total Inbound Vehicles per peak 15 minutes***	Will Queue Exceed Storage (Is D > C)?
12:00 AM to 1:00 AM	240	10	No	60	3	No
1:00 AM to 2:00 AM	240	7	No	60	2	No
2:00 AM to 3:00 AM	240	17	No	60	4	No
3:00 AM to 4:00 AM	240	24	No	60	6	No
4:00 AM to 5:00 AM	240	73	No	60	19	No
5:00 AM to 6:00 AM	240	73	No	60	19	No
6:00 AM to 7:00 AM	240	66	No	60	17	No
7:00 AM to 8:00 AM	240	94	No	60	25	No
8:00 AM to 9:00 AM	240	104	No	60	27	No
9:00 AM to 10:00 AM	240	142	No	60	37	No
10:00 AM to 11:00 AM	240	198	No	60	52	No
11:00 AM to 12:00 PM	240	163	No	60	43	No
12:00 PM to 1:00 PM	240	118	No	60	31	No
1:00 PM to 2:00 PM	240	111	No	60	29	No
2:00 PM to 3:00 PM	240	132	No	60	35	No
3:00 PM to 4:00 PM	240	125	No	60	33	No
4:00 PM to 5:00 PM	240	108	No	60	28	No
5:00 PM to 6:00 PM	240	0	No	60	0	No
6:00 PM to 7:00 PM	240	0	No	60	0	No
7:00 PM to 8:00 PM	240	0	No	60	0	No
8:00 PM to 9:00 PM	240	0	No	60	0	No
9:00 PM to 10:00 PM	240	0	No	60	0	No
10:00 PM to 11:00 PM	240	38	No	60	10	No
11:00 PM to 12:00 AM	240	35	No	60	9	No

* Number of 50-foot vehicles that can be processed per hour at CCL entrance without queueing.

** Number of 50-foot vehicles that can be processed per 15-minutes at CCL entrance without queueing.

*** Assumes a peak hour factor of 0.95 to calculate the peak 15-minute arrival rate.

Indicates peak arrival rate of CCL.

- The proposed drop-off area has two lanes and can process six cars at one time (three cars in each lane). Given the average unload time of 10 minutes per car, the drop-off area can process 36 cars per hour.

Table 7-2 summarizes the results of the queue calculations. The analysis shows that the HHW facility can accommodate up to 243 vehicles on a typical event day without queuing through the CCL main entrance driveway.

It is important to note that if the HHW facility event day occurs on a weekday, the HHW facility traffic will mix with the CCL truck traffic as they both enter the project site. As shown in Figure 7-2, the left-turn pocket into the HHW facility will ensure that HHW traffic does not block truck traffic entering the site and continuing west to the CCL scales. Based on the queueing analysis summarized in Table 7-1, it can also be concluded that truck traffic is not projected to queue and block the entrance to the HHW facility since the number of projected trucks entering CCL will never exceed the service rate at the scales.

TABLE 7-2
Summary of Queuing Analysis at Proposed CCL HHW Facility Entrance

Time of Day	Arrival Rate (veh per 10 mins)	Processing Rate (veh per 10 mins)	Queue at end of this period (veh)	Queue at end of this period (ft)	Available Storage (ft)	Will Demand Exceed Storage?
9:10 AM	7	6	1.0	25	680	No
9:20 AM	7	6	2.0	50	680	No
9:30 AM	8	6	4.0	100	680	No
9:40 AM	8	6	6.0	150	680	No
9:50 AM	8	6	8.0	200	680	No
10:00 AM	8	6	10.0	250	680	No
10:10 AM	8	6	12.0	300	680	No
10:20 AM	8	6	14.0	350	680	No
10:30 AM	8	6	16.0	400	680	No
10:40 AM	8	6	18.0	450	680	No
10:50 AM	8	6	20.0	500	680	No
11:00 AM	8	6	22.0	550	680	No
11:10 AM	7	6	23.0	575	680	No
11:20 AM	7	6	24.0	600	680	No
11:30 AM	7	6	25.0	625	680	No
11:40 AM	7	6	26.0	650	680	No
11:50 AM	7	6	27.0	675	680	No
12:00 PM	6	6	27.0	675	680	No
12:10 PM	6	6	27.0	675	680	No
12:20 PM	6	6	27.0	675	680	No
12:30 PM	6	6	27.0	675	680	No
12:40 PM	6	6	27.0	675	680	No
12:50 PM	6	6	27.0	675	680	No
1:00 PM	6	6	27.0	675	680	No
1:10 PM	6	6	27.0	675	680	No
1:20 PM	6	6	27.0	675	680	No
1:30 PM	6	6	27.0	675	680	No
1:40 PM	6	6	27.0	675	680	No
1:50 PM	6	6	27.0	675	680	No
2:00 PM	6	6	27.0	675	680	No
2:10 PM	6	6	27.0	675	680	No
2:20 PM	6	6	27.0	675	680	No
2:30 PM	6	6	27.0	675	680	No
2:40 PM	6	6	27.0	675	680	No
2:50 PM	6	6	27.0	675	680	No
3:00 PM	6	6	27.0	675	680	No
Total Number of Vehicles	**243**	**Maximum Queue Legth (ft)**		**675**	**Will Queue Exceed Storage**	**No**

8. Project Features on Wolcott Way/Franklin Parkway

8.1 Project Entrance and Wolcott Way/Franklin Parkway Intersection

The project proposes to install an all-way stop controlled intersection at the new project entrance and the corner of Wolcott Way and Franklin Parkway. An analysis based on the Manual on Uniform Traffic Control Devices (MUTCD) multi-way stop control methodology was done for this proposed intersection. The MUTCD multi-way stop control methodology consists of warrants based on eight-hour minimum volumes, collision history and other criteria such as limited sight distance at the intersections. The MUTCD multi-way stop warrant was not included in the signed MOU with the County of Los Angeles Traffic and Lighting Division staff. Therefore, the necessary data to conduct the multi-way stop warrant was not collected for the study (i.e., crash data, eight consecutive hours of traffic and pedestrian data, and speed study data along Wolcott Way and Franklin Parkway). However, the MUTCD states the following optional criteria that can be used to meet the multi-way stop warrant:

A. The need to control left-turn conflicts;
B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and
D. An intersection of two residential neighborhood collectors (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

Figure 7-2 (presented previously) illustrates the proposed configuration of the new project entrance and the Wolcott Way/Franklin Parkway intersection. The proposed project entrance will essentially create a T-intersection with Wolcott Way and Franklin Parkway (the driveway shown to the north is a future leg of the intersection that will be built at a later date). Because of the geometry, several movements will have difficulty seeing conflicting movements (i.e., traffic travelling westbound on Franklin Parkway will not be able to see traffic making a northbound left-turn from Wolcott Way until they arrive at the intersection). This satisfies optional criteria C (listed above) of the MUTCD multi-way stop warrant. Therefore, it is recommended that the proposed project entrance and Wolcott Way/Franklin Parkway Intersection be built as an all-way stop controlled intersection.

8.2 Improvements along Wolcott Way and Franklin Parkway

As part of the project improvements, striping and signing changes will be made along the northbound approach on Wolcott Way and the westbound approach along Franklin Parkway. These striping/signing modifications will provide the configuration shown in Figure 7-2 (lane assignment, limit lines, stop signs, and guidance signs). No additional improvements will be made on Wolcott Way or Franklin Parkway as part of the project.

9. Traffic Index Calculations

The traffic index (TI) is a measure of the deteriorating effects that truck traffic has on asphalt concrete pavement. TI calculations were performed along Wolcott Way and SR-126 for the project. TI calculations were performed in accordance with the *County of Los Angeles Department of Public Works, Traffic Index Guidelines* (Traffic and Lighting Division, June 2002). 10-year TI calculations were performed for both Wolcott Way and SR-126 in the study area. Table 9-1 summarizes the 10-year TI calculations for 2014 conditions with and without the project. Table 9-2 summarizes the 20-year TI calculations for 2014 conditions with and without the project. These comparisons help understand the effect the proposed project traffic will have on pavement deterioration. TI worksheets are provided in Appendix F.

TABLE 9-1
Summary of 10-Year TI Calculations

Roadway	10-Year TI based on 2014 without Project Volumes	10-Year TI based on 2014 with Project Volumes
SR-126 between Wolcott Way and Commerce Center Drive	12.0	12.0
Wolcott Way between SR-126 and Franklin Parkway	7.5	9.0

TABLE 9-2
Summary of 20-Year TI Calculations

Roadway	20-Year TI based on 2014 without Project Volumes	20-Year TI based on 2014 with Project Volumes
SR-126 between Wolcott Way and Commerce Center Drive	13.5	13.5
Wolcott Way between SR-126 and Franklin Parkway	8.0	10.0

The TI calculations show that the proposed project will have no effect on the 10-year or 20-year TI's for SR-126. The increase in truck traffic on SR-126 with the proposed project is minimal compared to the amount of truck traffic already using SR-126. On Wolcott Way, the proposed project will increase the 10-year TI from 7.5 to 9.0 and the 20-year TI from 8.0 to 10.0. This is expected because the location of the new project entrance will increase the amount of truck traffic on Wolcott Way.

APPENDIX A
LOS ANGELES COUNTY TRAFFIC STUDY MEMORANDUM OF UNDERSTANDING

SCOPING FOR TRAFFIC STUDY

Project Name:	Chiquita Canyon Landfill Master Plan Revision

This Memorandum of Understanding (MOU) acknowledges Los Angeles County Department of Public Works, Traffic and Lighting Division (TLD) requirements of traffic impact analysis for the project and is subject to change:

Project Address:	29201 Henry Mayo Drive, Castaic, CA 91384		
Project Description:	The Chiquita Canyon Landfill (CCL) Master Plan Revision (Proposed Project) would extend the waste footprint at CCL by approximately 143 acres, better utilize the landfill's remaining and potential disposal capacity, and allow for the disposal of all nonhazardous wastes acceptable at a Class III solid waste disposal landfill. The Proposed Project would also include the continued diversion of such materials as green waste, asphalt/concrete, and metal through ongoing landfill waste diversion programs on which numerous jurisdictions depend to comply with state-mandated waste diversion goals.		
City:	Castaic		
Project Buildout Year:	2014	**Ambient or CMP Growth Rate per Year:**	2.75%
Closest Intersection (Xtn) to the Project: SR-126/Chiquita Canyon Landfill Entrance			
Xtn N/S Street Name:	Chiquita Canyon Landfill Entrance		
Xtn E/W Street Name:	SR-126		
Thomas Guide Pg+Grid:	4549, D2	**Los Angeles County Supervisorial District:**	5

	Consultant	Developer
Company:	CH2M HILL	
Name:	Jim Roldan	
Address:	6 Hutton Centre Drive, Suite 700	
City, State, Zip Code:	Santa Ana, CA 92707	
Phone #:	714-435-6225	
Fax #:	714-424-2187	
Email:	jim.roldan@ch2m.com	

By: J. Roldan

Print Name: JIM ROLDAN, CH2MHILL

Reviewed By:

Print Name:

SCOPING FOR TRAFFIC STUDY

Project Name:	Chiquita Canyon Landfill Master Plan Revision

Consultant/Developer's Representative	**Date**	**TLD's Representative**	**Date**

1. Traffic Distribution: Figure(s) illustrating project trip distribution in percentages and volumes at the studied intersections analyzed.

	N: 4%	
W:4%	N	E 7%
	S: 85%	

SEE ATTACHED TRIP DISTRIBUTION ON FIGURE 1 FOR GREATER DETAIL. TRAFFIC DISTRUBUTIONS ARE BASED ON HISTORICAL GATE RECEIPT INFORMATION PROVIDED BY CCL.

Trip Credit: Exact amount of credit subject to approval by TLD.

Transportation Demand Management (TDM)	NO	
Existing Active Land Use	YES	Trip generation numbers in this MOU only reflect the net new trips. Existing land use trips accounted for in existing/background data.
Previous Land Use	NO	
Internal Trip Reduction	NO	
Pass-by Trip Reduction	NO	

2. Trip Generation

In addition to traffic at CCL that results from incoming waste, there are several other sources of in- and outbound traffic at CCL. A wide variety of material that is diverted from the waste stream is accepted at CCL for other uses, including alternative daily cover, road base, compost, and erosion control material. Material from CCL, including clean soil, compost products, and recycled materials, may also be trucked from the site to other locations. Additionally, periodic cell construction occurs at CCL, during which time additional traffic related to construction occurs. Table 1 details the potential maximum daily traffic volume at CCL under Baseline Conditions. Table 2 details the potential maximum daily traffic volume at CCL under Proposed Project Conditions. Table 3 details the potential maximum daily net new trips of the Proposed Project (i.e., Proposed Project minus Baseline Project). Although Tables 1 through 3 are based on historical records for different vehicle and material types, it does not represent a specific day.

AM and PM peak hour project trips (net new trips) will be developed in the traffic report to reflect the peak of the surrounding network system. Project peak hour trips will represent a percentage of the daily trips summarized in Table 3 and will be based on historical time of day data collected at CCL (i.e., CCL gate receipts).

SCOPING FOR TRAFFIC STUDY

Project Name:	Chiquita Canyon Landfill Master Plan Revision

Table 1
Summary of Baseline Peak Potential Daily
Inbound and Outbound Traffic
Chiquita Canyon Landfill

Traffic Source	Number of Vehicles Peak Potential Daily[a,b]	Number of Vehicles Peak Potential Daily - PCE	Number of Trip Ends Peak Potential Daily - PCE
Inbound			
Trash (Disposal)[c]			
Transfer	273	546	1092
Route	300	600	1200
Roll-offs	460	920	1840
Self Haul	500	500	1000
Other Materials (Beneficial Reuse)			
Shredded Curbside Green Waste	40	80	160
Clean Soil	200	400	800
Contaminated Soil[d]			
Large Trucks	300	600	1200
10-Wheelers	60	120	240
Protective Cover			
TASW	200	400	800
MRF Fines	40	80	160
Tire Shred	15	30	60
C&D Fines	25	50	100
Road Base			
Concrete	50	100	200
Asphalt	50	100	200
Processed C&D Material	30	60	120
Composting[e]	55	110	220
Outbound			
Clean Soil	100	200	400
Compost Products	8	16	32
Other	25	50	100
Special Projects[f]			
Cell Construction			
Mobilize/Demobilize Traffic	20	20	40
Contractor Employees	80	80	160
Employees			
Landfill – Permanent	34	34	68
Landfill – Temporary	25	25	50
LFGTE Plant	2	2	4
Transfer Drivers	4	4	8
Total	**2,896**	**5,127**	**10,254**

Notes:

[a] These numbers are one-way trips and based on 5

[b] The maximum number of trash vehicles in each category does not happen simultaneously. The daily

[c] Regardless of actual vehicle mix, incoming waste tonnage would not exceed 6,000 tons per day per

[d] Contaminated soils may also be disposed and not

[e] The existing CUP allows for operation of up to a 560-tons-per-day composting facility for windrow or

[f] These projects occur periodically. Typically once

TASW = treated auto shredder waste

Table 2
Summary of Proposed Peak Potential Daily
Inbound and Outbound Traffic
Chiquita Canyon Landfill

Traffic Source	Number of Vehicles Peak Potential Daily[a,b]	Number of Vehicles Peak Potential Daily - PCE	Number of Trip Ends Peak Potential Daily - PCE
Inbound			
Trash (Disposal)[c]			
Transfer	545	1090	2180
Route	600	1200	2400
Roll-offs	460	920	1840
Self Haul	500	500	1000
Other Materials (Beneficial Reuse)			
Shredded Curbside Green Waste	40	80	160
Clean Soil	200	400	800
Contaminated Soil[d]			
Large Trucks	300	600	1200
10-Wheelers	60	120	240
Protective Cover			
TASW	200	400	800
MRF Fines	40	80	160
Tire Shred	15	30	60
C&D Fines	25	50	100
Road Base			
Concrete	50	100	200
Asphalt	50	100	200
Processed C&D Material	30	60	120
Composting[e]	55	110	220
Outbound			
Clean Soil	100	200	400
Compost Products	8	16	32
Other	25	50	100
Special Projects[f]			
Cell Construction			
Mobilize/Demobilize Traffic	20	20	40
Contractor Employees	80	80	160
Employees			
Landfill – Permanent	55	55	110
Landfill – Temporary	25	25	50
LFGTE Plant	3	3	6
Transfer Drivers	4	4	8
Total	**3,490**	**6,293**	**12,586**

Notes:

[a] These numbers are one-way trips and based on 5

[b] The maximum number of trash vehicles in each category does not happen simultaneously. The daily

[c] Regardless of actual vehicle mix, incoming waste tonnage would not exceed 12,000 tons per day.

[d] Contaminated soils may also be disposed and not

[e] The existing CUP allows for operation of up to a 560-tons-per-day composting facility for windrow or

[f] These projects occur periodically. Typically once

Table 3
Summary of Proposed Net New Peak Potential
Daily Inbound and Outbound Traffic
Chiquita Canyon Landfill

Traffic Source	Number of Vehicles Peak Potential Daily[a,b]	Number of Vehicles Peak Potential Daily - PCE	Number of Trip Ends Peak Potential Daily - PCE
Inbound			
Trash (Disposal)[c]			
Transfer	272	544	1088
Route	300	600	1200
Roll-offs	0	0	0
Self Haul	0	0	0
Other Materials (Beneficial Reuse)			
Shredded Curbside Green Waste	0	0	0
Clean Soil	0	0	0
Contaminated Soil[d]			
Large Trucks	0	0	0
10-Wheelers	0	0	0
Protective Cover			
TASW	0	0	0
MRF Fines	0	0	0
Tire Shred	0	0	0
C&D Fines	0	0	0
Road Base			
Concrete	0	0	0
Asphalt	0	0	0
Processed C&D Material	0	0	0
Composting[e]	0	0	0
Outbound			
Clean Soil	0	0	0
Compost Products	0	0	0
Other	0	0	0
Special Projects[f]			
Cell Construction			
Mobilize/Demobilize Traffic	0	0	0
Contractor Employees	0	0	0
Employees			
Landfill – Permanent	21	21	42
Landfill – Temporary	0	0	0
LFGTE Plant	1	1	2
Transfer Drivers	0	0	0
Total	**594**	**1,166**	**2,332**

Notes:

[a] These numbers are one-way trips and based on 5

[b] The maximum number of trash vehicles in each category does not happen simultaneously. The daily

[c] Regardless of actual vehicle mix, incoming waste tonnage would not exceed 12,000 tons per day.

[d] Contaminated soils may also be disposed and not

[e] The existing CUP allows for operation of up to a 560-tons-per-day composting facility for windrow or

[f] These projects occur periodically. Typically once

SCOPING FOR TRAFFIC STUDY

Project Name:	Chiquita Canyon Landfill Master Plan Revision

3. Study Intersections: At minimum, the study shall include the following intersections. The list is subject to change after related projects, trip generation and distribution are determined. Consultant should check with adjoining Cities regarding their requirements in addition to the following County/City intersections. Documentation of the consultation from these agencies shall be included in the traffic study.

Xtn #	% County	Thomas Guide Page+Grid	N/S/E/W Street Name	City	Signalized	CMP
1	0%	4549, C3	Chiquito Canyon Road @ SR-126	LA County	NO	YES
2	0%	4549, D2	CCL Entrance @ SR-126	LA County	NO	NO
3	0%	4549, F2	Wolcott Way @ SR-126	LA County	YES	NO
4	0%	4549, H1	Commerce Center Drive @ SR-126	LA County	YES	NO
5	0%	4459, J7	I-5 SB Ramps @ SR-126	LA County	YES	NO
6	0%	4460, A6	I-5 NB Ramps @ SR-126	Santa Clarita	YES	NO
7	100%	4549, F2	Wolcott Way @ Franklin Parkway (future project entrance)	LA County	NO	NO
8	100%	4549, H1	Franklin Parkway @ Commerce Center Drive	LA County	YES	NO
9						
10						

Cites to be consulted: Santa Clarita and CALTRANS

SCOPING FOR TRAFFIC STUDY

Project Name:	Chiquita Canyon Landfill Master Plan Revision

4. Related Projects: Consultant should check with Los Angeles County Department of Regional Planning and planning departments of adjoining Cities. Documentation of the consultation from these agencies shall be included in the traffic study. Related projects list shall be submitted to TLD for our review and approval before being incorporated in the study.

5. Congested Management Program (CMP): A CMP TIA is required for all projects required to prepare an Environmental Assessment based on local determination or projects requiring a traffic study. Where the project meets the criteria established in the Transportation Impact Analysis (TIA section of the County of Los Angeles' CMP TIA Land Use Analysis Guidelines, a CMP analysis must be prepared. At a minimum, the geographic area examined in the TIA must include the following:

- All CMP arterial monitoring intersections (see Appendix A, exhibit A-2, page A-15 of the 2002 Guidelines), including freeway on- or off-ramp intersections, where the proposed project will add 50 or more trips during either the a.m. or p.m. peak hours.

- Main line freeway monitoring locations (see Chapter 2, exhibit 2-4, page 16 of the 2002 Guidelines) where the project will add 150 or more trips, in either direction, during the a.m. or p.m. weekday peak hours.

A copy of the 2002 CMP Land Use Analysis Guidelines can be obtained by calling the CMP Hotline at (213) 922-2830.

6. Freeway Analysis: The potential traffic impact on the following Freeway(s) must be considered.

Queuing analysis at the I-5 SB Ramps/SR-126 and I-5 NB Ramp/SR-126 intersections

will be included in the analysis.

The applicant shall consult with the State of California Department of Transportation (Caltrans) to determine the California Environmental Quality Act levels of significance with regard to traffic impacts on Caltrans' freeway facilities. This consultation shall also include a determination of Caltrans requirements for the study of traffic impacts to its facilities and the mitigation of any such impacts. This analysis must follow the most current Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) and can be obtained from http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tiguide.pdf. If Caltrans finds that the project has a significant impact on the freeway, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be included with the traffic study and submitted to Public Works for review and approval. If a documented good faith effort is made to consult with Caltrans and written comments cannot be obtained from within a reasonable amount of time, an analysis of the freeway impact shall be made using the County of Los Angeles' CMP Land Use Analysis Guidelines.

SCOPING FOR TRAFFIC STUDY

Project Name:	Chiquita Canyon Landfill Master Plan Revision

7. Other:

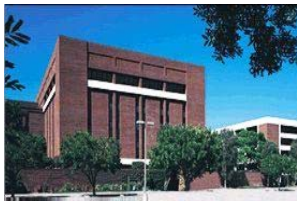
Traffic counts may be conducted immediately per the following:
• Must be taken on Tuesdays, Wednesdays or Thursdays.
• Must exclude holidays, and the first weekdays before and after the holiday.
• Must be taken on days when local schools or colleges are in session.
• Must be taken on days of good weather, and avoid atypical conditions (e.g., road construction, detours, or major traffic incidents).
• Traffic counts used for other traffic studies in the area shall **NOT** be reused again, unless 25% of the counts conducted for that particular traffic study are validated with new counts. The difference in volumes between the old and new counts at each corresponding movement should not be more than 10%.
• New traffic counts shall be checked to ensure the difference in volumes at corresponding approaches, if applicable, between two adjacent intersections is no more than 10% unless the difference can be justified.
For all proposed mitigation measures, a conceptual plan for the improvements shall be submitted to our Traffic Studies section for review and approval prior to the approval of the Traffic Impact Analysis. All proposed improvements shall be within the right-of-way.
For all cumulative mitigation measures, a cost estimate for the improvement shall be submitted.
Traffic Indices Calculations shall be conducted along Wolcott Way and SR-126
On-sites as well as I-5 Off Ramp and SR-126 Queuing Analyses shall be included in the Traffic Impact Analysis

This analysis must follow the most current Traffic Impact Analysis Report Guidelines.

SCOPING FOR TRAFFIC STUDY

Project Name:	Chiquita Canyon Landfill Master Plan Revision

Please return signed page 1 of 9 in person, by Mail or by Fax

In Person	**By Mail**
Los Angeles County Department of Public Works Traffic and Lighting Division, **Traffic Studies Section, Traffic Studies Unit** **1000 South Fremont Avenue** **Building A-9E, 4th Floor** **Alhambra, CA 91803-8800** **Our building, on the left with parking structure on the right.** **Check the following web site, for additional information:** **http://www.thealhambra.net** 	**Los Angeles County Department of Public Works** **Traffic and Lighting Division,** **Traffic Studies Section, Traffic Studies Unit** **P.O. Box 1460** **Alhambra, CA 91802-1460**

By Fax

	Processing Engineer	**Telephone No.**	**Fax No.**	**E-Mail Address**
	Jeffrey PLETYAK	(626) 300-4721	(626) 300-4736	JPlety@dpw.lacounty.gov
	Suen Fei LAU	(626) 300-4820		SFLau@dpw.lacounty.gov
	Gerald LEY	(626) 300-4822		GLey@dpw.lacounty.gov
	Thanh LE	(626) 300-4730		TLe@dpw.lacounty.gov
	Diran YANIKIAN	(626) 300-4756		DYanikian@dpw.lacounty.gov
	Lindsay SAGORSKI	(626) 300-4784		LSagorski@dpw.lacounty.gov
	Isaac WONG	(626) 300-4796		IsWong@dpw.lacounty.gov
	Virgilio (Gil) LAZATIN	(626) 300-4866		VLazatin@dpw.lacounty.gov

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
TRAFFIC AND LIGHTING DIVISION
APPLICATION FOR ENVIRONMENTAL IMPACT REPORT
TRAFFIC STUDY REVIEW SERVICES, ORDINANCE NO. 91-0101

Road Fund No:	B03	Revenue Source	9254	Program No:	R291

Department Receipt No.:		**Date:**	
Project No.:	R2004-00559-(5)	**Studies No.:**	
Project Name:	Chiquita Canyon Landfill Master Plan Revision		
Applicant/Engineer:	Chiquita Canyon Landfill LLC	**Telephone No.:**	(661) 257-3655
Company:		**Fax No.:**	
Address:	29201 Henry Mayo Drive		
City, State:	Castaic, CA	**Zip:**	91384

The traffic study (TS), required as part of the environmental review process, has been received. **Before a traffic study review can begin, the indicated fee must be paid to this Department.** The fee may be paid in person or mailed to:

In Person	By Mail
Cashier, Mezzanine Level (626) 458-6399 **Los Angeles County Department of Public Works** **900 South Fremont Avenue** **Alhambra, CA 91803-1331**	**Cashier, Mezzanine Level** **Los Angeles County Department of Public Works** **P.O. Box 1460** **Alhambra, CA 91802-1460**

Please **return this form** along with your payment to insure proper credit to your account. Make check payable to the **Los Angeles County Department of Public Works.**

TS review fees are based on the number of Average Daily Trips (ADT's) generated by the project and for six traffic conditions as indicated on page 5 of our 1997 guidelines, as follows:

ADT's		**FEE (Effective March 1, 2012)*	
1 - 1,000		**$1,662**	
1,001 - 5,000		**$3,322**	
5,001 - 10,000		**$4,154**	
10,001 and over		**$4,984**	
ADT For This Project:		Fee:	

* For additional information, http://planning.co.la.ca.us/
** Additional fee is required for additional traffic conditions/phases

Processing Engineer	Telephone No.	Fax No.	E-Mail Address
Jeffrey PLETYAK	(626) 300-4721	(626) 300-4736	JPlety@dpw.lacounty.gov
Suen Fei LAU	(626) 300-4820		SFLau@dpw.lacounty.gov
Gerald LEY	(626) 300-4822		GLey@dpw.lacounty.gov
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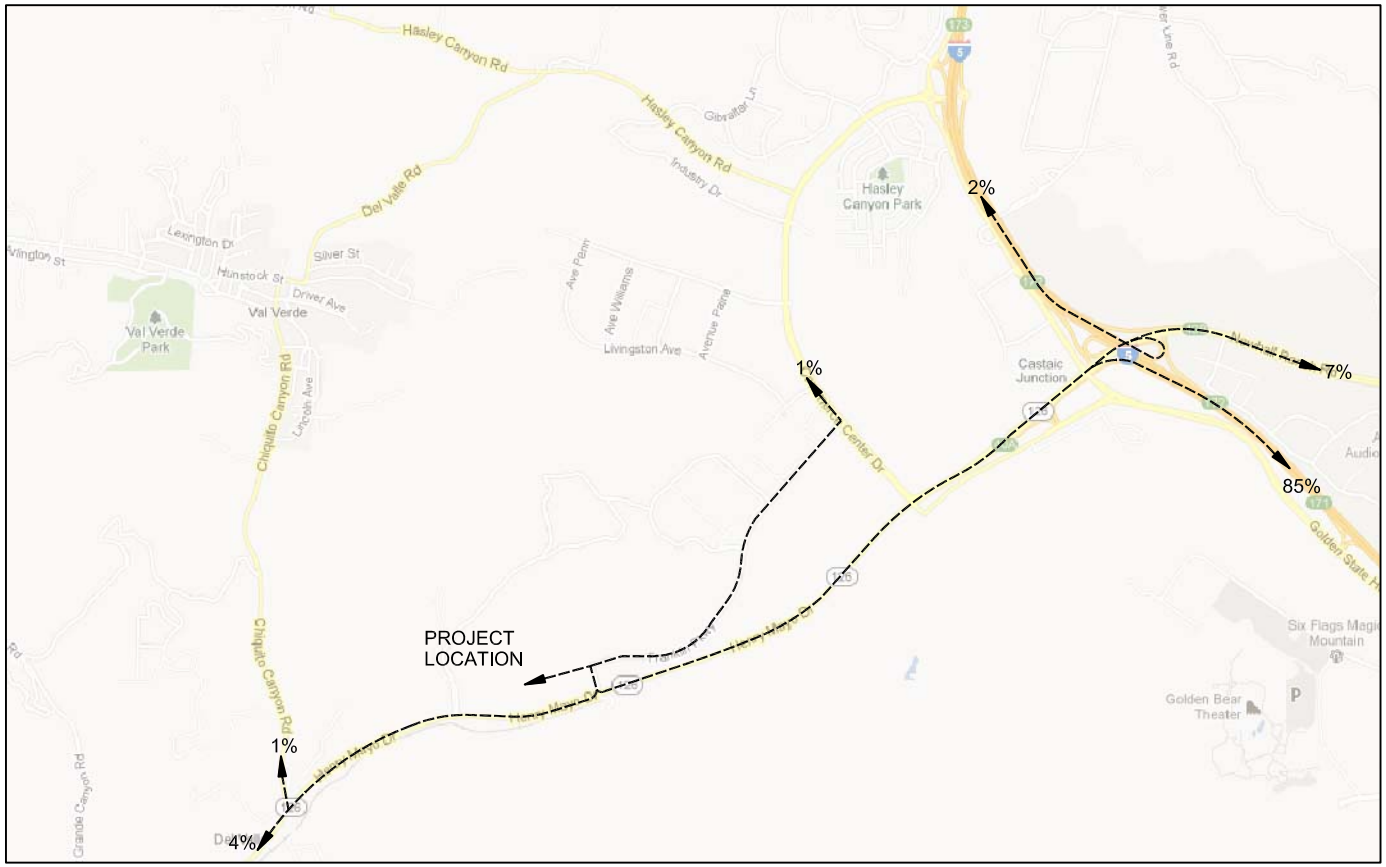
Isaac WONG	(626) 300-4796		IsWong@dpw.lacounty.gov
Virgilio (Gil) LAZATIN	(626) 300-4866		VLazatin@dpw.lacounty.gov

cc: Cashier Note: Normal review time is 6-8 weeks after review fee is paid and receipt is received by Studies Unit.
P:\tlpub\WPFILES\FILES\STU\VL\MOU\LA County MOU 03-01-11 Blank.docx Updated 03/01/11

NOT TO SCALE



LEGEND:

XX% Project Distribution (to/from distribution assumed to be identical)

CH2MHILL

CHIQUITA CANYON LANDFILL MASTER PLAN REVISION

PROPOSED PROJECT TRIP DISTRIBUTION

FIGURE 1

APPENDIX B
EXISTING TURNING MOVEMENT DATA COLLECTION SHEETS

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_001 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

AM

NS/EW Streets:	Chiquito Canyon Rd			Chiquito Canyon Rd			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	1	1	2	0	0	2	1	
7:00 AM	0		0	26		5	0	134	0		200	6	371
7:15 AM	1		2	21		2	1	135	0		171	5	338
7:30 AM	1		0	23		0	1	159	0		183	4	371
7:45 AM	0		0	12		1	0	157	0		186	2	358
8:00 AM	0		0	11		3	0	134	0		183	2	333
8:15 AM	0		0	13		2	0	109	0		171	9	304
8:30 AM	0		0	11		1	0	137	1		151	3	304
8:45 AM	0		0	14		1	1	134	0		109	3	262
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	0	2	131	0	15	3	1099	1	0	1354	34	2641
APPROACH %'s :	50.00%	0.00%	50.00%	89.73%	0.00%	10.27%	0.27%	99.64%	0.09%	0.00%	97.55%	2.45%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	2	0	2	82	0	8	2	585	0	0	740	17	1438
PEAK HR FACTOR :		0.333			0.726			0.917			0.919		0.969

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_001 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

PM

NS/EW Streets:	Chiquito Canyon Rd			Chiquito Canyon Rd			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	1	1	2	0	0	2	1	
4:00 PM	0		1	15	2	0	3	198	0		184	11	414
4:15 PM	1		1	15	0	6	9	184	0		186	12	414
4:30 PM	0		0	11	0	2	1	213	1		191	7	426
4:45 PM	0		0	11	0	0	4	244	0		216	16	491
5:00 PM	0		0	9	0	2	3	214	0		190	14	432
5:15 PM	1		0	13	0	0	4	213	0		193	18	442
5:30 PM	0		0	14	0	1	3	238	0		181	10	447
5:45 PM	0		0	12	0	2	4	242	0		161	11	432
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	0	2	100	2	13	31	1746	1	0	1502	99	3498
APPROACH %'s :	50.00%	0.00%	50.00%	86.96%	1.74%	11.30%	1.74%	98.20%	0.06%	0.00%	93.82%	6.18%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	1	0	0	47	0	3	14	909	0	0	780	58	1812
PEAK HR FACTOR :		0.250			0.833			0.930			0.903		0.923

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_002 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

AM

NS/EW Streets:	Chiquito Canyon Landfill Entrance			Chiquito Canyon Landfill Entrance			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	1	1	2	0	0	2	1	
7:00 AM				6		2	0	154			200	6	368
7:15 AM				7		1	3	149			179	10	349
7:30 AM				9		2	1	173			182	7	374
7:45 AM				5		1	2	176			190	6	380
8:00 AM				4		2	0	144			179	9	338
8:15 AM				7		0	0	123			184	7	321
8:30 AM				5		0	1	143			147	12	308
8:45 AM				6		0	1	151			119	7	284
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	49	0	8	8	1213	0	0	1380	64	2722
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	85.96%	0.00%	14.04%	0.66%	99.34%	0.00%	0.00%	95.57%	4.43%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	0	0	27	0	6	6	652	0	0	751	29	1471
PEAK HR FACTOR :		0.000			0.750			0.924			0.947		0.968

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_002 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

PM

NS/EW Streets:	Chiquito Canyon Landfill Entrance			Chiquito Canyon Landfill Entrance			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	1	1	2	0	0	2	1	
4:00 PM				13		0	0	208			189	10	420
4:15 PM				8		0	1	205			203	8	425
4:30 PM				10		2	0	218			190	7	427
4:45 PM				9		0	1	252			225	5	492
5:00 PM				4		0	0	225			211	0	440
5:15 PM				13		1	0	222			209	0	445
5:30 PM				10		0	0	256			191	0	457
5:45 PM				0		0	0	249			169	0	418
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	67	0	3	2	1835	0	0	1587	30	3524
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	95.71%	0.00%	4.29%	0.11%	99.89%	0.00%	0.00%	98.14%	1.86%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	0	36	0	1	1	955	0	0	836	5	1834
PEAK HR FACTOR :		0.000			0.661			0.934			0.914		0.932

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_003 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

AM

NS/EW Streets:	Wolcott Way			Wolcott Way			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1.5	.5	1	1	2	0	1	2	1	
7:00 AM				0		1	3	150	0	0	199	1	354
7:15 AM				0		2	4	159	0	0	193	0	358
7:30 AM				1		2	13	165	1	0	187	0	369
7:45 AM				0		3	5	179	0	0	193	2	382
8:00 AM				0		5	3	141	0	0	178	0	327
8:15 AM				1		4	1	133	0	0	192	2	333
8:30 AM				0		0	1	140	1	0	156	0	298
8:45 AM				0		0	4	159	0	1	129	1	294
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	2	0	17	34	1226	2	1	1427	6	2715
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	10.53%	0.00%	89.47%	2.69%	97.15%	0.16%	0.07%	99.51%	0.42%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	0	0	1	0	8	25	653	1	0	772	3	1463
PEAK HR FACTOR :		0.000			0.750			0.923			0.969		0.957

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_003 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

PM

NS/EW Streets:	Wolcott Way			Wolcott Way			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1.5	.5	1	1	2	0	1	2	1	
4:00 PM	1			0		12	3	214	1	1	182	0	414
4:15 PM	0			0		3	1	215	0	0	211	0	430
4:30 PM	0			5		19	5	220	0	0	174	0	423
4:45 PM	2			3		13	5	249	0	0	214	1	487
5:00 PM	0			3		9	2	234	0	0	203	0	451
5:15 PM	1			0		8	2	225	0	0	193	0	429
5:30 PM	6			0		2	0	274	0	0	189	0	471
5:45 PM	0			1		1	2	243	0	0	161	1	409
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	10	0	0	12	0	67	20	1874	1	1	1527	2	3514
APPROACH %'s :	100.00%	0.00%	0.00%	15.19%	0.00%	84.81%	1.06%	98.89%	0.05%	0.07%	99.80%	0.13%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	9	0	0	6	0	32	9	982	0	0	799	1	1838
PEAK HR FACTOR :		0.375			0.594			0.904			0.930		0.944

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_004 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

AM

NS/EW Streets:	Commerce Center Dr			Commerce Center Dr			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	2	1	1	1	2	0	1	2	2	
7:00 AM	14	13	1	57	10	14	17	142	6	2	156	196	628
7:15 AM	13	18	1	31	6	5	12	117	6	2	181	281	673
7:30 AM	9	17	3	73	9	6	15	150	13	1	189	297	782
7:45 AM	10	20	1	76	7	10	21	150	5	2	173	357	832
8:00 AM	12	17	3	58	8	10	17	126	4	3	168	275	701
8:15 AM	5	10	2	49	10	5	8	116	5	5	174	209	598
8:30 AM	6	15	1	74	9	7	7	141	6	5	147	187	605
8:45 AM	12	7	4	46	5	7	12	136	7	4	120	159	519
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	81	117	16	464	64	64	109	1078	52	24	1308	1961	5338
APPROACH %'s :	37.85%	54.67%	7.48%	78.38%	10.81%	10.81%	8.80%	87.01%	4.20%	0.73%	39.72%	59.55%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	44	72	8	238	30	31	65	543	28	8	711	1210	2988
PEAK HR FACTOR :		0.969			0.804			0.893			0.906		0.898

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_004 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

PM

NS/EW Streets:	Commerce Center Dr			Commerce Center Dr			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	2	1	1	1	2	0	1	2	2	
4:00 PM	31	8	6	234	40	15	6	186	5	2	166	48	747
4:15 PM	10	7	2	184	18	6	5	216	6	4	175	60	693
4:30 PM	23	10	7	324	74	12	6	185	9	3	156	63	872
4:45 PM	18	6	4	204	36	15	6	262	10	4	188	58	811
5:00 PM	13	11	9	274	67	22	14	221	10	2	162	40	845
5:15 PM	19	9	4	188	26	11	6	208	7	1	164	44	687
5:30 PM	18	3	6	228	19	16	11	237	7	2	163	31	741
5:45 PM	14	7	2	129	15	7	8	230	7	3	148	35	605
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	146	61	40	1765	295	104	62	1745	61	21	1322	379	6001
APPROACH %'s :	59.11%	24.70%	16.19%	81.56%	13.63%	4.81%	3.32%	93.42%	3.27%	1.22%	76.77%	22.01%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	64	34	22	986	195	55	31	884	35	13	681	221	3221
PEAK HR FACTOR :		0.750			0.754			0.854			0.915		0.923

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_005 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

AM

NS/EW Streets:	I-5 SB Ramps			I-5 SB Ramps			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	2	0	2	0	4	1	0	3	1	
7:00 AM				99		33		111	113		321	61	738
7:15 AM				171		40		69	90		428	70	868
7:30 AM				276		42		93	142		435	64	1052
7:45 AM				202		44		103	136		488	90	1063
8:00 AM				134		34		92	107		407	95	869
8:15 AM				128		40		82	109		353	69	781
8:30 AM				134		35		99	125		296	70	759
8:45 AM				111		32		103	89		249	82	666
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	1255	0	300	0	752	911	0	2977	601	6796
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	80.71%	0.00%	19.29%	0.00%	45.22%	54.78%	0.00%	83.20%	16.80%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	0	0	783	0	160	0	357	475	0	1758	319	3852
PEAK HR FACTOR :		0.000			0.741			0.870			0.898		0.906

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_005 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

PM

NS/EW Streets:	I-5 SB Ramps			I-5 SB Ramps			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	2	0	2	0	4	1	0	3	1	
4:00 PM				173		52		175	322		171	99	992
4:15 PM				160		39		187	233		213	76	908
4:30 PM				187		36		249	333		197	209	1211
4:45 PM				148		45		245	268		204	126	1036
5:00 PM				187		34		271	299		176	137	1104
5:15 PM				163		30		231	245		176	130	975
5:30 PM				131		30		256	265		162	127	971
5:45 PM				116		31		210	178		144	108	787
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	1265	0	297	0	1824	2143	0	1443	1012	7984
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	80.99%	0.00%	19.01%	0.00%	45.98%	54.02%	0.00%	58.78%	41.22%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	685	0	145	0	996	1145	0	753	602	4326
PEAK HR FACTOR :		0.000			0.930			0.920			0.834		0.893

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_006 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

AM

NS/EW Streets:	I-5 NB Ramps			I-5 NB Ramps			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	0	1	0	0	0	0	4	1	0	3	1	
7:00 AM	197		122					190	26		191	92	818
7:15 AM	215		129					215	19		278	134	990
7:30 AM	246		174					356	17		262	134	1189
7:45 AM	281		190					282	19		287	207	1266
8:00 AM	218		168					204	28		288	151	1057
8:15 AM	174		173					183	21		244	140	935
8:30 AM	166		158					215	23		202	116	880
8:45 AM	147		162					191	18		182	82	782
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1644	0	1276	0	0	0	0	1836	171	0	1934	1056	7917
APPROACH %'s :	56.30%	0.00%	43.70%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	91.48%	8.52%	0.00%	64.68%	35.32%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	960	0	661	0	0	0	0	1057	83	0	1115	626	4502
PEAK HR FACTOR :		0.860			0.000			0.764			0.881		0.889

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_006 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

PM

NS/EW Streets:	I-5 NB Ramps			I-5 NB Ramps			SR-126			SR-126			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	0	1	0	0	0	0	4	1	0	3	1	
4:00 PM	100		149					323	34		174	151	931
4:15 PM	118		128					293	46		167	182	934
4:30 PM	126		133					399	46		284	190	1178
4:45 PM	118		143					354	46		213	194	1068
5:00 PM	104		164					394	56		209	230	1157
5:15 PM	95		155					345	51		214	215	1075
5:30 PM	102		148					333	52		184	199	1018
5:45 PM	88		186					283	52		173	177	959
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	851	0	1206	0	0	0	0	2724	383	0	1618	1538	8320
APPROACH %'s :	41.37%	0.00%	58.63%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	87.67%	12.33%	0.00%	51.27%	48.73%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	443	0	595	0	0	0	0	1492	199	0	920	829	4478
PEAK HR FACTOR :		0.968			0.000			0.939			0.922		0.950

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_007 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

AM

NS/EW Streets:	Commerce Center Dr			Commerce Center Dr			Franklin Parkway			Franklin Parkway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	1	1	0	1	0	0	0	
7:00 AM	30	203			47	5	4		34				323
7:15 AM	62	246			43	3	9		6				369
7:30 AM	80	249			83	10	7		14				443
7:45 AM	102	291			77	8	11		10				499
8:00 AM	62	254			67	7	6		14				410
8:15 AM	43	192			60	2	2		3				302
8:30 AM	20	196			75	8	4		8				311
8:45 AM	17	168			58	3	8		5				259
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	416	1799	0	0	510	46	51	0	94	0	0	0	2916
APPROACH %'s :	18.78%	81.22%	0.00%	0.00%	91.73%	8.27%	35.17%	0.00%	64.83%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	306	1040	0	0	270	28	33	0	44	0	0	0	1721
PEAK HR FACTOR :		0.856			0.801			0.917			0.000		0.862

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5149_007 **Day:** TUESDAY

City: City of Castaic **Date:** 03/26/2013

PM

NS/EW Streets:	Commerce Center Dr			Commerce Center Dr			Franklin Parkway			Franklin Parkway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	1	1	0	1	0	0	0	
4:00 PM	18	48			203	29	21		81				400
4:15 PM	28	46			182	20	13		37				326
4:30 PM	24	45			286	24	28		123				530
4:45 PM	30	48			195	25	25		47				370
5:00 PM	11	58			291	16	18		72				466
5:15 PM	14	46			174	10	13		42				299
5:30 PM	10	33			226	10	3		32				314
5:45 PM	8	45			120	9	4		31				217
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	143	369	0	0	1677	143	125	0	465	0	0	0	2922
APPROACH %'s :	27.93%	72.07%	0.00%	0.00%	92.14%	7.86%	21.19%	0.00%	78.81%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	93	197	0	0	954	85	84	0	279	0	0	0	1692
PEAK HR FACTOR :		0.929			0.838			0.601			0.000		0.798

CONTROL : Signalized

APPENDIX C
TRAFFIC ANALYSIS WORKSHEETS

INTERSECTION CAPACITY UTILIZATION WORKSHEET

INTERSECTION: 1 **N / S:** Chiquito Canyon Road **E / W:** SR-126

AM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	0.0	0	2	0.000	0	0.0	0	2	0.000	0	0.0	0	2	0.000	0	0.0	0	2	0.000	0	0.0	0	2	0.000	0
NR	0.0	0	2	0.000	0	0.0	0	2	0.000	0	0.0	0	2	0.000	0	0.0	0	2	0.000	0	0.0	0	2	0.000	0
NT	1.0	1600	0	0.003	1	1.0	1600	0	0.003	1	1.0	1600	0	0.003	1	1.0	1600	0	0.003	1	1.0	1600	0	0.003	1
SL	1.0	1600	82	0.051	1	1.0	1600	87	0.054	1	1.0	1600	87	0.054	1	1.0	1600	88	0.055	1	1.0	1600	88	0.055	1
SR	1.0	1600	8	0.005	1	1.0	1600	8	0.005	1	1.0	1600	8	0.005	1	1.0	1600	8	0.005	1	1.0	1600	8	0.005	1
ST	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
EL	1.0	1600	2	0.001	1	1.0	1600	2	0.001	1	1.0	1600	2	0.001	1	1.0	1600	2	0.001	1	1.0	1600	2	0.001	1
ER	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
ET	2.0	3200	585	0.183	0	2.0	3200	617	0.193	0	2.0	3200	696	0.218	0	2.0	3200	620	0.194	0	2.0	3200	699	0.218	0
WL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WR	1.0	1600	17	0.011	0	1.0	1600	18	0.011	0	1.0	1600	18	0.011	0	1.0	1600	19	0.012	0	1.0	1600	19	0.012	0
WT	2.0	3200	740	0.231	1	2.0	3200	781	0.244	1	2.0	3200	797	0.249	1	2.0	3200	784	0.245	1	2.0	3200	800	0.250	1
N/S component					0.054	N/S component				0.057	N/S component				0.057	N/S component				0.058	N/S component				0.058
E/W component					0.233	E/W component				0.245	E/W component				0.250	E/W component				0.246	E/W component				0.251
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.386 A**				**ICU LOS**	**0.402 A**				**ICU LOS**	**0.407 A**				**ICU LOS**	**0.404 A**				**ICU LOS**	**0.409 A**

PM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	0.0	0	1	0.000	0	0.0	0	1	0.000	0	0.0	0	1	0.000	0	0.0	0	1	0.000	0	0.0	0	1	0.000	0
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
NT	1.0	1600	0	0.001	1	1.0	1600	0	0.001	1	1.0	1600	0	0.001	1	1.0	1600	Z	0.001	1	1.0	1600	0	0.001	1
SL	1.0	1600	47	0.029	1	1.0	1600	50	0.031	1	1.0	1600	50	0.031	1	1.0	1600	51	0.032	1	1.0	1600	51	0.032	1
SR	1.0	1600	3	0.002	0	1.0	1600	3	0.002	0	1.0	1600	3	0.002	0	1.0	1600	3	0.002	0	1.0	1600	3	0.002	0
ST	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
EL	1.0	1600	14	0.009	0	1.0	1600	15	0.009	0	1.0	1600	15	0.009	0	1.0	1600	15	0.009	0	1.0	1600	15	0.009	0
ER	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
ET	2.0	3200	909	0.284	1	2.0	3200	959	0.300	1	2.0	3200	991	0.310	1	2.0	3200	962	0.301	1	2.0	3200	994	0.311	1
WL	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
WR	1.0	1600	58	0.036	0	1.0	1600	61	0.038	0	1.0	1600	61	0.038	0	1.0	1600	62	0.039	0	1.0	1600	62	0.039	0
WT	2.0	3200	780	0.244	0	2.0	3200	823	0.257	0	2.0	3200	910	0.284	0	2.0	3200	826	0.258	0	2.0	3200	913	0.285	0
N/S component					0.030	N/S component				0.032	N/S component				0.032	N/S component				0.033	N/S component				0.033
E/W component					0.284	E/W component				0.300	E/W component				0.310	E/W component				0.301	E/W component				0.311
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.414 A**				**ICU LOS**	**0.432 A**				**ICU LOS**	**0.442 A**				**ICU LOS**	**0.433 A**				**ICU LOS**	**0.443 A**

Critical movement identified by a 1.

Ten lanes for a right turn indicates free movement.

INTERSECTION CAPACITY UTILIZATION WORKSHEET

INTERSECTION: 2 **N / S:** Chiquita Canyon Landfill Entrance **E / W:** SR-126

AM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	Intersection does not exist with project					Intersection does not exist with project				
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0										
NT	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1										
SL	1.0	1600	27	0.017	1	1.0	1600	28	0.018	1	1.0	1600	28	0.018	1										
SR	1.0	1600	6	0.004	0	1.0	1600	6	0.004	0	1.0	1600	6	0.004	0										
ST	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0										
EL	1.0	1600	6	0.004	1	1.0	1600	6	0.004	1	1.0	1600	6	0.004	1										
ER	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0										
ET	2.0	3200	652	0.204	0	2.0	3200	688	0.215	0	2.0	3200	767	0.240	0										
WL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0										
WR	1.0	1600	29	0.018	0	1.0	1600	31	0.019	0	1.0	1600	31	0.019	0										
WT	2.0	3200	751	0.235	1	2.0	3200	792	0.248	1	2.0	3200	808	0.253	1										
N/S component					0.017	N/S component				0.018	N/S component				0.018										
E/W component					0.238	E/W component				0.251	E/W component				0.256										
Clearance					0.100	Clearance				0.100	Clearance				0.100										
				ICU	**0.355**				ICU	**0.369**				ICU	**0.374**										
				LOS	**A**				LOS	**A**				LOS	**A**										

PM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	Intersection does not exist with project					Intersection does not exist with project				
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0										
NT	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1										
SL	1.0	1600	36	0.023	1	1.0	1600	38	0.024	1	1.0	1600	38	0.024	1										
SR	1.0	1600	1	0.001	0	1.0	1600	1	0.001	0	1.0	1600	1	0.001	0										
ST	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0										
EL	1.0	1600	1	0.001	0	1.0	1600	1	0.001	0	1.0	1600	1	0.001	0										
ER	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0										
ET	2.0	3200	955	0.298	1	2.0	3200	1008	0.315	1	2.0	3200	1040	0.325	1										
WL	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1										
WR	1.0	1600	5	0.003	0	1.0	1600	5	0.003	0	1.0	1600	5	0.003	0										
WT	2.0	3200	836	0.261	0	2.0	3200	882	0.276	0	2.0	3200	969	0.303	0										
N/S component					0.023	N/S component				0.024	N/S component				0.024										
E/W component					0.298	E/W component				0.315	E/W component				0.325										
Clearance					0.100	Clearance				0.100	Clearance				0.100										
				ICU	**0.421**				ICU	**0.439**				ICU	**0.449**										
				LOS	**A**				LOS	**A**				LOS	**A**										

Critical movement identified by a 1.

Ten lanes for a right turn indicates free movement.

INTERSECTION CAPACITY UTILIZATION WORKSHEET

INTERSECTION: 3 **N / S:** Wolcott Way **E / W:** SR-126

AM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	7	0.000	0	0.0	0	0	0.000	0	0.0	0	7	0.000	0
NT	1.0	1600	0	0.000	1	1.0	1600	0	0.000	1	1.0	1600	7	0.009	1	1.0	1600	0	0.000	1	1.0	1600	7	0.009	1
SL	1.5	2400	1	0.000	1	1.5	2400	1	0.000	1	1.5	2400	1	0.000	1	1.5	2400	99	0.041	1	1.5	2400	99	0.041	1
SR	1.0	1600	8	0.005	0	1.0	1600	8	0.005	0	1.0	1600	8	0.005	0	1.0	1600	18	0.011	0	1.0	1600	18	0.011	0
ST	0.5	800	0	0.000	0	0.5	800	0	0.000	0	0.5	800	1	0.001	0	0.5	800	0	0.000	0	0.5	800	1	0.001	0
EL	1.0	1600	25	0.016	1	1.0	1600	26	0.016	1	1.0	1600	26	0.016	1	1.0	1600	36	0.023	1	1.0	1600	36	0.023	1
ER	0.0	0	1	0.000	0	0.0	0	1	0.000	0	0.0	0	1	0.000	0	0.0	0	1	0.000	0	0.0	0	1	0.000	0
ET	2.0	3200	653	0.204	0	2.0	3200	689	0.216	0	2.0	3200	768	0.240	0	2.0	3200	662	0.207	0	2.0	3200	741	0.232	0
WL	1.0	1600	0	0.000	0	1.0	1600	0	0.000	0	1.0	1600	1	0.001	0	1.0	1600	0	0.000	0	1.0	1600	1	0.001	0
WR	1.0	1600	3	0.002	0	1.0	1600	3	0.002	0	1.0	1600	3	0.002	0	1.0	1600	103	0.064	0	1.0	1600	103	0.064	0
WT	2.0	3200	772	0.241	1	2.0	3200	814	0.254	1	2.0	3200	830	0.259	1	2.0	3200	785	0.245	1	2.0	3200	801	0.250	1
N/S component					0.000	N/S component				0.000	N/S component				0.009	N/S component				0.041	N/S component				0.050
E/W component					0.257	E/W component				0.271	E/W component				0.276	E/W component				0.268	E/W component				0.273
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.357 A**				**ICU LOS**	**0.371 A**				**ICU LOS**	**0.385 A**				**ICU LOS**	**0.409 A**				**ICU LOS**	**0.423 A**

PM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	0.0	0	9	0.000	0	0.0	0	9	0.000	0	0.0	0	9	0.000	0	0.0	0	9	0.000	0	0.0	0	9	0.000	0
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	2	0.000	0	0.0	0	0	0.000	0	0.0	0	2	0.000	0
NT	1.0	1600	0	0.006	1	1.0	1600	0	0.006	1	1.0	1600	2	0.008	1	1.0	1600	0	0.006	1	1.0	1600	2	0.008	1
SL	1.5	2400	6	0.003	1	1.5	2400	6	0.003	1	1.5	2400	6	0.003	1	1.5	2400	113	0.047	1	1.5	2400	113	0.047	1
SR	1.0	1600	32	0.020	1	1.0	1600	34	0.021	1	1.0	1600	34	0.021	1	1.0	1600	39	0.024	1	1.0	1600	39	0.024	1
ST	0.5	800	0	0.000	0	0.5	800	0	0.000	0	0.5	800	6	0.008	0	0.5	800	0	0.000	0	0.5	800	6	0.008	0
EL	1.0	1600	9	0.006	0	1.0	1600	9	0.006	0	1.0	1600	9	0.006	0	1.0	1600	14	0.009	0	1.0	1600	14	0.009	0
ER	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
ET	2.0	3200	982	0.307	1	2.0	3200	1036	0.324	1	2.0	3200	1068	0.334	1	2.0	3200	1000	0.313	1	2.0	3200	1032	0.323	1
WL	1.0	1600	0	0.000	1	1.0	1600	0	0.000	1	1.0	1600	6	0.004	1	1.0	1600	0	0.000	1	1.0	1600	6	0.004	1
WR	1.0	1600	1	0.001	0	1.0	1600	1	0.001	0	1.0	1600	1	0.001	0	1.0	1600	77	0.048	0	1.0	1600	77	0.048	0
WT	2.0	3200	799	0.250	0	2.0	3200	843	0.263	0	2.0	3200	930	0.291	0	2.0	3200	838	0.262	0	2.0	3200	925	0.289	0
N/S component					0.008	N/S component				0.008	N/S component				0.011	N/S component				0.053	N/S component				0.055
E/W component					0.307	E/W component				0.324	E/W component				0.338	E/W component				0.313	E/W component				0.326
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.415 A**				**ICU LOS**	**0.432 A**				**ICU LOS**	**0.448 A**				**ICU LOS**	**0.465 A**				**ICU LOS**	**0.481 A**

Critical movement identified by a 1.

Ten lanes for a right turn indicates free movement.

INTERSECTION CAPACITY UTILIZATION WORKSHEET

INTERSECTION: 4 **N / S:** Commerce Center Drive **E / W:** SR-126

AM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	1.0	1600	44	0.028	0	0.0	0	46	0.000	0	0.0	0	46	0.000	0	0.0	0	46	0.000	0	0.0	0	46	0.000	0
NR	1.0	1600	8	0.005	0	0.0	0	8	0.000	0	0.0	0	8	0.000	0	0.0	0	8	0.000	0	0.0	0	8	0.000	0
NT	1.0	1600	72	0.045	1	1.0	1600	76	0.081	1	1.0	1600	166	0.138	1	1.0	1600	76	0.081	1	1.0	1600	166	0.138	1
SL	2.0	2880	238	0.083	1	2.0	2880	251	0.087	1	2.0	2880	290	0.101	1	2.0	2880	251	0.087	1	2.0	2880	290	0.101	1
SR	1.0	1600	31	0.019	0	1.0	1600	33	0.021	0	1.0	1600	48	0.030	0	1.0	1600	33	0.021	0	1.0	1600	48	0.030	0
ST	1.0	1600	30	0.019	0	1.0	1600	32	0.020	0	1.0	1600	53	0.033	0	1.0	1600	32	0.020	0	1.0	1600	53	0.033	0
EL	1.0	1600	65	0.041	1	1.0	1600	69	0.043	1	1.0	1600	150	0.094	1	1.0	1600	69	0.043	1	1.0	1600	150	0.094	1
ER	0.0	0	28	0.000	0	0.0	0	30	0.000	0	0.0	0	30	0.000	0	0.0	0	30	0.000	0	0.0	0	30	0.000	0
ET	2.0	3200	543	0.178	0	2.0	3200	573	0.188	0	2.0	3200	578	0.190	0	2.0	3200	644	0.211	0	2.0	3200	649	0.212	0
WL	1.0	1600	8	0.005	0	1.0	1600	8	0.005	0	1.0	1600	8	0.005	0	1.0	1600	8	0.005	0	1.0	1600	8	0.005	0
WR	1.0	1600	1210	0.756	1	1.0	1600	1277	0.798	1	1.0	1600	1492	0.933	1	1.0	1600	1277	0.798	1	1.0	1600	1492	0.933	1
WT	2.0	3200	711	0.222	1	2.0	3200	750	0.234	1	2.0	3200	753	0.235	1	2.0	3200	821	0.257	1	2.0	3200	824	0.258	1
N/S component					0.128	N/S component				0.168	N/S component				0.238	N/S component				0.168	N/S component				0.238
E/W component					0.263	E/W component				0.278	E/W component				0.329	E/W component				0.300	E/W component				0.351
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.490 A**				**ICU LOS**	**0.546 A**				**ICU LOS**	**0.667 B**				**ICU LOS**	**0.568 A**				**ICU LOS**	**0.689 B**

PM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	1.0	1600	64	0.040	0	0.0	0	68	0.000	0	0.0	0	68	0.000	0	0.0	0	68	0.000	0	0.0	0	68	0.000	0
NR	1.0	1600	22	0.014	0	0.0	0	23	0.000	0	0.0	0	23	0.000	0	0.0	0	23	0.000	0	0.0	0	23	0.000	0
NT	1.0	1600	34	0.021	1	1.0	1600	36	0.079	1	1.0	1600	71	0.101	1	1.0	1600	36	0.079	1	1.0	1600	71	0.101	1
SL	2.0	2880	986	0.342	1	2.0	2880	1040	0.361	1	2.0	2880	1243	0.432	1	2.0	2880	1040	0.361	1	2.0	2880	1243	0.432	1
SR	1.0	1600	55	0.034	0	1.0	1600	58	0.036	0	1.0	1600	134	0.084	0	1.0	1600	58	0.036	0	1.0	1600	134	0.084	0
ST	1.0	1600	195	0.122	0	1.0	1600	206	0.129	0	1.0	1600	302	0.189	0	1.0	1600	206	0.129	0	1.0	1600	302	0.189	0
EL	1.0	1600	31	0.019	0	1.0	1600	33	0.021	0	1.0	1600	52	0.033	0	1.0	1600	33	0.021	0	1.0	1600	52	0.033	0
ER	0.0	0	35	0.000	0	0.0	0	37	0.000	0	0.0	0	37	0.000	0	0.0	0	37	0.000	0	0.0	0	37	0.000	0
ET	2.0	3200	884	0.287	1	2.0	3200	933	0.303	1	2.0	3200	948	0.308	1	2.0	3200	1004	0.325	1	2.0	3200	1019	0.330	1
WL	1.0	1600	13	0.008	1	1.0	1600	14	0.009	1	1.0	1600	14	0.009	1	1.0	1600	14	0.009	1	1.0	1600	14	0.009	1
WR	1.0	1600	221	0.138	0	1.0	1600	233	0.146	0	1.0	1600	284	0.178	0	1.0	1600	233	0.146	0	1.0	1600	284	0.178	0
WT	2.0	3200	681	0.213	0	2.0	3200	718	0.224	0	2.0	3200	735	0.230	0	2.0	3200	789	0.247	0	2.0	3200	806	0.252	0
N/S component					0.364	N/S component				0.440	N/S component				0.533	N/S component				0.440	N/S component				0.533
E/W component					0.295	E/W component				0.312	E/W component				0.317	E/W component				0.334	E/W component				0.339
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.759 C**				**ICU LOS**	**0.852 D**				**ICU LOS**	**0.949 E**				**ICU LOS**	**0.875 D**				**ICU LOS**	**0.972 E**

Critical movement identified by a 1.

Ten lanes for a right turn indicates free movement.

INTERSECTION CAPACITY UTILIZATION WORKSHEET

INTERSECTION: 5 **N / S:** I-5 SB Ramps **E / W:** SR-126

AM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
NT	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
SL	2.0	2880	783	0.272	1	2.0	2880	826	0.287	1	2.0	2880	836	0.290	1	2.0	2880	826	0.287	1	2.0	2880	836	0.290	1
SR	2.0	3200	160	0.050	1	2.0	3200	169	0.053	1	2.0	3200	169	0.053	1	2.0	3200	171	0.053	1	2.0	3200	171	0.053	1
ST	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
EL	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
ER	10.0	16000	475	0.030	0	10.0	16000	501	0.031	0	10.0	16000	523	0.033	0	10.0	16000	565	0.035	0	10.0	16000	587	0.037	0
ET	4.0	6400	357	0.056	0	4.0	6400	377	0.059	0	4.0	6400	402	0.063	0	4.0	6400	384	0.060	0	4.0	6400	409	0.064	0
WL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WR	10.0	16000	319	0.020	0	10.0	16000	337	0.021	0	10.0	16000	337	0.021	0	10.0	16000	337	0.021	0	10.0	16000	337	0.021	0
WT	3.0	4800	1758	0.366	1	3.0	4800	1855	0.386	1	3.0	4800	2081	0.434	1	3.0	4800	1924	0.401	1	3.0	4800	2150	0.448	1
N/S component					0.272	N/S component				0.287	N/S component				0.290	N/S component				0.287	N/S component				0.290
E/W component					0.366	E/W component				0.386	E/W component				0.434	E/W component				0.401	E/W component				0.448
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.738 C**				**ICU LOS**	**0.773 C**				**ICU LOS**	**0.824 D**				**ICU LOS**	**0.788 C**				**ICU LOS**	**0.838 D**

PM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
NT	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
SL	2.0	2880	685	0.238	1	2.0	2880	723	0.251	1	2.0	2880	774	0.269	1	2.0	2880	723	0.251	1	2.0	2880	774	0.269	1
SR	2.0	3200	145	0.045	1	2.0	3200	153	0.048	1	2.0	3200	153	0.048	1	2.0	3200	155	0.048	1	2.0	3200	155	0.048	1
ST	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
EL	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	0	0.0	0	0	0.000	1	0.0	0	0	0.000	1
ER	10.0	16000	1145	0.072	0	10.0	16000	1208	0.076	0	10.0	16000	1322	0.083	0	10.0	16000	1273	0.080	0	10.0	16000	1387	0.087	0
ET	4.0	6400	996	0.156	0	4.0	6400	1051	0.164	0	4.0	6400	1176	0.184	1	4.0	6400	1058	0.165	0	4.0	6400	1183	0.185	0
WL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	1	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WR	10.0	16000	602	0.038	0	10.0	16000	635	0.040	0	10.0	16000	635	0.040	0	10.0	16000	635	0.040	0	10.0	16000	635	0.040	0
WT	3.0	4800	753	0.157	1	3.0	4800	794	0.165	1	3.0	4800	878	0.183	0	3.0	4800	864	0.180	1	3.0	4800	948	0.198	1
N/S component					0.238	N/S component				0.251	N/S component				0.269	N/S component				0.251	N/S component				0.269
E/W component					0.157	E/W component				0.165	E/W component				0.184	E/W component				0.180	E/W component				0.198
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.495 A**				**ICU LOS**	**0.516 A**				**ICU LOS**	**0.553 A**				**ICU LOS**	**0.531 A**				**ICU LOS**	**0.566 A**

Critical movement identified by a 1.

Ten lanes for a right turn indicates free movement.

INTERSECTION CAPACITY UTILIZATION WORKSHEET

INTERSECTION: 6 **N / S:** I-5 NB Ramps **E / W:** SR-126

AM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	3.0	4800	960	0.200	1	3.0	4800	1013	0.211	1	3.0	4800	1145	0.239	1	3.0	4800	1077	0.224	1	3.0	4800	1209	0.252	1
NR	1.0	1600	661	0.413	1	1.0	1600	697	0.436	1	1.0	1600	697	0.436	1	1.0	1600	697	0.436	1	1.0	1600	697	0.436	1
NT	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
SL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
SR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
ST	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
EL	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
ER	10.0	16000	83	0.005	0	10.0	16000	88	0.006	0	10.0	16000	96	0.006	0	10.0	16000	90	0.006	0	10.0	16000	98	0.006	0
ET	4.0	6400	1057	0.165	0	4.0	6400	1115	0.174	0	4.0	6400	1142	0.178	0	4.0	6400	1120	0.175	0	4.0	6400	1147	0.179	0
WL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WR	10.0	16000	626	0.039	0	10.0	16000	660	0.041	0	10.0	16000	714	0.045	0	10.0	16000	660	0.041	0	10.0	16000	714	0.045	0
WT	3.0	4800	1115	0.232	1	3.0	4800	1176	0.245	1	3.0	4800	1270	0.265	1	3.0	4800	1181	0.246	1	3.0	4800	1275	0.266	1
N/S component					0.200	N/S component				0.211	N/S component				0.239	N/S component				0.224	N/S component				0.252
E/W component					0.232	E/W component				0.245	E/W component				0.265	E/W component				0.246	E/W component				0.266
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.532 A**				**ICU LOS**	**0.556 A**				**ICU LOS**	**0.603 A**				**ICU LOS**	**0.570 A**				**ICU LOS**	**0.618 B**

PM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	3.0	4800	443	0.092	1	3.0	4800	467	0.097	1	3.0	4800	529	0.110	1	3.0	4800	532	0.111	1	3.0	4800	594	0.124	1
NR	1.0	1600	595	0.372	1	1.0	1600	628	0.393	1	1.0	1600	628	0.393	1	1.0	1600	628	0.393	1	1.0	1600	628	0.393	1
NT	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
SL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
SR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
ST	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
EL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
ER	10.0	16000	199	0.012	0	10.0	16000	210	0.013	0	10.0	16000	246	0.015	0	10.0	16000	212	0.013	0	10.0	16000	248	0.016	0
ET	4.0	6400	1492	0.233	1	4.0	6400	1574	0.246	1	4.0	6400	1714	0.268	1	4.0	6400	1579	0.247	1	4.0	6400	1719	0.269	1
WL	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
WR	10.0	16000	829	0.052	0	10.0	16000	875	0.055	0	10.0	16000	888	0.056	0	10.0	16000	875	0.055	0	10.0	16000	888	0.056	0
WT	3.0	4800	920	0.192	0	3.0	4800	971	0.202	0	3.0	4800	993	0.207	0	3.0	4800	976	0.203	0	3.0	4800	998	0.208	0
N/S component					0.092	N/S component				0.097	N/S component				0.110	N/S component				0.111	N/S component				0.124
E/W component					0.233	E/W component				0.246	E/W component				0.268	E/W component				0.247	E/W component				0.269
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.425 A**				**ICU LOS**	**0.443 A**				**ICU LOS**	**0.478 A**				**ICU LOS**	**0.458 A**				**ICU LOS**	**0.492 A**

Critical movement identified by a 1.

Ten lanes for a right turn indicates free movement.

INTERSECTION CAPACITY UTILIZATION WORKSHEET

INTERSECTION: 7 **N / S:** Commerce Center Drive **E / W:** Franklin Parkway

AM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	1.0	1600	306	0.191	1	1.0	1600	323	0.202	1	1.0	1600	324	0.203	0	1.0	1600	323	0.202	1	1.0	1600	324	0.203	0
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
NT	3.0	4800	1040	0.217	0	3.0	4800	1097	0.229	0	3.0	4800	1482	0.309	1	3.0	4800	1097	0.229	0	3.0	4800	1482	0.309	1
SL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	1	0.0	0	0	0.000	0	0.0	0	0	0.000	1
SR	1.0	1600	28	0.018	0	1.0	1600	30	0.019	0	1.0	1600	31	0.019	0	1.0	1600	31	0.019	0	1.0	1600	32	0.020	0
ST	3.0	4800	270	0.056	1	3.0	4800	285	0.059	1	3.0	4800	359	0.075	0	3.0	4800	285	0.059	1	3.0	4800	359	0.075	0
EL	1.0	1600	33	0.021	1	1.0	1600	35	0.022	1	1.0	1600	42	0.026	1	1.0	1600	36	0.023	1	1.0	1600	43	0.027	1
ER	1.0	1600	44	0.028	0	1.0	1600	46	0.029	0	1.0	1600	47	0.029	0	1.0	1600	46	0.029	0	1.0	1600	47	0.029	0
ET	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WT	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
N/S component					0.248	N/S component				0.261	N/S component				0.309	N/S component				0.261	N/S component				0.309
E/W component					0.021	E/W component				0.022	E/W component				0.026	E/W component				0.023	E/W component				0.027
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.368 A**				**ICU LOS**	**0.383 A**				**ICU LOS**	**0.435 A**				**ICU LOS**	**0.384 A**				**ICU LOS**	**0.436 A**

PM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	1.0	1600	93	0.058	1	1.0	1600	98	0.061	1	1.0	1600	100	0.063	1	1.0	1600	98	0.061	1	1.0	1600	100	0.063	1
NR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
NT	3.0	4800	197	0.041	0	3.0	4800	208	0.043	0	3.0	4800	311	0.065	0	3.0	4800	208	0.043	0	3.0	4800	311	0.065	0
SL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
SR	1.0	1600	85	0.053	0	1.0	1600	90	0.056	0	1.0	1600	96	0.060	0	1.0	1600	91	0.057	0	1.0	1600	97	0.061	0
ST	3.0	4800	954	0.199	1	3.0	4800	1006	0.210	1	3.0	4800	1379	0.287	1	3.0	4800	1006	0.210	1	3.0	4800	1379	0.287	1
EL	1.0	1600	84	0.053	1	1.0	1600	89	0.056	1	1.0	1600	91	0.057	1	1.0	1600	90	0.056	1	1.0	1600	92	0.058	1
ER	1.0	1600	279	0.174	1	1.0	1600	294	0.184	1	1.0	1600	296	0.185	1	1.0	1600	294	0.184	1	1.0	1600	296	0.185	1
ET	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WL	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WR	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0	0.0	0	0	0.000	0
WT	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1	0.0	0	0	0.000	1
N/S component					0.257	N/S component				0.271	N/S component				0.350	N/S component				0.271	N/S component				0.350
E/W component					0.053	E/W component				0.056	E/W component				0.057	E/W component				0.056	E/W component				0.058
Clearance					0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100	Clearance				0.100
				ICU LOS	**0.409 A**				**ICU LOS**	**0.426 A**				**ICU LOS**	**0.507 A**				**ICU LOS**	**0.427 A**				**ICU LOS**	**0.507 A**

Critical movement identified by a 1.

Ten lanes for a right turn indicates free movement.

INTERSECTION CAPACITY UTILIZATION WORKSHEET

INTERSECTION: 8 **N / S:** Wolcott Way **E / W:** Franklin Parkway

AM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	Intersection does not exist without project					Intersection does not exist without project					Intersection does not exist without project					2.0	2880	110	0.038	1	2.0	2880	110	0.038	1
NR																1.0	1600	29	0.018	1	1.0	1600	36	0.023	1
NT																0.0	0	0	0.000	0	0.0	0	0	0.000	0
SL																0.0	0	0	0.000	0	0.0	0	0	0.000	0
SR																0.0	0	0	0.000	0	0.0	0	0	0.000	0
ST																0.0	0	0	0.000	1	0.0	0	0	0.000	1
EL																0.0	0	0	0.000	0	0.0	0	0	0.000	0
ER																0.0	0	108	0.000	0	0.0	0	108	0.000	0
ET																1.0	1600	1	0.068	1	1.0	1600	1	0.068	1
WL																0.0	0	9	0.000	1	0.0	0	10	0.000	1
WR																0.0	0	0	0.000	0	0.0	0	0	0.000	0
WT																1.0	1600	1	0.006	0	1.0	1600	1	0.007	0
																N/S component				0.038	N/S component				0.038
																E/W component				0.068	E/W component				0.068
																Clearance				0.100	Clearance				0.100
																			ICU	**0.206**				**ICU**	**0.206**
																			LOS	**A**				**LOS**	**A**

PM PEAK HOUR

Move-ment	Existing Conditions					Existing plus Growth Conditions					Existing plus Growth plus Other Dev. Conditions					Existing plus Growth plus Project Conditions					Existing plus Growth plus Other Dev. plus Proj. Conditions				
	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.	No. Lanes	Cap.	Volume	V/C	Crit. Mvmt.
NL	Intersection does not exist without project					Intersection does not exist without project					Intersection does not exist without project					2.0	2880	81	0.028	1	2.0	2880	81	0.028	1
NR																1.0	1600	10	0.006	1	1.0	1600	12	0.008	1
NT																0.0	0	0	0.000	0	0.0	0	0	0.000	0
SL																0.0	0	0	0.000	0	0.0	0	0	0.000	0
SR																0.0	0	0	0.000	0	0.0	0	0	0.000	0
ST																0.0	0	0	0.000	1	0.0	0	0	0.000	1
EL																0.0	0	0	0.000	0	0.0	0	0	0.000	0
ER																0.0	0	112	0.000	0	0.0	0	112	0.000	0
ET																1.0	1600	1	0.071	1	1.0	1600	1	0.071	1
WL																0.0	0	39	0.000	1	0.0	0	46	0.000	1
WR																0.0	0	0	0.000	0	0.0	0	0	0.000	0
WT																1.0	1600	1	0.025	0	1.0	1600	1	0.029	0
																N/S component				0.028	N/S component				0.028
																E/W component				0.071	E/W component				0.071
																Clearance				0.100	Clearance				0.100
																			ICU	**0.199**				**ICU**	**0.199**
																			LOS	**A**				**LOS**	**A**

Critical movement identified by a 1.

Ten lanes for a right turn indicates free movement.

EXISTING CONDITIONS

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	585	0	0	740	17	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	2	585	0	0	740	17	2	0	2

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	740	0	0	585	0	0	959	1329	293
Stage 1	-	-	-	-	-	-	589	589	-
Stage 2	-	-	-	-	-	-	370	740	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	812	-	-	933	-	-	200	144	680
Stage 1	-	-	-	-	-	-	442	474	-
Stage 2	-	-	-	-	-	-	601	403	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	812	-	-	933	-	-	197	144	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	197	144	-
Stage 1	-	-	-	-	-	-	441	473	-
Stage 2	-	-	-	-	-	-	593	403	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	305	812	-	-	933	-	-	174	605
HCM Lane V/C Ratio	0.013	0.002	-	-	-	-	-	0.471	0.013
HCM Control Delay (s)	17	9.4	-	-	0	-	-	42.9	11
HCM Lane LOS	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	2.2	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	82	0	8
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	82	0	8

Major/Minor	Minor2		
Conflicting Flow All	1037	1329	370
Stage 1	740	740	-
Stage 2	297	589	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	175	144	605
Stage 1	357	403	-
Stage 2	665	474	-
Platoon blocked, %			
Mov Cap-1 Maneuver	174	144	605
Mov Cap-2 Maneuver	174	144	-
Stage 1	356	403	-
Stage 2	661	473	-

Approach	SB
HCM Control Delay, s	40.1
HCM LOS	E

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	6	652	751	29	27	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	6	652	751	29	27	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	751	0	-	0	1089	376
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	338	-
Critical Hdwy	4.3	-	-	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.3	-	-	-	3.6	3.4
Pot Cap-1 Maneuver	804	-	-	-	198	599
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	804	-	-	-	197	599
Mov Cap-2 Maneuver	-	-	-	-	197	-
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	23.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	804	-	-	-	197	599
HCM Lane V/C Ratio	0.007	-	-	-	0.137	0.01
HCM Control Delay (s)	9.5	-	-	-	26.2	11.1
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	653	1	0	772	3	0	0	0	1	0	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	25	653	1	0	772	3	0	0	0	1	0	8
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	2	0	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	33	1307	2	3	973	414	0	3	0	1016	0	453
Arrive On Green	0.02	0.45	0.45	0.00	0.33	0.33	0.00	0.00	0.00	0.37	0.00	0.37
Sat Flow, veh/h	1385	2904	4	1385	2909	1236	0	1455	0	2771	0	1236
Grp Volume(v), veh/h	25	327	327	0	772	3	0	0	0	1	0	8
Grp Sat Flow(s),veh/h/ln	1385	1455	1454	1385	1455	1236	0	1455	0	1385	0	1236
Q Serve(g_s), s	0.8	7.0	7.0	0.0	10.5	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.8	7.0	7.0	0.0	10.5	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	655	654	3	973	414	0	3	0	1016	0	453
V/C Ratio(X)	0.75	0.50	0.50	0.00	0.79	0.01	0.00	0.00	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h	127	655	654	127	1200	510	0	533	0	1016	0	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	8.5	8.5	0.0	13.2	9.7	0.0	0.0	0.0	8.8	0.0	8.8
Incr Delay (d2), s/veh	28.5	0.6	0.6	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.8	2.8	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
LnGrp Delay(d),s/veh	49.6	9.1	9.1	0.0	16.2	9.7	0.0	0.0	0.0	8.8	0.0	8.9
LnGrp LOS	D	A	A		B	A				A		A
Approach Vol, veh/h		679			775			0			9	
Approach Delay, s/veh		10.6			16.2			0.0			8.9	
Approach LOS		B			B						A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		0.0	0.0	23.6		20.0	5.0	18.6
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	18.0		16.0	4.0	18.0
Max Q Clear Time (g_c+I1), s		0.0	0.0	9.0		2.2	2.8	12.5
Green Ext Time (p_c), s		0.0	0.0	5.1		0.0	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	65	543	28	8	711	1210	44	72	8	238	30	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	65	543	28	8	711	0	44	72	8	238	30	31
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	76	1082	56	11	1011	0	104	170	19	486	284	241
Arrive On Green	0.05	0.39	0.39	0.01	0.35	0.00	0.21	0.21	0.21	0.20	0.20	0.20
Sat Flow, veh/h	1385	2743	141	1385	2909	0	502	821	91	2494	1455	1236
Grp Volume(v), veh/h	65	288	283	8	711	0	124	0	0	238	30	31
Grp Sat Flow(s),veh/h/ln	1385	1455	1430	1385	1455	0	1413	0	0	1247	1455	1236
Q Serve(g_s), s	3.8	12.2	12.3	0.5	17.3	0.0	6.3	0.0	0.0	7.0	1.4	1.7
Cycle Q Clear(g_c), s	3.8	12.2	12.3	0.5	17.3	0.0	6.3	0.0	0.0	7.0	1.4	1.7
Prop In Lane	1.00		0.10	1.00		0.00	0.35		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	76	574	564	11	1011	0	293	0	0	486	284	241
V/C Ratio(X)	0.85	0.50	0.50	0.71	0.70	0.00	0.42	0.00	0.00	0.49	0.11	0.13
Avail Cap(c_a), veh/h	118	1720	1691	68	3334	0	293	0	0	486	284	241
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	18.7	18.8	40.6	23.1	0.0	28.2	0.0	0.0	29.4	27.1	27.2
Incr Delay (d2), s/veh	28.5	0.7	0.7	58.5	0.9	0.0	4.4	0.0	0.0	3.5	0.7	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.0	4.9	0.4	7.0	0.0	2.8	0.0	0.0	2.6	0.6	0.7
LnGrp Delay(d),s/veh	67.0	19.4	19.5	99.1	24.0	0.0	32.7	0.0	0.0	32.9	27.9	28.3
LnGrp LOS	E	B	B	F	C		C			C	C	C
Approach Vol, veh/h		636			719			124			299	
Approach Delay, s/veh		24.3			24.8			32.7			31.9	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.0	4.7	36.3		20.0	8.5	32.5
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		17.0	4.0	97.0		16.0	7.0	94.0
Max Q Clear Time (g_c+I1), s		8.3	2.5	14.3		9.0	5.8	19.3
Green Ext Time (p_c), s		0.3	0.0	9.2		0.6	0.0	9.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	357	1758	0	783	160
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	357	1758	0	783	160
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	3121	2341	0	888	793
Arrive On Green	0.00	0.54	0.54	0.00	0.36	0.36
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	357	1758	0	783	160
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	2.3	23.3	0.0	22.0	3.7
Cycle Q Clear(g_c), s	0.0	2.3	23.3	0.0	22.0	3.7
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3121	2341	0	888	793
V/C Ratio(X)	0.00	0.11	0.75	0.00	0.88	0.20
Avail Cap(c_a), veh/h	0	3121	2341	0	1070	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.5	13.4	0.0	22.5	16.6
Incr Delay (d2), s/veh	0.0	0.1	2.3	0.0	7.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.9	9.8	0.0	8.4	1.1
LnGrp Delay(d),s/veh	0.0	8.6	15.7	0.0	30.2	16.8
LnGrp LOS		A	B		C	B
Approach Vol, veh/h		357	1758		943	
Approach Delay, s/veh		8.6	15.7		27.9	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				49.4		30.6		49.4
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				40.0		32.0		40.0
Max Q Clear Time (g_c+I1), s				4.3		24.0		25.3
Green Ext Time (p_c), s				19.4		2.6		10.7

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1057	0	0	1115	960	661
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1057	0	0	1115	960	661
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1745	0	0	1309	2244	742
Arrive On Green	0.30	0.00	0.00	0.30	0.60	0.60
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1057	0	0	1115	960	661
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	12.4	0.0	0.0	19.2	11.0	36.8
Cycle Q Clear(g_c), s	12.4	0.0	0.0	19.2	11.0	36.8
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1745	0	0	1309	2244	742
V/C Ratio(X)	0.61	0.00	0.00	0.85	0.43	0.89
Avail Cap(c_a), veh/h	1745	0	0	1309	2244	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	0.0	26.3	8.6	13.8
Incr Delay (d2), s/veh	1.6	0.0	0.0	7.1	0.6	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	0.0	8.5	3.9	15.4
LnGrp Delay(d),s/veh	25.5	0.0	0.0	33.5	9.2	28.9
LnGrp LOS	C			C	A	C
Approach Vol, veh/h	1057			1115	1621	
Approach Delay, s/veh	25.5			33.5	17.2	
Approach LOS	C			C	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		52.0		28.0				28.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		48.0		24.0				24.0
Max Q Clear Time (g_c+I1), s		38.8		14.4				21.2
Green Ext Time (p_c), s		4.8		7.5				2.4

Intersection Summary	
HCM 2010 Ctrl Delay	24.3
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	33	44	306	1040	270	28
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	33	44	306	1040	270	28
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	75	67	355	3377	1882	533
Arrive On Green	0.05	0.05	0.26	0.77	0.43	0.43
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	33	44	306	1040	270	28
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	1.1	1.6	9.8	3.3	1.7	0.6
Cycle Q Clear(g_c), s	1.1	1.6	9.8	3.3	1.7	0.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	75	67	355	3377	1882	533
V/C Ratio(X)	0.44	0.66	0.86	0.31	0.14	0.05
Avail Cap(c_a), veh/h	476	425	476	3377	1882	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	21.6	16.5	1.6	8.0	7.7
Incr Delay (d2), s/veh	4.0	10.4	11.6	0.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.3	4.9	1.3	0.7	0.2
LnGrp Delay(d),s/veh	25.3	32.0	28.1	1.8	8.2	7.9
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	77			1346	298	
Approach Delay, s/veh	29.1			7.8	8.2	
Approach LOS	C			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		6.5	15.9	24.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	16.0	16.0		
Max Q Clear Time (g_c+I1), s		5.3		3.6	11.8	3.7		
Green Ext Time (p_c), s		10.3		0.1	0.4	6.5		

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	14	909	0	0	780	58	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	14	909	0	0	780	58	1	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	780	0	0	909	0	0	1327	1717	455
Stage 1	-	-	-	-	-	-	937	937	-
Stage 2	-	-	-	-	-	-	390	780	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	783	-	-	697	-	-	106	82	531
Stage 1	-	-	-	-	-	-	269	324	-
Stage 2	-	-	-	-	-	-	584	385	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	783	-	-	697	-	-	104	81	531
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	81	-
Stage 1	-	-	-	-	-	-	264	318	-
Stage 2	-	-	-	-	-	-	581	385	-

Approach	EB	WB	NB
HCM Control Delay, s	0.1	0	40
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	104	783	-	-	697	-	-	116	587
HCM Lane V/C Ratio	0.01	0.018	-	-	-	-	-	0.405	0.005
HCM Control Delay (s)	40	9.7	-	-	0	-	-	55.7	11.2
HCM Lane LOS	E	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	1.7	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	47	0	3
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	47	0	3

Major/Minor	Minor2		
Conflicting Flow All	1263	1717	390
Stage 1	780	780	-
Stage 2	483	937	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	118	82	587
Stage 1	337	385	-
Stage 2	513	324	-
Platoon blocked, %			
Mov Cap-1 Maneuver	116	81	587
Mov Cap-2 Maneuver	116	81	-
Stage 1	331	385	-
Stage 2	504	318	-

Approach	SB
HCM Control Delay, s	53
HCM LOS	F

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	955	836	5	36	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	1	955	836	5	36	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	836	0	-	0	1316	418
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	4.3	-	-	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.3	-	-	-	3.6	3.4
Pot Cap-1 Maneuver	744	-	-	-	139	562
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	566	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	744	-	-	-	139	562
Mov Cap-2 Maneuver	-	-	-	-	139	-
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	565	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	38.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	744	-	-	-	139	562
HCM Lane V/C Ratio	0.001	-	-	-	0.259	0.002
HCM Control Delay (s)	9.8	-	-	-	39.7	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0	-	-	-	1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	982	0	0	799	1	9	0	0	6	0	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	9	982	0	0	799	1	9	0	0	6	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	2	0	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	13	1159	0	2	974	414	303	0	0	606	0	270
Arrive On Green	0.01	0.40	0.00	0.00	0.33	0.33	0.22	0.00	0.00	0.22	0.00	0.22
Sat Flow, veh/h	1385	2909	0	1385	2909	1236	1385	0	0	2771	0	1236
Grp Volume(v), veh/h	9	982	0	0	799	1	9	0	0	6	0	32
Grp Sat Flow(s),veh/h/ln	1385	1455	0	1385	1455	1236	1385	0	0	1385	0	1236
Q Serve(g_s), s	0.5	22.4	0.0	0.0	18.4	0.0	0.4	0.0	0.0	0.1	0.0	1.5
Cycle Q Clear(g_c), s	0.5	22.4	0.0	0.0	18.4	0.0	0.4	0.0	0.0	0.1	0.0	1.5
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	13	1159	0	2	974	414	303	0	0	606	0	270
V/C Ratio(X)	0.71	0.85	0.00	0.00	0.82	0.00	0.03	0.00	0.00	0.01	0.00	0.12
Avail Cap(c_a), veh/h	76	1159	0	76	1114	473	303	0	0	606	0	270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	20.0	0.0	0.0	22.3	16.2	22.5	0.0	0.0	22.4	0.0	22.9
Incr Delay (d2), s/veh	53.5	6.0	0.0	0.0	4.5	0.0	0.2	0.0	0.0	0.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.8	0.0	0.0	7.9	0.0	0.2	0.0	0.0	0.1	0.0	0.6
LnGrp Delay(d),s/veh	89.7	26.0	0.0	0.0	26.8	16.2	22.7	0.0	0.0	22.4	0.0	23.8
LnGrp LOS	F	C			C	B	C			C		C
Approach Vol, veh/h		991			800			9			38	
Approach Delay, s/veh		26.6			26.8			22.7			23.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.0	0.0	33.2		20.0	4.7	28.5
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	28.0		16.0	4.0	28.0
Max Q Clear Time (g_c+I1), s		2.4	0.0	24.4		3.5	2.5	20.4
Green Ext Time (p_c), s		0.0	0.0	2.8		0.0	0.0	4.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	884	35	13	681	221	64	34	22	986	195	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	31	884	35	13	681	0	64	34	22	986	195	55
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	35	852	34	16	854	0	112	60	39	977	570	485
Arrive On Green	0.03	0.31	0.31	0.01	0.29	0.00	0.15	0.15	0.15	0.39	0.39	0.39
Sat Flow, veh/h	1385	2780	110	1385	2909	0	733	389	252	2494	1455	1236
Grp Volume(v), veh/h	31	463	456	13	681	0	120	0	0	986	195	55
Grp Sat Flow(s),veh/h/ln	1385	1455	1435	1385	1455	0	1373	0	0	1247	1455	1236
Q Serve(g_s), s	2.6	36.0	36.0	1.1	25.3	0.0	9.5	0.0	0.0	46.0	11.1	3.3
Cycle Q Clear(g_c), s	2.6	36.0	36.0	1.1	25.3	0.0	9.5	0.0	0.0	46.0	11.1	3.3
Prop In Lane	1.00		0.08	1.00		0.00	0.53		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	35	446	440	16	854	0	211	0	0	977	570	485
V/C Ratio(X)	0.89	1.04	1.04	0.80	0.80	0.00	0.57	0.00	0.00	1.01	0.34	0.11
Avail Cap(c_a), veh/h	47	446	440	47	892	0	211	0	0	977	570	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	40.7	40.7	57.9	38.3	0.0	46.1	0.0	0.0	35.7	25.1	22.7
Incr Delay (d2), s/veh	77.2	52.5	52.8	57.5	5.0	0.0	10.7	0.0	0.0	31.0	1.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	20.9	20.6	0.7	10.8	0.0	4.2	0.0	0.0	20.0	4.7	1.2
LnGrp Delay(d),s/veh	134.3	93.2	93.5	115.3	43.2	0.0	56.8	0.0	0.0	66.7	26.7	23.2
LnGrp LOS	F	F	F	F	D		E			F	C	C
Approach Vol, veh/h		950			694			120			1236	
Approach Delay, s/veh		94.7			44.6			56.8			58.5	
Approach LOS		F			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.0	5.4	40.0		50.0	6.9	38.4
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		18.0	4.0	36.0		46.0	4.0	36.0
Max Q Clear Time (g_c+I1), s		11.5	3.1	38.0		48.0	4.6	27.3
Green Ext Time (p_c), s		0.2	0.0	0.0		0.0	0.0	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	66.7
HCM 2010 LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	996	753	0	685	145
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	996	753	0	685	145
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	2957	2217	0	864	771
Arrive On Green	0.00	0.51	0.51	0.00	0.35	0.35
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	996	753	0	685	145
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	5.6	5.7	0.0	13.6	2.5
Cycle Q Clear(g_c), s	0.0	5.6	5.7	0.0	13.6	2.5
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2957	2217	0	864	771
V/C Ratio(X)	0.00	0.34	0.34	0.00	0.79	0.19
Avail Cap(c_a), veh/h	0	2957	2217	0	1991	1777
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.0	8.1	0.0	16.2	12.6
Incr Delay (d2), s/veh	0.0	0.3	0.4	0.0	1.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.3	0.0	4.9	0.8
LnGrp Delay(d),s/veh	0.0	8.3	8.5	0.0	17.9	12.7
LnGrp LOS		A	A		B	B
Approach Vol, veh/h		996	753		830	
Approach Delay, s/veh		8.3	8.5		17.0	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				56.9		23.1		56.9
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				28.0		44.0		28.0
Max Q Clear Time (g_c+I1), s				7.6		15.6		7.7
Green Ext Time (p_c), s				11.0		3.5		11.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1492	0	0	920	443	595
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1492	0	0	920	443	595
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1818	0	0	1364	2197	726
Arrive On Green	0.31	0.00	0.00	0.31	0.59	0.59
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1492	0	0	920	443	595
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	19.0	0.0	0.0	14.7	4.4	30.6
Cycle Q Clear(g_c), s	19.0	0.0	0.0	14.7	4.4	30.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1818	0	0	1364	2197	726
V/C Ratio(X)	0.82	0.00	0.00	0.67	0.20	0.82
Avail Cap(c_a), veh/h	1818	0	0	1364	2197	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	0.0	24.0	7.7	13.1
Incr Delay (d2), s/veh	4.3	0.0	0.0	2.7	0.2	10.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	0.0	6.2	1.6	12.3
LnGrp Delay(d),s/veh	29.7	0.0	0.0	26.6	7.9	23.1
LnGrp LOS	C			C	A	C
Approach Vol, veh/h	1492			920	1038	
Approach Delay, s/veh	29.7			26.6	16.6	
Approach LOS	C			C	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		51.0		29.0				29.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		47.0		25.0				25.0
Max Q Clear Time (g_c+I1), s		32.6		21.0				16.7
Green Ext Time (p_c), s		3.9		3.6				7.1

Intersection Summary	
HCM 2010 Ctrl Delay	25.0
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	84	279	93	197	954	85
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	84	279	93	197	954	85
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	351	314	110	2665	2023	573
Arrive On Green	0.25	0.25	0.08	0.61	0.46	0.46
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	84	279	93	197	954	85
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	2.8	12.8	3.9	1.1	8.8	2.3
Cycle Q Clear(g_c), s	2.8	12.8	3.9	1.1	8.8	2.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	351	314	110	2665	2023	573
V/C Ratio(X)	0.24	0.89	0.85	0.07	0.47	0.15
Avail Cap(c_a), veh/h	376	336	235	2665	2023	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	21.2	26.8	4.7	10.9	9.1
Incr Delay (d2), s/veh	0.3	23.2	16.0	0.1	0.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	9.9	2.0	0.5	3.7	0.9
LnGrp Delay(d),s/veh	17.8	44.4	42.8	4.7	11.6	9.7
LnGrp LOS	B	D	D	A	B	A
Approach Vol, veh/h	363			290	1039	
Approach Delay, s/veh	38.3			17.0	11.5	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		19.0	8.7	31.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	10.0	22.0		
Max Q Clear Time (g_c+I1), s		3.1		14.8	5.9	10.8		
Green Ext Time (p_c), s		9.2		0.2	0.1	5.6		

Intersection Summary	
HCM 2010 Ctrl Delay	18.2
HCM 2010 LOS	B

EXISTING PLUS GROWTH WITHOUT PROJECT CONDITIONS

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	617	0	0	781	18	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	2	617	0	0	781	18	2	0	2

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	781	0	0	617	0	0	1012	1402	309
Stage 1	-	-	-	-	-	-	621	621	-
Stage 2	-	-	-	-	-	-	391	781	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	782	-	-	906	-	-	183	129	664
Stage 1	-	-	-	-	-	-	423	458	-
Stage 2	-	-	-	-	-	-	584	385	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	782	-	-	906	-	-	180	129	664
Mov Cap-2 Maneuver	-	-	-	-	-	-	180	129	-
Stage 1	-	-	-	-	-	-	422	457	-
Stage 2	-	-	-	-	-	-	576	385	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	283	782	-	-	906	-	-	157	586
HCM Lane V/C Ratio	0.014	0.003	-	-	-	-	-	0.554	0.014
HCM Control Delay (s)	17.9	9.6	-	-	0	-	-	53.2	11.2
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	2.8	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	87	0	8
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	87	0	8

Major/Minor	Minor2		
Conflicting Flow All	1094	1402	391
Stage 1	781	781	-
Stage 2	313	621	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	158	129	586
Stage 1	337	385	-
Stage 2	650	458	-
Platoon blocked, %			
Mov Cap-1 Maneuver	157	129	586
Mov Cap-2 Maneuver	157	129	-
Stage 1	336	385	-
Stage 2	646	457	-

Approach	SB
HCM Control Delay, s	49.7
HCM LOS	E

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	6	688	792	31	28	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	6	688	792	31	28	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	792	0	-	0	1148	396
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	4.3	-	-	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.3	-	-	-	3.6	3.4
Pot Cap-1 Maneuver	774	-	-	-	180	581
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	657	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	774	-	-	-	179	581
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	652	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	25.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	774	-	-	-	179	581
HCM Lane V/C Ratio	0.008	-	-	-	0.156	0.01
HCM Control Delay (s)	9.7	-	-	-	28.8	11.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	689	1	0	814	3	0	0	0	1	0	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	26	689	1	0	814	3	0	0	0	1	0	8
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	2	0	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	34	1324	2	3	991	421	0	3	0	1005	0	448
Arrive On Green	0.02	0.46	0.46	0.00	0.34	0.34	0.00	0.00	0.00	0.36	0.00	0.36
Sat Flow, veh/h	1385	2904	4	1385	2909	1236	0	1455	0	2771	0	1236
Grp Volume(v), veh/h	26	345	345	0	814	3	0	0	0	1	0	8
Grp Sat Flow(s),veh/h/ln	1385	1455	1454	1385	1455	1236	0	1455	0	1385	0	1236
Q Serve(g_s), s	0.8	7.5	7.5	0.0	11.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.8	7.5	7.5	0.0	11.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	34	663	663	3	991	421	0	3	0	1005	0	448
V/C Ratio(X)	0.76	0.52	0.52	0.00	0.82	0.01	0.00	0.00	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h	126	663	663	126	1187	504	0	528	0	1005	0	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	8.6	8.6	0.0	13.3	9.6	0.0	0.0	0.0	9.0	0.0	9.0
Incr Delay (d2), s/veh	28.3	0.7	0.7	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.1	3.1	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
LnGrp Delay(d),s/veh	49.7	9.3	9.3	0.0	17.4	9.6	0.0	0.0	0.0	9.0	0.0	9.1
LnGrp LOS	D	A	A		B	A				A		A
Approach Vol, veh/h		716			817			0			9	
Approach Delay, s/veh		10.8			17.3			0.0			9.1	
Approach LOS		B			B						A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		0.0	0.0	24.1		20.0	5.1	19.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	18.0		16.0	4.0	18.0
Max Q Clear Time (g_c+I1), s		0.0	0.0	9.5		2.2	2.8	13.3
Green Ext Time (p_c), s		0.0	0.0	5.1		0.0	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	69	573	30	8	750	1277	46	76	8	251	32	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	69	573	30	8	750	0	46	76	8	251	32	33
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	81	1133	59	11	1056	0	100	166	17	471	275	233
Arrive On Green	0.06	0.41	0.41	0.01	0.36	0.00	0.20	0.20	0.20	0.19	0.19	0.19
Sat Flow, veh/h	1385	2741	143	1385	2909	0	500	827	87	2494	1455	1236
Grp Volume(v), veh/h	69	304	299	8	750	0	130	0	0	251	32	33
Grp Sat Flow(s),veh/h/ln	1385	1455	1429	1385	1455	0	1414	0	0	1247	1455	1236
Q Serve(g_s), s	4.2	13.1	13.2	0.5	18.7	0.0	6.9	0.0	0.0	7.7	1.5	1.9
Cycle Q Clear(g_c), s	4.2	13.1	13.2	0.5	18.7	0.0	6.9	0.0	0.0	7.7	1.5	1.9
Prop In Lane	1.00		0.10	1.00		0.00	0.35		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	81	602	591	11	1056	0	284	0	0	471	275	233
V/C Ratio(X)	0.85	0.50	0.51	0.71	0.71	0.00	0.46	0.00	0.00	0.53	0.12	0.14
Avail Cap(c_a), veh/h	114	1665	1636	65	3228	0	284	0	0	471	275	233
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	18.4	18.4	41.9	23.2	0.0	29.8	0.0	0.0	31.0	28.5	28.6
Incr Delay (d2), s/veh	32.0	0.7	0.7	59.0	0.9	0.0	5.3	0.0	0.0	4.3	0.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.3	5.3	0.4	7.6	0.0	3.1	0.0	0.0	2.9	0.7	0.7
LnGrp Delay(d),s/veh	71.5	19.1	19.1	100.9	24.1	0.0	35.1	0.0	0.0	35.3	29.4	29.9
LnGrp LOS	E	B	B	F	C		D			D	C	C
Approach Vol, veh/h		672			758			130			316	
Approach Delay, s/veh		24.5			24.9			35.1			34.1	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.0	4.7	39.0		20.0	9.0	34.8
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		17.0	4.0	97.0		16.0	7.0	94.0
Max Q Clear Time (g_c+I1), s		8.9	2.5	15.2		9.7	6.2	20.7
Green Ext Time (p_c), s		0.3	0.0	10.0		0.6	0.0	10.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.0
HCM 2010 LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	377	1855	0	826	169
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	377	1855	0	826	169
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	3058	2294	0	921	822
Arrive On Green	0.00	0.53	0.53	0.00	0.37	0.37
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	377	1855	0	826	169
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	2.5	26.7	0.0	23.8	3.9
Cycle Q Clear(g_c), s	0.0	2.5	26.7	0.0	23.8	3.9
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3058	2294	0	921	822
V/C Ratio(X)	0.00	0.12	0.81	0.00	0.90	0.21
Avail Cap(c_a), veh/h	0	3058	2294	0	1049	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	9.2	14.9	0.0	22.6	16.4
Incr Delay (d2), s/veh	0.0	0.1	3.2	0.0	9.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	11.3	0.0	9.4	1.2
LnGrp Delay(d),s/veh	0.0	9.2	18.1	0.0	32.1	16.5
LnGrp LOS		A	B		C	B
Approach Vol, veh/h		377	1855		995	
Approach Delay, s/veh		9.2	18.1		29.4	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				47.9		32.1		47.9
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				40.0		32.0		40.0
Max Q Clear Time (g_c+I1), s				4.5		25.8		28.7
Green Ext Time (p_c), s				20.8		2.3		9.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1115	0	0	1176	1013	697
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1115	0	0	1176	1013	697
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1818	0	0	1364	2197	726
Arrive On Green	0.31	0.00	0.00	0.31	0.59	0.59
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1115	0	0	1176	1013	697
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	13.0	0.0	0.0	20.3	12.3	42.6
Cycle Q Clear(g_c), s	13.0	0.0	0.0	20.3	12.3	42.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1818	0	0	1364	2197	726
V/C Ratio(X)	0.61	0.00	0.00	0.86	0.46	0.96
Avail Cap(c_a), veh/h	1818	0	0	1364	2197	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	25.9	9.3	15.6
Incr Delay (d2), s/veh	1.6	0.0	0.0	7.4	0.7	24.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	0.0	9.0	4.3	19.3
LnGrp Delay(d),s/veh	24.9	0.0	0.0	33.3	10.0	40.5
LnGrp LOS	C			C	B	D
Approach Vol, veh/h	1115			1176	1710	
Approach Delay, s/veh	24.9			33.3	22.4	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		51.0		29.0				29.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		47.0		25.0				25.0
Max Q Clear Time (g_c+I1), s		44.6		15.0				22.3
Green Ext Time (p_c), s		1.7		8.0				2.4

Intersection Summary	
HCM 2010 Ctrl Delay	26.3
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	35	46	323	1097	285	30
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	35	46	323	1097	285	30
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	77	69	372	3371	1824	517
Arrive On Green	0.06	0.06	0.27	0.77	0.42	0.42
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	35	46	323	1097	285	30
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	1.1	1.7	10.4	3.6	1.9	0.7
Cycle Q Clear(g_c), s	1.1	1.7	10.4	3.6	1.9	0.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	77	69	372	3371	1824	517
V/C Ratio(X)	0.45	0.67	0.87	0.33	0.16	0.06
Avail Cap(c_a), veh/h	476	425	476	3371	1824	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	21.6	16.3	1.6	8.4	8.1
Incr Delay (d2), s/veh	4.1	10.6	13.0	0.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.4	5.3	1.4	0.8	0.3
LnGrp Delay(d),s/veh	25.4	32.1	29.2	1.9	8.6	8.3
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	81			1420	315	
Approach Delay, s/veh	29.2			8.1	8.6	
Approach LOS	C			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		6.6	16.5	23.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	16.0	16.0		
Max Q Clear Time (g_c+I1), s		5.6		3.7	12.4	3.9		
Green Ext Time (p_c), s		11.0		0.1	0.4	6.8		

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	15	959	0	0	823	61	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	15	959	0	0	823	61	1	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	823	0	0	959	0	0	1401	1812	480
Stage 1	-	-	-	-	-	-	989	989	-
Stage 2	-	-	-	-	-	-	412	823	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	753	-	-	666	-	-	93	71	511
Stage 1	-	-	-	-	-	-	250	306	-
Stage 2	-	-	-	-	-	-	567	368	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	753	-	-	666	-	-	91	70	511
Mov Cap-2 Maneuver	-	-	-	-	-	-	91	70	-
Stage 1	-	-	-	-	-	-	245	300	-
Stage 2	-	-	-	-	-	-	564	368	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	45
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	91	753	-	-	666	-	-	103	567
HCM Lane V/C Ratio	0.011	0.02	-	-	-	-	-	0.485	0.005
HCM Control Delay (s)	45	9.9	-	-	0	-	-	69.2	11.4
HCM Lane LOS	E	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	2.1	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	50	0	3
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	50	0	3

Major/Minor	Minor2		
Conflicting Flow All	1333	1812	412
Stage 1	823	823	-
Stage 2	510	989	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	105	71	567
Stage 1	317	368	-
Stage 2	494	306	-
Platoon blocked, %			
Mov Cap-1 Maneuver	103	70	567
Mov Cap-2 Maneuver	103	70	-
Stage 1	311	368	-
Stage 2	484	300	-

Approach	SB
HCM Control Delay, s	65.9
HCM LOS	F

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	1008	882	5	38	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	1	1008	882	5	38	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	882	0	-	0	1388	441
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	506	-
Critical Hdwy	4.3	-	-	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.3	-	-	-	3.6	3.4
Pot Cap-1 Maneuver	714	-	-	-	124	543
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	548	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	714	-	-	-	124	543
Mov Cap-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	547	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	45.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	714	-	-	-	124	543
HCM Lane V/C Ratio	0.001	-	-	-	0.306	0.002
HCM Control Delay (s)	10	-	-	-	46.4	11.6
HCM Lane LOS	B	-	-	-	E	B
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	1036	0	0	843	1	9	0	0	6	0	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	9	1036	0	0	843	1	9	0	0	6	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	2	0	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	13	1167	0	2	982	417	302	0	0	603	0	269
Arrive On Green	0.01	0.40	0.00	0.00	0.34	0.34	0.22	0.00	0.00	0.22	0.00	0.22
Sat Flow, veh/h	1385	2909	0	1385	2909	1236	1385	0	0	2771	0	1236
Grp Volume(v), veh/h	9	1036	0	0	843	1	9	0	0	6	0	34
Grp Sat Flow(s),veh/h/ln	1385	1455	0	1385	1455	1236	1385	0	0	1385	0	1236
Q Serve(g_s), s	0.5	24.3	0.0	0.0	19.9	0.0	0.4	0.0	0.0	0.1	0.0	1.6
Cycle Q Clear(g_c), s	0.5	24.3	0.0	0.0	19.9	0.0	0.4	0.0	0.0	0.1	0.0	1.6
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	13	1167	0	2	982	417	302	0	0	603	0	269
V/C Ratio(X)	0.71	0.89	0.00	0.00	0.86	0.00	0.03	0.00	0.00	0.01	0.00	0.13
Avail Cap(c_a), veh/h	75	1167	0	75	1109	471	302	0	0	603	0	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	20.5	0.0	0.0	22.7	16.1	22.6	0.0	0.0	22.5	0.0	23.1
Incr Delay (d2), s/veh	53.6	8.6	0.0	0.0	6.3	0.0	0.2	0.0	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.0	0.0	0.0	8.8	0.0	0.2	0.0	0.0	0.1	0.0	0.6
LnGrp Delay(d),s/veh	89.9	29.1	0.0	0.0	29.0	16.1	22.8	0.0	0.0	22.6	0.0	24.1
LnGrp LOS	F	C			C	B	C			C		C
Approach Vol, veh/h		1045			844			9			40	
Approach Delay, s/veh		29.6			29.0			22.8			23.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.0	0.0	33.5		20.0	4.7	28.8
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	28.0		16.0	4.0	28.0
Max Q Clear Time (g_c+I1), s		2.4	0.0	26.3		3.6	2.5	21.9
Green Ext Time (p_c), s		0.0	0.0	1.4		0.1	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	29.2
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	933	37	14	718	233	68	36	23	1040	206	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	33	933	37	14	718	0	68	36	23	1040	206	58
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	38	893	35	17	892	0	98	52	33	1016	593	504
Arrive On Green	0.03	0.32	0.32	0.01	0.31	0.00	0.13	0.13	0.13	0.41	0.41	0.41
Sat Flow, veh/h	1385	2779	110	1385	2909	0	736	389	249	2494	1455	1236
Grp Volume(v), veh/h	33	488	482	14	718	0	127	0	0	1040	206	58
Grp Sat Flow(s),veh/h/ln	1385	1455	1435	1385	1455	0	1374	0	0	1247	1455	1236
Q Serve(g_s), s	3.0	41.0	41.0	1.3	29.0	0.0	11.3	0.0	0.0	52.0	12.5	3.7
Cycle Q Clear(g_c), s	3.0	41.0	41.0	1.3	29.0	0.0	11.3	0.0	0.0	52.0	12.5	3.7
Prop In Lane	1.00		0.08	1.00		0.00	0.54		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	38	468	461	17	892	0	183	0	0	1016	593	504
V/C Ratio(X)	0.88	1.04	1.04	0.82	0.81	0.00	0.69	0.00	0.00	1.02	0.35	0.12
Avail Cap(c_a), veh/h	43	468	461	43	935	0	183	0	0	1016	593	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.8	43.3	43.3	62.9	40.7	0.0	52.8	0.0	0.0	37.8	26.1	23.5
Incr Delay (d2), s/veh	84.1	53.7	54.0	60.7	5.0	0.0	19.5	0.0	0.0	34.2	1.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	23.3	23.1	0.8	12.3	0.0	5.3	0.0	0.0	22.6	5.2	1.3
LnGrp Delay(d),s/veh	146.0	97.0	97.3	123.6	45.8	0.0	72.3	0.0	0.0	72.0	27.7	23.9
LnGrp LOS	F	F	F	F	D		E			F	C	C
Approach Vol, veh/h		1003			732			127			1304	
Approach Delay, s/veh		98.7			47.2			72.3			62.9	
Approach LOS		F			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.0	5.6	45.0		56.0	7.5	43.1
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		17.0	4.0	41.0		52.0	4.0	41.0
Max Q Clear Time (g_c+I1), s		13.3	3.3	43.0		54.0	5.0	31.0
Green Ext Time (p_c), s		0.2	0.0	0.0		0.0	0.0	6.3

Intersection Summary	
HCM 2010 Ctrl Delay	71.0
HCM 2010 LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1051	794	0	723	153
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	1051	794	0	723	153
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	2921	2191	0	896	800
Arrive On Green	0.00	0.50	0.50	0.00	0.36	0.36
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	1051	794	0	723	153
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	6.3	6.4	0.0	15.1	2.7
Cycle Q Clear(g_c), s	0.0	6.3	6.4	0.0	15.1	2.7
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2921	2191	0	896	800
V/C Ratio(X)	0.00	0.36	0.36	0.00	0.81	0.19
Avail Cap(c_a), veh/h	0	2921	2191	0	1856	1657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.7	8.8	0.0	16.7	12.7
Incr Delay (d2), s/veh	0.0	0.3	0.5	0.0	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	2.6	0.0	5.3	0.8
LnGrp Delay(d),s/veh	0.0	9.1	9.2	0.0	18.5	12.8
LnGrp LOS		A	A		B	B
Approach Vol, veh/h		1051	794		876	
Approach Delay, s/veh		9.1	9.2		17.5	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				55.2		24.8		55.2
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				29.0		43.0		29.0
Max Q Clear Time (g_c+I1), s				8.3		17.1		8.4
Green Ext Time (p_c), s				11.7		3.7		11.7

Intersection Summary	
HCM 2010 Ctrl Delay	11.8
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1574	0	0	971	467	628
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1574	0	0	971	467	628
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1818	0	0	1364	2197	726
Arrive On Green	0.31	0.00	0.00	0.31	0.59	0.59
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1574	0	0	971	467	628
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	20.4	0.0	0.0	15.7	4.7	34.1
Cycle Q Clear(g_c), s	20.4	0.0	0.0	15.7	4.7	34.1
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1818	0	0	1364	2197	726
V/C Ratio(X)	0.87	0.00	0.00	0.71	0.21	0.86
Avail Cap(c_a), veh/h	1818	0	0	1364	2197	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	24.3	7.8	13.8
Incr Delay (d2), s/veh	5.8	0.0	0.0	3.2	0.2	13.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	0.0	6.7	1.6	14.1
LnGrp Delay(d),s/veh	31.7	0.0	0.0	27.5	8.0	26.9
LnGrp LOS	C			C	A	C
Approach Vol, veh/h	1574			971	1095	
Approach Delay, s/veh	31.7			27.5	18.8	
Approach LOS	C			C	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		51.0		29.0				29.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		47.0		25.0				25.0
Max Q Clear Time (g_c+I1), s		36.1		22.4				17.7
Green Ext Time (p_c), s		3.6		2.4				6.4

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	89	294	98	208	1006	90
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	89	294	98	208	1006	90
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	365	326	116	2629	1971	558
Arrive On Green	0.26	0.26	0.08	0.60	0.45	0.45
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	89	294	98	208	1006	90
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	3.0	13.7	4.2	1.2	9.8	2.6
Cycle Q Clear(g_c), s	3.0	13.7	4.2	1.2	9.8	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	365	326	116	2629	1971	558
V/C Ratio(X)	0.24	0.90	0.84	0.08	0.51	0.16
Avail Cap(c_a), veh/h	371	331	255	2629	1971	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	21.3	27.0	5.0	11.7	9.7
Incr Delay (d2), s/veh	0.3	26.3	14.8	0.1	0.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.8	2.1	0.5	4.1	1.0
LnGrp Delay(d),s/veh	17.7	47.6	41.8	5.0	12.6	10.3
LnGrp LOS	B	D	D	A	B	B
Approach Vol, veh/h	383			306	1096	
Approach Delay, s/veh	40.6			16.8	12.4	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		19.7	9.0	31.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	11.0	21.0		
Max Q Clear Time (g_c+I1), s		3.2		15.7	6.2	11.8		
Green Ext Time (p_c), s		9.9		0.0	0.1	5.1		

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

EXISTING PLUS GROWTH PLUS OTHER DEVELOPMENT WITHOUT PROJECT CONDITIONS

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	696	0	0	797	18	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	2	696	0	0	797	18	2	0	2

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	797	0	0	696	0	0	1099	1497	348
Stage 1	-	-	-	-	-	-	700	700	-
Stage 2	-	-	-	-	-	-	399	797	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	771	-	-	844	-	-	157	113	625
Stage 1	-	-	-	-	-	-	378	421	-
Stage 2	-	-	-	-	-	-	577	378	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	771	-	-	844	-	-	155	113	625
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	113	-
Stage 1	-	-	-	-	-	-	377	420	-
Stage 2	-	-	-	-	-	-	569	378	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	248	771	-	-	844	-	-	143	579
HCM Lane V/C Ratio	0.016	0.003	-	-	-	-	-	0.608	0.014
HCM Control Delay (s)	19.8	9.7	-	-	0	-	-	63.1	11.3
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	3.2	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	87	0	8
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	87	0	8

Major/Minor	Minor2		
Conflicting Flow All	1149	1497	399
Stage 1	797	797	-
Stage 2	352	700	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	144	113	579
Stage 1	329	378	-
Stage 2	616	421	-
Platoon blocked, %			
Mov Cap-1 Maneuver	143	113	579
Mov Cap-2 Maneuver	143	113	-
Stage 1	328	378	-
Stage 2	612	420	-

Approach	SB
HCM Control Delay, s	58.7
HCM LOS	F

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	6	767	808	31	28	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	6	767	808	31	28	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	808	0	-	0	1204	404
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	4.3	-	-	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.3	-	-	-	3.6	3.4
Pot Cap-1 Maneuver	763	-	-	-	165	574
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	763	-	-	-	164	574
Mov Cap-2 Maneuver	-	-	-	-	164	-
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	621	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	763	-	-	-	164	574
HCM Lane V/C Ratio	0.008	-	-	-	0.171	0.01
HCM Control Delay (s)	9.8	-	-	-	31.4	11.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	768	1	1	830	3	0	7	7	1	1	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	26	768	1	1	830	3	0	7	7	1	1	8
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	1	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	31	963	1	2	902	383	0	149	149	308	324	275
Arrive On Green	0.02	0.33	0.33	0.00	0.31	0.31	0.00	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1385	2905	4	1385	2909	1236	0	668	668	1385	1455	1236
Grp Volume(v), veh/h	26	385	384	1	830	3	0	0	14	1	1	8
Grp Sat Flow(s),veh/h/ln	1385	1455	1454	1385	1455	1236	0	0	1337	1385	1455	1236
Q Serve(g_s), s	1.3	17.3	17.3	0.1	19.8	0.1	0.0	0.0	0.6	0.0	0.0	0.4
Cycle Q Clear(g_c), s	1.3	17.3	17.3	0.1	19.8	0.1	0.0	0.0	0.6	0.0	0.0	0.4
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	31	482	482	2	902	383	0	0	297	308	324	275
V/C Ratio(X)	0.83	0.80	0.80	0.52	0.92	0.01	0.00	0.00	0.05	0.00	0.00	0.03
Avail Cap(c_a), veh/h	77	482	482	77	930	395	0	0	297	308	324	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	21.8	21.8	35.9	24.0	17.2	0.0	0.0	22.0	21.8	21.8	21.9
Incr Delay (d2), s/veh	40.4	9.1	9.1	134.4	13.8	0.0	0.0	0.0	0.3	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	8.2	8.2	0.1	9.7	0.0	0.0	0.0	0.2	0.0	0.0	0.1
LnGrp Delay(d),s/veh	75.4	31.0	31.0	170.3	37.8	17.2	0.0	0.0	22.3	21.8	21.8	22.1
LnGrp LOS	E	C	C	F	D	B			C	C	C	C
Approach Vol, veh/h		795			834			14			10	
Approach Delay, s/veh		32.4			37.9			22.3			22.0	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.0	4.1	27.8		20.0	5.6	26.3
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	23.0		16.0	4.0	23.0
Max Q Clear Time (g_c+I1), s		2.6	2.1	19.3		2.4	3.3	21.8
Green Ext Time (p_c), s		0.0	0.0	2.7		0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	35.0
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	578	30	8	753	1492	46	166	8	290	53	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	150	578	30	8	753	0	46	166	8	290	53	48
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	172	1272	66	11	1011	0	63	226	11	397	232	197
Arrive On Green	0.12	0.46	0.46	0.01	0.35	0.00	0.21	0.21	0.21	0.16	0.16	0.16
Sat Flow, veh/h	1385	2742	142	1385	2909	0	299	1079	52	2494	1455	1236
Grp Volume(v), veh/h	150	306	302	8	753	0	220	0	0	290	53	48
Grp Sat Flow(s),veh/h/ln	1385	1455	1429	1385	1455	0	1430	0	0	1247	1455	1236
Q Serve(g_s), s	10.7	14.3	14.4	0.6	22.9	0.0	14.4	0.0	0.0	11.1	3.2	3.4
Cycle Q Clear(g_c), s	10.7	14.3	14.4	0.6	22.9	0.0	14.4	0.0	0.0	11.1	3.2	3.4
Prop In Lane	1.00		0.10	1.00		0.00	0.21		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	172	675	663	11	1011	0	299	0	0	397	232	197
V/C Ratio(X)	0.87	0.45	0.45	0.72	0.74	0.00	0.74	0.00	0.00	0.73	0.23	0.24
Avail Cap(c_a), veh/h	179	1348	1324	55	2434	0	299	0	0	397	232	197
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	18.3	18.3	49.7	28.8	0.0	37.1	0.0	0.0	40.1	36.8	36.9
Incr Delay (d2), s/veh	33.2	0.5	0.5	61.9	1.1	0.0	14.8	0.0	0.0	11.2	2.3	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	5.8	5.7	0.4	9.4	0.0	6.9	0.0	0.0	4.4	1.4	1.3
LnGrp Delay(d),s/veh	76.3	18.7	18.8	111.6	29.9	0.0	51.9	0.0	0.0	51.3	39.1	39.8
LnGrp LOS	E	B	B	F	C		D			D	D	D
Approach Vol, veh/h		758			761			220			391	
Approach Delay, s/veh		30.1			30.8			51.9			48.3	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		25.0	4.8	50.6		20.0	16.5	38.9
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		21.0	4.0	93.0		16.0	13.0	84.0
Max Q Clear Time (g_c+I1), s		16.4	2.6	16.4		13.1	12.7	24.9
Green Ext Time (p_c), s		0.4	0.0	10.1		0.4	0.0	10.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.0
HCM 2010 LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	402	2081	0	836	169
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	402	2081	0	836	169
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	3114	2335	0	905	808
Arrive On Green	0.00	0.54	0.54	0.00	0.36	0.36
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	402	2081	0	836	169
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	2.7	33.3	0.0	25.2	4.1
Cycle Q Clear(g_c), s	0.0	2.7	33.3	0.0	25.2	4.1
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3114	2335	0	905	808
V/C Ratio(X)	0.00	0.13	0.89	0.00	0.92	0.21
Avail Cap(c_a), veh/h	0	3114	2335	0	953	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	9.1	16.2	0.0	24.0	17.2
Incr Delay (d2), s/veh	0.0	0.1	5.7	0.0	13.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	14.3	0.0	10.3	1.3
LnGrp Delay(d),s/veh	0.0	9.2	21.9	0.0	37.8	17.4
LnGrp LOS		A	C		D	B
Approach Vol, veh/h		402	2081		1005	
Approach Delay, s/veh		9.2	21.9		34.4	
Approach LOS		A	C		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				47.5		32.5		47.5
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				42.0		30.0		42.0
Max Q Clear Time (g_c+I1), s				4.7		27.2		35.3
Green Ext Time (p_c), s				24.6		1.3		6.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1142	0	0	1270	1145	697
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1142	0	0	1270	1145	697
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1891	0	0	1418	2151	711
Arrive On Green	0.32	0.00	0.00	0.32	0.57	0.57
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1142	0	0	1270	1145	697
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	13.2	0.0	0.0	22.2	15.0	43.9
Cycle Q Clear(g_c), s	13.2	0.0	0.0	22.2	15.0	43.9
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1891	0	0	1418	2151	711
V/C Ratio(X)	0.60	0.00	0.00	0.90	0.53	0.98
Avail Cap(c_a), veh/h	1891	0	0	1418	2151	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	25.7	10.4	16.6
Incr Delay (d2), s/veh	1.4	0.0	0.0	9.1	0.9	29.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	0.0	10.0	5.3	20.5
LnGrp Delay(d),s/veh	24.1	0.0	0.0	34.8	11.4	45.9
LnGrp LOS	C			C	B	D
Approach Vol, veh/h	1142			1270	1842	
Approach Delay, s/veh	24.1			34.8	24.4	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		50.0		30.0				30.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		46.0		26.0				26.0
Max Q Clear Time (g_c+I1), s		45.9		15.2				24.2
Green Ext Time (p_c), s		0.1		8.9				1.7

Intersection Summary	
HCM 2010 Ctrl Delay	27.4
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	42	47	324	1482	359	31
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	42	47	324	1482	359	31
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	81	72	373	3361	1813	514
Arrive On Green	0.06	0.06	0.27	0.77	0.42	0.42
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	42	47	324	1482	359	31
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	1.4	1.7	10.4	5.5	2.4	0.7
Cycle Q Clear(g_c), s	1.4	1.7	10.4	5.5	2.4	0.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	81	72	373	3361	1813	514
V/C Ratio(X)	0.52	0.65	0.87	0.44	0.20	0.06
Avail Cap(c_a), veh/h	474	423	474	3361	1813	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	21.5	16.3	1.9	8.7	8.2
Incr Delay (d2), s/veh	5.0	9.3	13.1	0.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.4	5.3	2.2	1.0	0.3
LnGrp Delay(d),s/veh	26.4	30.9	29.4	2.3	8.9	8.4
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	89			1806	390	
Approach Delay, s/veh	28.7			7.2	8.9	
Approach LOS	C			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		6.7	16.6	23.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	16.0	16.0		
Max Q Clear Time (g_c+I1), s		7.5		3.7	12.4	4.4		
Green Ext Time (p_c), s		15.4		0.2	0.3	8.3		

Intersection Summary	
HCM 2010 Ctrl Delay	8.3
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	15	991	0	0	910	61	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	15	991	0	0	910	61	1	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	910	0	0	991	0	0	1476	1931	496
Stage 1	-	-	-	-	-	-	1021	1021	-
Stage 2	-	-	-	-	-	-	455	910	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	696	-	-	647	-	-	81	60	499
Stage 1	-	-	-	-	-	-	239	295	-
Stage 2	-	-	-	-	-	-	534	334	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	696	-	-	647	-	-	79	59	499
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	59	-
Stage 1	-	-	-	-	-	-	234	289	-
Stage 2	-	-	-	-	-	-	531	334	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	51.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	79	696	-	-	647	-	-	86	531
HCM Lane V/C Ratio	0.013	0.022	-	-	-	-	-	0.581	0.006
HCM Control Delay (s)	51.2	10.3	-	-	0	-	-	93.5	11.8
HCM Lane LOS	F	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	2.6	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	50	0	3
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	50	0	3

Major/Minor	Minor2		
Conflicting Flow All	1436	1931	455
Stage 1	910	910	-
Stage 2	526	1021	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	87	60	531
Stage 1	280	334	-
Stage 2	483	295	-
Platoon blocked, %			
Mov Cap-1 Maneuver	86	59	531
Mov Cap-2 Maneuver	86	59	-
Stage 1	274	334	-
Stage 2	473	289	-

Approach	SB
HCM Control Delay, s	88.9
HCM LOS	F

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	1040	969	5	38	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	1	1040	969	5	38	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	969	0	-	0	1491	485
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	522	-
Critical Hdwy	4.3	-	-	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.3	-	-	-	3.6	3.4
Pot Cap-1 Maneuver	660	-	-	-	106	507
Stage 1	-	-	-	-	311	-
Stage 2	-	-	-	-	538	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	660	-	-	-	106	507
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	311	-
Stage 2	-	-	-	-	537	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	55.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	660	-	-	-	106	507
HCM Lane V/C Ratio	0.002	-	-	-	0.358	0.002
HCM Control Delay (s)	10.5	-	-	-	56.8	12.1
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	-	1.4	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	1068	0	6	930	1	9	2	2	6	6	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	9	1068	0	6	930	1	9	2	2	6	6	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	1	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	13	1065	0	9	1057	449	198	44	44	290	304	259
Arrive On Green	0.01	0.37	0.00	0.01	0.36	0.36	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1385	2909	0	1385	2909	1236	948	211	211	1385	1455	1236
Grp Volume(v), veh/h	9	1068	0	6	930	1	13	0	0	6	6	34
Grp Sat Flow(s),veh/h/ln	1385	1455	0	1385	1455	1236	1370	0	0	1385	1455	1236
Q Serve(g_s), s	0.5	28.0	0.0	0.3	22.9	0.0	0.6	0.0	0.0	0.3	0.3	1.7
Cycle Q Clear(g_c), s	0.5	28.0	0.0	0.3	22.9	0.0	0.6	0.0	0.0	0.3	0.3	1.7
Prop In Lane	1.00		0.00	1.00		1.00	0.69		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	13	1065	0	9	1057	449	287	0	0	290	304	259
V/C Ratio(X)	0.71	1.00	0.00	0.69	0.88	0.00	0.05	0.00	0.00	0.02	0.02	0.13
Avail Cap(c_a), veh/h	72	1065	0	72	1065	453	287	0	0	290	304	259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	24.2	0.0	37.9	22.8	15.5	24.1	0.0	0.0	24.0	24.0	24.6
Incr Delay (d2), s/veh	54.1	28.2	0.0	67.7	8.6	0.0	0.3	0.0	0.0	0.1	0.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	15.3	0.0	0.3	10.4	0.0	0.2	0.0	0.0	0.1	0.1	0.7
LnGrp Delay(d),s/veh	91.9	52.5	0.0	105.6	31.4	15.5	24.4	0.0	0.0	24.1	24.1	25.6
LnGrp LOS	F	F		F	C	B	C			C	C	C
Approach Vol, veh/h		1077			937			13			46	
Approach Delay, s/veh		52.8			31.9			24.4			25.2	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.0	4.5	32.0		20.0	4.7	31.8
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	28.0		16.0	4.0	28.0
Max Q Clear Time (g_c+I1), s		2.6	2.3	30.0		3.7	2.5	24.9
Green Ext Time (p_c), s		0.0	0.0	0.0		0.1	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	42.6
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	948	37	14	735	284	68	71	23	1243	302	134
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	52	948	37	14	735	0	68	71	23	1243	302	134
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	38	847	33	16	842	0	75	78	25	1114	650	552
Arrive On Green	0.03	0.30	0.30	0.01	0.29	0.00	0.13	0.13	0.13	0.45	0.45	0.45
Sat Flow, veh/h	1385	2781	109	1385	2909	0	584	609	197	2494	1455	1236
Grp Volume(v), veh/h	52	496	489	14	735	0	162	0	0	1243	302	134
Grp Sat Flow(s),veh/h/ln	1385	1455	1435	1385	1455	0	1391	0	0	1247	1455	1236
Q Serve(g_s), s	4.0	45.0	45.0	1.5	35.5	0.0	17.0	0.0	0.0	66.0	21.4	9.9
Cycle Q Clear(g_c), s	4.0	45.0	45.0	1.5	35.5	0.0	17.0	0.0	0.0	66.0	21.4	9.9
Prop In Lane	1.00		0.08	1.00		0.00	0.42		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	38	443	437	16	842	0	179	0	0	1114	650	552
V/C Ratio(X)	1.39	1.12	1.12	0.85	0.87	0.00	0.91	0.00	0.00	1.12	0.46	0.24
Avail Cap(c_a), veh/h	38	443	437	38	886	0	179	0	0	1114	650	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.9	51.4	51.4	72.9	49.9	0.0	63.5	0.0	0.0	40.9	28.5	25.4
Incr Delay (d2), s/veh	280.6	79.4	79.6	68.2	9.3	0.0	46.3	0.0	0.0	64.7	2.4	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	27.7	27.4	0.9	15.4	0.0	8.8	0.0	0.0	32.6	9.0	3.5
LnGrp Delay(d),s/veh	352.5	130.7	131.0	141.0	59.2	0.0	109.8	0.0	0.0	105.6	30.9	26.4
LnGrp LOS	F	F	F	F	E		F			F	C	C
Approach Vol, veh/h		1037			749			162			1679	
Approach Delay, s/veh		142.0			60.7			109.8			85.8	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.0	5.7	49.0		70.0	8.0	46.7
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		19.0	4.0	45.0		66.0	4.0	45.0
Max Q Clear Time (g_c+I1), s		19.0	3.5	47.0		68.0	6.0	37.5
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	97.8
HCM 2010 LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1176	878	0	774	153
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	1176	878	0	774	153
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	2834	2126	0	944	842
Arrive On Green	0.00	0.49	0.49	0.00	0.38	0.38
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	1176	878	0	774	153
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	7.7	7.7	0.0	16.7	2.7
Cycle Q Clear(g_c), s	0.0	7.7	7.7	0.0	16.7	2.7
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2834	2126	0	944	842
V/C Ratio(X)	0.00	0.41	0.41	0.00	0.82	0.18
Avail Cap(c_a), veh/h	0	2834	2126	0	1801	1607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	9.8	9.8	0.0	16.7	12.3
Incr Delay (d2), s/veh	0.0	0.4	0.6	0.0	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.2	3.2	0.0	5.9	0.8
LnGrp Delay(d),s/veh	0.0	10.3	10.4	0.0	18.5	12.4
LnGrp LOS		B	B		B	B
Approach Vol, veh/h		1176	878		927	
Approach Delay, s/veh		10.3	10.4		17.5	
Approach LOS		B	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				53.5		26.5		53.5
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				29.0		43.0		29.0
Max Q Clear Time (g_c+I1), s				9.7		18.7		9.7
Green Ext Time (p_c), s				12.4		3.9		12.5

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1714	0	0	993	529	628
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1714	0	0	993	529	628
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1964	0	0	1473	2104	695
Arrive On Green	0.34	0.00	0.00	0.34	0.56	0.56
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1714	0	0	993	529	628
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	22.1	0.0	0.0	15.6	5.8	36.1
Cycle Q Clear(g_c), s	22.1	0.0	0.0	15.6	5.8	36.1
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1964	0	0	1473	2104	695
V/C Ratio(X)	0.87	0.00	0.00	0.67	0.25	0.90
Avail Cap(c_a), veh/h	1964	0	0	1473	2104	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	22.7	8.9	15.6
Incr Delay (d2), s/veh	5.7	0.0	0.0	2.5	0.3	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	0.0	0.0	6.6	2.0	15.5
LnGrp Delay(d),s/veh	30.6	0.0	0.0	25.2	9.2	32.8
LnGrp LOS	C			C	A	C
Approach Vol, veh/h	1714			993	1157	
Approach Delay, s/veh	30.6			25.2	22.0	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		49.0		31.0				31.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		45.0		27.0				27.0
Max Q Clear Time (g_c+I1), s		38.1		24.1				17.6
Green Ext Time (p_c), s		2.9		2.7				8.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	91	296	100	311	1379	96
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	91	296	100	311	1379	96
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	367	327	118	2625	1961	556
Arrive On Green	0.26	0.26	0.09	0.60	0.45	0.45
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	91	296	100	311	1379	96
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	3.1	13.8	4.3	1.8	15.2	2.8
Cycle Q Clear(g_c), s	3.1	13.8	4.3	1.8	15.2	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	367	327	118	2625	1961	556
V/C Ratio(X)	0.25	0.90	0.85	0.12	0.70	0.17
Avail Cap(c_a), veh/h	370	331	185	2625	1961	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	21.3	27.0	5.1	13.3	9.8
Incr Delay (d2), s/veh	0.3	26.7	18.6	0.1	2.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.9	2.2	0.7	6.4	1.0
LnGrp Delay(d),s/veh	17.7	48.0	45.6	5.2	15.4	10.5
LnGrp LOS	B	D	D	A	B	B
Approach Vol, veh/h	387			411	1475	
Approach Delay, s/veh	40.9			15.0	15.1	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		19.8	9.1	30.9		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	8.0	24.0		
Max Q Clear Time (g_c+I1), s		3.8		15.8	6.3	17.2		
Green Ext Time (p_c), s		15.1		0.0	0.0	5.1		

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

EXISTING PLUS GROWTH WITH PROJECT CONDITIONS

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	620	0	0	784	19	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	2	620	0	0	784	19	2	0	2

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	784	0	0	620	0	0	1016	1408	310
Stage 1	-	-	-	-	-	-	624	624	-
Stage 2	-	-	-	-	-	-	392	784	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	780	-	-	904	-	-	181	128	663
Stage 1	-	-	-	-	-	-	421	457	-
Stage 2	-	-	-	-	-	-	583	384	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	780	-	-	904	-	-	178	128	663
Mov Cap-2 Maneuver	-	-	-	-	-	-	178	128	-
Stage 1	-	-	-	-	-	-	420	456	-
Stage 2	-	-	-	-	-	-	575	384	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	281	780	-	-	904	-	-	156	585
HCM Lane V/C Ratio	0.014	0.003	-	-	-	-	-	0.564	0.014
HCM Control Delay (s)	18	9.6	-	-	0	-	-	54.4	11.2
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	2.9	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	88	0	8
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	88	0	8

Major/Minor	Minor2		
Conflicting Flow All	1098	1408	392
Stage 1	784	784	-
Stage 2	314	624	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	157	128	585
Stage 1	335	384	-
Stage 2	650	457	-
Platoon blocked, %			
Mov Cap-1 Maneuver	156	128	585
Mov Cap-2 Maneuver	156	128	-
Stage 1	334	384	-
Stage 2	646	456	-

Approach	SB
HCM Control Delay, s	50.8
HCM LOS	F

Minor Lane/Major Mvmt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	36	662	1	0	785	103	0	0	0	99	0	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	36	662	1	0	785	103	0	0	0	99	0	18
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	2	0	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	45	1330	2	3	975	414	0	3	0	1001	0	447
Arrive On Green	0.03	0.46	0.46	0.00	0.34	0.34	0.00	0.00	0.00	0.36	0.00	0.36
Sat Flow, veh/h	1385	2904	4	1385	2909	1236	0	1455	0	2771	0	1236
Grp Volume(v), veh/h	36	332	331	0	785	103	0	0	0	99	0	18
Grp Sat Flow(s),veh/h/ln	1385	1455	1454	1385	1455	1236	0	1455	0	1385	0	1236
Q Serve(g_s), s	1.1	7.1	7.1	0.0	10.9	2.7	0.0	0.0	0.0	1.0	0.0	0.4
Cycle Q Clear(g_c), s	1.1	7.1	7.1	0.0	10.9	2.7	0.0	0.0	0.0	1.0	0.0	0.4
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	45	666	666	3	975	414	0	3	0	1001	0	447
V/C Ratio(X)	0.80	0.50	0.50	0.00	0.81	0.25	0.00	0.00	0.00	0.10	0.00	0.04
Avail Cap(c_a), veh/h	125	666	666	125	1183	503	0	526	0	1001	0	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	8.4	8.4	0.0	13.4	10.7	0.0	0.0	0.0	9.4	0.0	9.2
Incr Delay (d2), s/veh	27.2	0.6	0.6	0.0	3.5	0.3	0.0	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.9	2.9	0.0	4.8	1.0	0.0	0.0	0.0	0.4	0.0	0.2
LnGrp Delay(d),s/veh	48.5	9.0	9.0	0.0	16.9	11.0	0.0	0.0	0.0	9.6	0.0	9.3
LnGrp LOS	D	A	A		B	B				A		A
Approach Vol, veh/h		699			888			0			117	
Approach Delay, s/veh		11.0			16.2			0.0			9.5	
Approach LOS		B			B						A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		0.0	0.0	24.3		20.0	5.4	18.8
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	18.0		16.0	4.0	18.0
Max Q Clear Time (g_c+I1), s		0.0	0.0	9.1		3.0	3.1	12.9
Green Ext Time (p_c), s		0.0	0.0	5.3		0.3	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	69	644	30	8	821	1277	46	76	8	251	32	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	69	644	30	8	821	0	46	76	8	251	32	33
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	82	1218	57	11	1137	0	99	164	17	439	256	218
Arrive On Green	0.06	0.44	0.44	0.01	0.39	0.00	0.20	0.20	0.20	0.18	0.18	0.18
Sat Flow, veh/h	1385	2758	128	1385	2909	0	500	827	87	2494	1455	1236
Grp Volume(v), veh/h	69	339	335	8	821	0	130	0	0	251	32	33
Grp Sat Flow(s),veh/h/ln	1385	1455	1432	1385	1455	0	1414	0	0	1247	1455	1236
Q Serve(g_s), s	4.5	15.4	15.5	0.5	21.8	0.0	7.4	0.0	0.0	8.4	1.7	2.1
Cycle Q Clear(g_c), s	4.5	15.4	15.5	0.5	21.8	0.0	7.4	0.0	0.0	8.4	1.7	2.1
Prop In Lane	1.00		0.09	1.00		0.00	0.35		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	82	642	632	11	1137	0	280	0	0	439	256	218
V/C Ratio(X)	0.85	0.53	0.53	0.72	0.72	0.00	0.46	0.00	0.00	0.57	0.12	0.15
Avail Cap(c_a), veh/h	91	1537	1513	61	3010	0	280	0	0	439	256	218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	18.5	18.5	45.0	23.5	0.0	32.2	0.0	0.0	34.3	31.5	31.7
Incr Delay (d2), s/veh	45.2	0.7	0.7	60.1	0.9	0.0	5.4	0.0	0.0	5.3	1.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	6.2	6.2	0.4	8.8	0.0	3.3	0.0	0.0	3.2	0.7	0.8
LnGrp Delay(d),s/veh	87.6	19.1	19.2	105.1	24.4	0.0	37.6	0.0	0.0	39.6	32.5	33.2
LnGrp LOS	F	B	B	F	C		D			D	C	C
Approach Vol, veh/h		743			829			130			316	
Approach Delay, s/veh		25.5			25.1			37.6			38.2	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.0	4.7	44.1		20.0	9.3	39.5
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		18.0	4.0	96.0		16.0	6.0	94.0
Max Q Clear Time (g_c+I1), s		9.4	2.5	17.5		10.4	6.5	23.8
Green Ext Time (p_c), s		0.3	0.0	11.8		0.6	0.0	11.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	384	1924	0	826	171
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	384	1924	0	826	171
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	3058	2293	0	921	822
Arrive On Green	0.00	0.53	0.53	0.00	0.37	0.37
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	384	1924	0	826	171
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	2.6	28.5	0.0	23.8	4.0
Cycle Q Clear(g_c), s	0.0	2.6	28.5	0.0	23.8	4.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3058	2293	0	921	822
V/C Ratio(X)	0.00	0.13	0.84	0.00	0.90	0.21
Avail Cap(c_a), veh/h	0	3058	2293	0	1048	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	9.2	15.3	0.0	22.6	16.4
Incr Delay (d2), s/veh	0.0	0.1	3.9	0.0	9.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	12.0	0.0	9.4	1.2
LnGrp Delay(d),s/veh	0.0	9.3	19.2	0.0	32.1	16.5
LnGrp LOS		A	B		C	B
Approach Vol, veh/h		384	1924		997	
Approach Delay, s/veh		9.3	19.2		29.4	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				47.9		32.1		47.9
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				40.0		32.0		40.0
Max Q Clear Time (g_c+I1), s				4.6		25.8		30.5
Green Ext Time (p_c), s				21.7		2.3		7.9

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1120	0	0	1181	1077	697
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1120	0	0	1181	1077	697
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1818	0	0	1364	2197	726
Arrive On Green	0.31	0.00	0.00	0.31	0.59	0.59
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1120	0	0	1181	1077	697
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	13.1	0.0	0.0	20.4	13.3	42.6
Cycle Q Clear(g_c), s	13.1	0.0	0.0	20.4	13.3	42.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1818	0	0	1364	2197	726
V/C Ratio(X)	0.62	0.00	0.00	0.87	0.49	0.96
Avail Cap(c_a), veh/h	1818	0	0	1364	2197	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	25.9	9.6	15.6
Incr Delay (d2), s/veh	1.6	0.0	0.0	7.6	0.8	24.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	0.0	9.2	4.6	19.3
LnGrp Delay(d),s/veh	25.0	0.0	0.0	33.5	10.3	40.5
LnGrp LOS	C			C	B	D
Approach Vol, veh/h	1120			1181	1774	
Approach Delay, s/veh	25.0			33.5	22.2	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		51.0		29.0				29.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		47.0		25.0				25.0
Max Q Clear Time (g_c+I1), s		44.6		15.1				22.4
Green Ext Time (p_c), s		1.7		8.0				2.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	36	46	323	1097	285	31
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	36	46	323	1097	285	31
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	78	69	372	3370	1823	517
Arrive On Green	0.06	0.06	0.27	0.77	0.42	0.42
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	36	46	323	1097	285	31
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	1.2	1.7	10.4	3.6	1.9	0.7
Cycle Q Clear(g_c), s	1.2	1.7	10.4	3.6	1.9	0.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	78	69	372	3370	1823	517
V/C Ratio(X)	0.46	0.66	0.87	0.33	0.16	0.06
Avail Cap(c_a), veh/h	475	424	475	3370	1823	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	21.6	16.3	1.6	8.5	8.1
Incr Delay (d2), s/veh	4.2	10.3	13.0	0.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.3	5.3	1.4	0.8	0.3
LnGrp Delay(d),s/veh	25.6	31.9	29.2	1.9	8.6	8.3
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	82			1420	316	
Approach Delay, s/veh	29.1			8.1	8.6	
Approach LOS	C			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		6.6	16.5	23.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	16.0	16.0		
Max Q Clear Time (g_c+I1), s		5.6		3.7	12.4	3.9		
Green Ext Time (p_c), s		11.0		0.1	0.4	6.8		

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Vol, veh/h	0	1	108	0	9	1	0	110	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	1	108	0	9	1	0	110	29
Number of Lanes	0	1	0	0	0	1	0	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	7.7	8.3	7.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	100%	0%	0%	90%
Vol Thru, %	0%	0%	0%	1%	10%
Vol Right, %	0%	0%	100%	99%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	55	29	109	10
LT Vol	0	0	0	1	1
Through Vol	0	0	29	108	0
RT Vol	55	55	0	0	9
Lane Flow Rate	55	55	29	109	10
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.082	0.082	0.019	0.131	0.015
Departure Headway (Hd)	5.379	5.379	2.303	4.322	5.543
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	661	661	1513	835	649
Service Time	3.157	3.157	0.08	2.022	3.246
HCM Lane V/C Ratio	0.083	0.083	0.019	0.131	0.015
HCM Control Delay	8.6	8.6	5.1	7.7	8.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.1	0.5	0

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	15	962	0	0	826	62	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	15	962	0	0	826	62	1	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	826	0	0	962	0	0	1405	1818	481
Stage 1	-	-	-	-	-	-	992	992	-
Stage 2	-	-	-	-	-	-	413	826	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	751	-	-	664	-	-	92	71	510
Stage 1	-	-	-	-	-	-	249	305	-
Stage 2	-	-	-	-	-	-	566	366	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	751	-	-	664	-	-	90	70	510
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	70	-
Stage 1	-	-	-	-	-	-	244	299	-
Stage 2	-	-	-	-	-	-	563	366	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	45.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	90	751	-	-	664	-	-	102	566
HCM Lane V/C Ratio	0.011	0.02	-	-	-	-	-	0.5	0.005
HCM Control Delay (s)	45.4	9.9	-	-	0	-	-	71.3	11.4
HCM Lane LOS	E	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	2.2	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	51	0	3
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	51	0	3

Major/Minor	Minor2		
Conflicting Flow All	1337	1818	413
Stage 1	826	826	-
Stage 2	511	992	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	104	71	566
Stage 1	316	366	-
Stage 2	493	305	-
Platoon blocked, %			
Mov Cap-1 Maneuver	102	70	566
Mov Cap-2 Maneuver	102	70	-
Stage 1	310	366	-
Stage 2	483	299	-

Approach	SB
HCM Control Delay, s	68
HCM LOS	F

Minor Lane/Major Mvmt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	1000	0	0	838	77	9	0	0	113	0	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	14	1000	0	0	838	77	9	0	0	113	0	39
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	2	0	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	19	1172	0	2	975	414	301	0	0	601	0	268
Arrive On Green	0.01	0.40	0.00	0.00	0.34	0.34	0.22	0.00	0.00	0.22	0.00	0.22
Sat Flow, veh/h	1385	2909	0	1385	2909	1236	1385	0	0	2771	0	1236
Grp Volume(v), veh/h	14	1000	0	0	838	77	9	0	0	113	0	39
Grp Sat Flow(s),veh/h/ln	1385	1455	0	1385	1455	1236	1385	0	0	1385	0	1236
Q Serve(g_s), s	0.7	23.0	0.0	0.0	19.8	3.3	0.4	0.0	0.0	2.5	0.0	1.9
Cycle Q Clear(g_c), s	0.7	23.0	0.0	0.0	19.8	3.3	0.4	0.0	0.0	2.5	0.0	1.9
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	19	1172	0	2	975	414	301	0	0	601	0	268
V/C Ratio(X)	0.75	0.85	0.00	0.00	0.86	0.19	0.03	0.00	0.00	0.19	0.00	0.15
Avail Cap(c_a), veh/h	75	1172	0	75	1105	470	301	0	0	601	0	268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.2	20.0	0.0	0.0	22.9	17.4	22.7	0.0	0.0	23.5	0.0	23.3
Incr Delay (d2), s/veh	44.2	6.3	0.0	0.0	6.4	0.2	0.2	0.0	0.0	0.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	10.2	0.0	0.0	8.8	1.1	0.2	0.0	0.0	1.0	0.0	0.7
LnGrp Delay(d),s/veh	80.4	26.3	0.0	0.0	29.2	17.6	22.9	0.0	0.0	24.2	0.0	24.5
LnGrp LOS	F	C			C	B	C			C		C
Approach Vol, veh/h		1014			915			9			152	
Approach Delay, s/veh		27.0			28.3			22.9			24.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.0	0.0	33.7		20.0	5.0	28.7
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	28.0		16.0	4.0	28.0
Max Q Clear Time (g_c+I1), s		2.4	0.0	25.0		4.5	2.7	21.8
Green Ext Time (p_c), s		0.0	0.0	2.4		0.3	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	1004	37	14	789	233	68	36	23	1040	206	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	33	1004	37	14	789	0	68	36	23	1040	206	58
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	38	962	35	16	960	0	85	45	29	1046	610	519
Arrive On Green	0.03	0.35	0.35	0.01	0.33	0.00	0.12	0.12	0.12	0.42	0.42	0.42
Sat Flow, veh/h	1385	2788	103	1385	2909	0	736	389	249	2494	1455	1236
Grp Volume(v), veh/h	33	524	517	14	789	0	127	0	0	1040	206	58
Grp Sat Flow(s),veh/h/ln	1385	1455	1436	1385	1455	0	1374	0	0	1247	1455	1236
Q Serve(g_s), s	3.5	51.0	51.0	1.5	36.8	0.0	13.3	0.0	0.0	61.4	14.1	4.2
Cycle Q Clear(g_c), s	3.5	51.0	51.0	1.5	36.8	0.0	13.3	0.0	0.0	61.4	14.1	4.2
Prop In Lane	1.00		0.07	1.00		0.00	0.54		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	38	502	496	16	960	0	158	0	0	1046	610	519
V/C Ratio(X)	0.88	1.04	1.04	0.85	0.82	0.00	0.80	0.00	0.00	0.99	0.34	0.11
Avail Cap(c_a), veh/h	38	502	496	38	1004	0	158	0	0	1046	610	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.6	48.4	48.4	72.9	45.5	0.0	63.7	0.0	0.0	42.7	29.0	26.1
Incr Delay (d2), s/veh	100.1	51.9	52.1	68.2	5.4	0.0	33.7	0.0	0.0	26.4	1.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	27.6	27.3	0.9	15.5	0.0	6.6	0.0	0.0	24.9	5.9	1.5
LnGrp Delay(d),s/veh	171.7	100.2	100.5	141.0	50.9	0.0	97.4	0.0	0.0	69.1	30.5	26.5
LnGrp LOS	F	F	F	F	D		F			E	C	C
Approach Vol, veh/h		1074			803			127			1304	
Approach Delay, s/veh		102.6			52.5			97.4			61.1	
Approach LOS		F			D			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.0	5.7	55.0		66.0	8.0	52.7
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		17.0	4.0	51.0		62.0	4.0	51.0
Max Q Clear Time (g_c+I1), s		15.3	3.5	53.0		63.4	5.5	38.8
Green Ext Time (p_c), s		0.1	0.0	0.0		0.0	0.0	7.8

Intersection Summary	
HCM 2010 Ctrl Delay	73.9
HCM 2010 LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1058	864	0	723	155
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	1058	864	0	723	155
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	2951	2213	0	892	796
Arrive On Green	0.00	0.51	0.51	0.00	0.36	0.36
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	1058	864	0	723	155
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	6.5	7.2	0.0	15.5	2.8
Cycle Q Clear(g_c), s	0.0	6.5	7.2	0.0	15.5	2.8
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2951	2213	0	892	796
V/C Ratio(X)	0.00	0.36	0.39	0.00	0.81	0.19
Avail Cap(c_a), veh/h	0	2951	2213	0	1770	1580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.8	9.0	0.0	17.2	13.1
Incr Delay (d2), s/veh	0.0	0.3	0.5	0.0	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	3.0	0.0	5.5	0.9
LnGrp Delay(d),s/veh	0.0	9.1	9.5	0.0	19.0	13.2
LnGrp LOS		A	A		B	B
Approach Vol, veh/h		1058	864		878	
Approach Delay, s/veh		9.1	9.5		18.0	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				54.8		25.2		54.8
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				30.0		42.0		30.0
Max Q Clear Time (g_c+I1), s				8.5		17.5		9.2
Green Ext Time (p_c), s				12.5		3.6		12.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1579	0	0	976	532	628
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1579	0	0	976	532	628
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1818	0	0	1364	2197	726
Arrive On Green	0.31	0.00	0.00	0.31	0.59	0.59
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1579	0	0	976	532	628
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	20.5	0.0	0.0	15.8	5.5	34.1
Cycle Q Clear(g_c), s	20.5	0.0	0.0	15.8	5.5	34.1
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1818	0	0	1364	2197	726
V/C Ratio(X)	0.87	0.00	0.00	0.72	0.24	0.86
Avail Cap(c_a), veh/h	1818	0	0	1364	2197	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	0.0	24.4	7.9	13.8
Incr Delay (d2), s/veh	5.9	0.0	0.0	3.2	0.3	13.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	0.0	0.0	6.7	1.9	14.1
LnGrp Delay(d),s/veh	31.9	0.0	0.0	27.6	8.2	26.9
LnGrp LOS	C			C	A	C
Approach Vol, veh/h	1579			976	1160	
Approach Delay, s/veh	31.9			27.6	18.3	
Approach LOS	C			C	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		51.0		29.0				29.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		47.0		25.0				25.0
Max Q Clear Time (g_c+I1), s		36.1		22.5				17.8
Green Ext Time (p_c), s		3.9		2.3				6.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.5
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	90	294	98	208	1006	91
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	90	294	98	208	1006	91
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	365	326	116	2629	1971	558
Arrive On Green	0.26	0.26	0.08	0.60	0.45	0.45
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	90	294	98	208	1006	91
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	3.1	13.7	4.2	1.2	9.8	2.6
Cycle Q Clear(g_c), s	3.1	13.7	4.2	1.2	9.8	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	365	326	116	2629	1971	558
V/C Ratio(X)	0.25	0.90	0.84	0.08	0.51	0.16
Avail Cap(c_a), veh/h	371	331	255	2629	1971	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	21.3	27.0	5.0	11.7	9.7
Incr Delay (d2), s/veh	0.3	26.3	14.8	0.1	0.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.8	2.1	0.5	4.1	1.0
LnGrp Delay(d),s/veh	17.7	47.6	41.8	5.0	12.6	10.3
LnGrp LOS	B	D	D	A	B	B
Approach Vol, veh/h	384			306	1097	
Approach Delay, s/veh	40.6			16.8	12.4	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		19.7	9.0	31.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	11.0	21.0		
Max Q Clear Time (g_c+I1), s		3.2		15.7	6.2	11.8		
Green Ext Time (p_c), s		9.9		0.0	0.1	5.1		

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Vol, veh/h	0	1	112	0	39	1	0	81	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	1	112	0	39	1	0	81	10
Number of Lanes	0	1	0	0	0	1	0	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	7.6	8.5	8.2
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	100%	0%	0%	97%
Vol Thru, %	0%	0%	0%	1%	3%
Vol Right, %	0%	0%	100%	99%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	41	41	10	113	40
LT Vol	0	0	0	1	1
Through Vol	0	0	10	112	0
RT Vol	41	41	0	0	39
Lane Flow Rate	40	40	10	113	40
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.062	0.062	0.007	0.133	0.061
Departure Headway (Hd)	5.54	5.54	2.46	4.253	5.481
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	650	650	1459	848	657
Service Time	3.247	3.247	0.168	1.957	3.187
HCM Lane V/C Ratio	0.062	0.062	0.007	0.133	0.061
HCM Control Delay	8.6	8.6	5.2	7.6	8.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0	0.5	0.2

EXISTING PLUS GROWTH PLUS OTHER DEVELOPMENT WITH PROJECT CONDITIONS

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	699	0	0	800	19	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	2	699	0	0	800	19	2	0	2

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	800	0	0	699	0	0	1103	1503	350
Stage 1	-	-	-	-	-	-	703	703	-
Stage 2	-	-	-	-	-	-	400	800	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	769	-	-	842	-	-	156	112	624
Stage 1	-	-	-	-	-	-	376	419	-
Stage 2	-	-	-	-	-	-	576	377	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	769	-	-	842	-	-	154	112	624
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	112	-
Stage 1	-	-	-	-	-	-	375	418	-
Stage 2	-	-	-	-	-	-	568	377	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	247	769	-	-	842	-	-	142	578
HCM Lane V/C Ratio	0.016	0.003	-	-	-	-	-	0.62	0.014
HCM Control Delay (s)	19.8	9.7	-	-	0	-	-	64.8	11.3
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	3.3	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	88	0	8
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	88	0	8

Major/Minor	Minor2		
Conflicting Flow All	1154	1503	400
Stage 1	800	800	-
Stage 2	354	703	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	143	112	578
Stage 1	328	377	-
Stage 2	614	419	-
Platoon blocked, %			
Mov Cap-1 Maneuver	142	112	578
Mov Cap-2 Maneuver	142	112	-
Stage 1	327	377	-
Stage 2	610	418	-

Approach	SB
HCM Control Delay, s	60.3
HCM LOS	F

Minor Lane/Major Mvmt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	36	741	1	1	801	103	0	7	7	99	1	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	36	741	1	1	801	103	0	7	7	100	0	18
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	2	0	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	40	850	1	2	770	327	0	157	157	652	0	291
Arrive On Green	0.03	0.29	0.29	0.00	0.26	0.26	0.00	0.24	0.24	0.24	0.00	0.24
Sat Flow, veh/h	1385	2904	4	1385	2909	1236	0	668	668	2771	0	1236
Grp Volume(v), veh/h	36	371	371	1	801	103	0	0	14	100	0	18
Grp Sat Flow(s),veh/h/ln	1385	1455	1454	1385	1455	1236	0	0	1337	1385	0	1236
Q Serve(g_s), s	1.8	16.5	16.5	0.0	18.0	4.5	0.0	0.0	0.6	1.9	0.0	0.8
Cycle Q Clear(g_c), s	1.8	16.5	16.5	0.0	18.0	4.5	0.0	0.0	0.6	1.9	0.0	0.8
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	40	426	426	2	770	327	0	0	315	652	0	291
V/C Ratio(X)	0.90	0.87	0.87	0.49	1.04	0.31	0.00	0.00	0.04	0.15	0.00	0.06
Avail Cap(c_a), veh/h	82	426	426	82	770	327	0	0	315	652	0	291
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	22.8	22.8	33.9	25.0	20.0	0.0	0.0	20.1	20.6	0.0	20.2
Incr Delay (d2), s/veh	43.2	17.6	17.6	120.5	43.2	0.5	0.0	0.0	0.3	0.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	8.7	8.7	0.1	11.8	1.6	0.0	0.0	0.2	0.8	0.0	0.3
LnGrp Delay(d),s/veh	76.1	40.4	40.4	154.4	68.2	20.6	0.0	0.0	20.3	21.1	0.0	20.6
LnGrp LOS	E	D	D	F	F	C			C	C		C
Approach Vol, veh/h		778			905			14			118	
Approach Delay, s/veh		42.0			62.9			20.3			21.0	
Approach LOS		D			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.0	4.1	23.9		20.0	6.0	22.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	18.0		16.0	4.0	18.0
Max Q Clear Time (g_c+I1), s		2.6	2.0	18.5		3.9	3.8	20.0
Green Ext Time (p_c), s		0.0	0.0	0.0		0.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.9
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	649	30	8	824	1492	46	166	8	290	53	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	150	649	30	8	824	0	46	166	8	290	53	48
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	159	1336	62	11	1098	0	60	217	10	382	223	190
Arrive On Green	0.11	0.48	0.48	0.01	0.38	0.00	0.20	0.20	0.20	0.15	0.15	0.15
Sat Flow, veh/h	1385	2759	127	1385	2909	0	299	1079	52	2494	1455	1236
Grp Volume(v), veh/h	150	342	337	8	824	0	220	0	0	290	53	48
Grp Sat Flow(s),veh/h/ln	1385	1455	1432	1385	1455	0	1430	0	0	1247	1455	1236
Q Serve(g_s), s	11.2	16.5	16.6	0.6	25.7	0.0	15.2	0.0	0.0	11.6	3.3	3.6
Cycle Q Clear(g_c), s	11.2	16.5	16.6	0.6	25.7	0.0	15.2	0.0	0.0	11.6	3.3	3.6
Prop In Lane	1.00		0.09	1.00		0.00	0.21		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	159	704	694	11	1098	0	288	0	0	382	223	190
V/C Ratio(X)	0.94	0.49	0.49	0.73	0.75	0.00	0.76	0.00	0.00	0.76	0.24	0.25
Avail Cap(c_a), veh/h	159	1296	1276	53	2369	0	288	0	0	382	223	190
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	18.1	18.2	51.7	28.2	0.0	39.4	0.0	0.0	42.3	38.8	38.9
Incr Delay (d2), s/veh	54.2	0.5	0.5	62.6	1.1	0.0	17.4	0.0	0.0	13.2	2.5	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	6.7	6.7	0.4	10.5	0.0	7.4	0.0	0.0	4.7	1.5	1.4
LnGrp Delay(d),s/veh	100.1	18.7	18.7	114.3	29.3	0.0	56.8	0.0	0.0	55.6	41.3	42.1
LnGrp LOS	F	B	B	F	C		E			E	D	D
Approach Vol, veh/h		829			832			220			391	
Approach Delay, s/veh		33.4			30.1			56.8			52.0	
Approach LOS		C			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		25.0	4.8	54.6		20.0	16.0	43.4
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		21.0	4.0	93.0		16.0	12.0	85.0
Max Q Clear Time (g_c+I1), s		17.2	2.6	18.6		13.6	13.2	27.7
Green Ext Time (p_c), s		0.4	0.0	11.9		0.4	0.0	11.7

Intersection Summary	
HCM 2010 Ctrl Delay	37.7
HCM 2010 LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	409	2150	0	836	171
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	409	2150	0	836	171
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	3153	2365	0	891	795
Arrive On Green	0.00	0.54	0.54	0.00	0.36	0.36
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	409	2150	0	836	171
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	2.7	35.3	0.0	25.7	4.2
Cycle Q Clear(g_c), s	0.0	2.7	35.3	0.0	25.7	4.2
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3153	2365	0	891	795
V/C Ratio(X)	0.00	0.13	0.91	0.00	0.94	0.22
Avail Cap(c_a), veh/h	0	3153	2365	0	911	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	9.0	16.4	0.0	24.7	17.8
Incr Delay (d2), s/veh	0.0	0.1	6.6	0.0	16.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	15.4	0.0	10.9	1.3
LnGrp Delay(d),s/veh	0.0	9.0	23.0	0.0	41.4	17.9
LnGrp LOS		A	C		D	B
Approach Vol, veh/h		409	2150		1007	
Approach Delay, s/veh		9.0	23.0		37.4	
Approach LOS		A	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				47.6		32.4		47.6
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				43.0		29.0		43.0
Max Q Clear Time (g_c+I1), s				4.7		27.7		37.3
Green Ext Time (p_c), s				26.0		0.6		5.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1147	0	0	1275	1209	697
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1147	0	0	1275	1209	697
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1891	0	0	1418	2151	711
Arrive On Green	0.32	0.00	0.00	0.32	0.57	0.57
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1147	0	0	1275	1209	697
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	13.3	0.0	0.0	22.3	16.2	43.9
Cycle Q Clear(g_c), s	13.3	0.0	0.0	22.3	16.2	43.9
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1891	0	0	1418	2151	711
V/C Ratio(X)	0.61	0.00	0.00	0.90	0.56	0.98
Avail Cap(c_a), veh/h	1891	0	0	1418	2151	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	25.7	10.7	16.6
Incr Delay (d2), s/veh	1.5	0.0	0.0	9.4	1.1	29.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	0.0	10.1	5.7	20.5
LnGrp Delay(d),s/veh	24.2	0.0	0.0	35.1	11.7	45.9
LnGrp LOS	C			D	B	D
Approach Vol, veh/h	1147			1275	1906	
Approach Delay, s/veh	24.2			35.1	24.2	
Approach LOS	C			D	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		50.0		30.0				30.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		46.0		26.0				26.0
Max Q Clear Time (g_c+I1), s		45.9		15.3				24.3
Green Ext Time (p_c), s		0.1		8.8				1.6

Intersection Summary	
HCM 2010 Ctrl Delay	27.4
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Volume (veh/h)	43	47	324	1482	359	32		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455		
Adj Flow Rate, veh/h	43	47	324	1482	359	32		
Adj No. of Lanes	1	1	1	3	3	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	10	10	10	10	10	10		
Cap, veh/h	82	73	373	3360	1812	513		
Arrive On Green	0.06	0.06	0.27	0.77	0.42	0.42		
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236		
Grp Volume(v), veh/h	43	47	324	1482	359	32		
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236		
Q Serve(g_s), s	1.4	1.7	10.4	5.5	2.5	0.7		
Cycle Q Clear(g_c), s	1.4	1.7	10.4	5.5	2.5	0.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	82	73	373	3360	1812	513		
V/C Ratio(X)	0.53	0.64	0.87	0.44	0.20	0.06		
Avail Cap(c_a), veh/h	474	423	474	3360	1812	513		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.4	21.5	16.3	1.9	8.7	8.2		
Incr Delay (d2), s/veh	5.2	9.2	13.2	0.4	0.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	1.4	5.3	2.2	1.0	0.3		
LnGrp Delay(d),s/veh	26.5	30.7	29.4	2.3	9.0	8.4		
LnGrp LOS	C	C	C	A	A	A		
Approach Vol, veh/h	90			1806	391			
Approach Delay, s/veh	28.7			7.2	8.9			
Approach LOS	C			A	A			

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		6.8	16.6	23.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	16.0	16.0		
Max Q Clear Time (g_c+I1), s		7.5		3.7	12.4	4.5		
Green Ext Time (p_c), s		15.4		0.2	0.3	8.3		

Intersection Summary	
HCM 2010 Ctrl Delay	8.3
HCM 2010 LOS	A

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Vol, veh/h	0	1	108	0	10	1	0	110	36
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	1	108	0	10	1	0	110	36
Number of Lanes	0	1	0	0	0	1	0	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	7.7	8.4	7.7
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	100%	0%	0%	91%
Vol Thru, %	0%	0%	0%	1%	9%
Vol Right, %	0%	0%	100%	99%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	55	36	109	11
LT Vol	0	0	0	1	1
Through Vol	0	0	36	108	0
RT Vol	55	55	0	0	10
Lane Flow Rate	55	55	36	109	11
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.082	0.082	0.023	0.131	0.017
Departure Headway (Hd)	5.38	5.38	2.305	4.33	5.556
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	660	660	1511	833	648
Service Time	3.16	3.16	0.083	2.03	3.258
HCM Lane V/C Ratio	0.083	0.083	0.024	0.131	0.017
HCM Control Delay	8.6	8.6	5.1	7.7	8.4
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.1	0.5	0.1

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	15	994	0	0	913	62	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	15	994	0	0	913	62	1	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	913	0	0	994	0	0	1481	1937	497
Stage 1	-	-	-	-	-	-	1024	1024	-
Stage 2	-	-	-	-	-	-	457	913	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4
Pot Cap-1 Maneuver	694	-	-	645	-	-	81	59	498
Stage 1	-	-	-	-	-	-	238	294	-
Stage 2	-	-	-	-	-	-	532	333	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	694	-	-	645	-	-	79	58	498
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	58	-
Stage 1	-	-	-	-	-	-	233	288	-
Stage 2	-	-	-	-	-	-	529	333	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	51.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	79	694	-	-	645	-	-	86	529
HCM Lane V/C Ratio	0.013	0.022	-	-	-	-	-	0.593	0.006
HCM Control Delay (s)	51.2	10.3	-	-	0	-	-	95.1	11.8
HCM Lane LOS	F	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	2.7	0

Intersection			
Int Delay, s/veh			

Movement	SBL	SBT	SBR
Vol, veh/h	51	0	3
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	200
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	10	10	10
Mvmt Flow	51	0	3

Major/Minor	Minor2		
Conflicting Flow All	1440	1937	457
Stage 1	913	913	-
Stage 2	527	1024	-
Critical Hdwy	7.7	6.7	7.1
Critical Hdwy Stg 1	6.7	5.7	-
Critical Hdwy Stg 2	6.7	5.7	-
Follow-up Hdwy	3.6	4.1	3.4
Pot Cap-1 Maneuver	87	59	529
Stage 1	279	333	-
Stage 2	482	294	-
Platoon blocked, %			
Mov Cap-1 Maneuver	86	58	529
Mov Cap-2 Maneuver	86	58	-
Stage 1	273	333	-
Stage 2	472	288	-

Approach	SB
HCM Control Delay, s	90.5
HCM LOS	F

Minor Lane/Major Mvmt

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	1032	0	6	925	77	9	2	2	113	6	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1455	1600	1455	1600	1455	1455	1455
Adj Flow Rate, veh/h	14	1032	0	6	925	77	9	2	2	117	0	39
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	2	0	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	19	1066	0	9	1045	444	198	44	44	579	0	259
Arrive On Green	0.01	0.37	0.00	0.01	0.36	0.36	0.21	0.21	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1385	2909	0	1385	2909	1236	948	211	211	2771	0	1236
Grp Volume(v), veh/h	14	1032	0	6	925	77	13	0	0	117	0	39
Grp Sat Flow(s),veh/h/ln	1385	1455	0	1385	1455	1236	1370	0	0	1385	0	1236
Q Serve(g_s), s	0.8	26.7	0.0	0.3	22.9	3.3	0.6	0.0	0.0	2.7	0.0	2.0
Cycle Q Clear(g_c), s	0.8	26.7	0.0	0.3	22.9	3.3	0.6	0.0	0.0	2.7	0.0	2.0
Prop In Lane	1.00		0.00	1.00		1.00	0.69		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	19	1066	0	9	1045	444	286	0	0	579	0	259
V/C Ratio(X)	0.75	0.97	0.00	0.69	0.89	0.17	0.05	0.00	0.00	0.20	0.00	0.15
Avail Cap(c_a), veh/h	72	1066	0	72	1065	452	286	0	0	579	0	259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.6	23.8	0.0	37.9	23.0	16.8	24.2	0.0	0.0	25.0	0.0	24.7
Incr Delay (d2), s/veh	44.9	20.2	0.0	67.7	9.0	0.2	0.3	0.0	0.0	0.8	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	13.6	0.0	0.3	10.4	1.1	0.2	0.0	0.0	1.1	0.0	0.8
LnGrp Delay(d),s/veh	82.6	44.0	0.0	105.6	32.0	16.9	24.5	0.0	0.0	25.8	0.0	25.9
LnGrp LOS	F	D		F	C	B	C			C		C
Approach Vol, veh/h		1046			1008			13			156	
Approach Delay, s/veh		44.5			31.3			24.5			25.8	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.0	4.5	32.0		20.0	5.0	31.5
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	28.0		16.0	4.0	28.0
Max Q Clear Time (g_c+I1), s		2.6	2.3	28.7		4.7	2.8	24.9
Green Ext Time (p_c), s		0.0	0.0	0.0		0.4	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	37.1
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	1019	37	14	806	284	68	71	23	1243	302	134
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1600	1455	1455	1600	1600	1455	1600	1309	1455	1455
Adj Flow Rate, veh/h	52	1019	37	14	806	0	68	71	23	1243	302	134
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	2	1	1
Peak Hour 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
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	37	892	32	16	886	0	75	78	25	1077	628	534
Arrive On Green	0.03	0.32	0.32	0.01	0.30	0.00	0.13	0.13	0.13	0.43	0.43	0.43
Sat Flow, veh/h	1385	2790	101	1385	2909	0	584	609	197	2494	1455	1236
Grp Volume(v), veh/h	52	531	525	14	806	0	162	0	0	1243	302	134
Grp Sat Flow(s),veh/h/ln	1385	1455	1437	1385	1455	0	1391	0	0	1247	1455	1236
Q Serve(g_s), s	4.0	47.4	47.4	1.5	39.5	0.0	17.0	0.0	0.0	64.0	22.0	10.2
Cycle Q Clear(g_c), s	4.0	47.4	47.4	1.5	39.5	0.0	17.0	0.0	0.0	64.0	22.0	10.2
Prop In Lane	1.00		0.07	1.00		0.00	0.42		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	37	465	460	16	886	0	178	0	0	1077	628	534
V/C Ratio(X)	1.39	1.14	1.14	0.85	0.91	0.00	0.91	0.00	0.00	1.15	0.48	0.25
Avail Cap(c_a), veh/h	37	465	460	37	923	0	178	0	0	1077	628	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.1	50.4	50.4	73.1	49.5	0.0	63.7	0.0	0.0	42.1	30.2	26.8
Incr Delay (d2), s/veh	282.3	86.7	87.0	68.3	12.5	0.0	46.8	0.0	0.0	80.1	2.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	30.2	29.9	0.9	17.4	0.0	8.9	0.0	0.0	34.0	9.3	3.7
LnGrp Delay(d),s/veh	354.3	137.1	137.3	141.4	62.0	0.0	110.6	0.0	0.0	122.1	32.8	27.9
LnGrp LOS	F	F	F	F	E		F			F	C	C
Approach Vol, veh/h		1108			820			162			1679	
Approach Delay, s/veh		147.4			63.4			110.6			98.6	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.0	5.8	51.4		68.0	8.0	49.1
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		19.0	4.0	47.0		64.0	4.0	47.0
Max Q Clear Time (g_c+I1), s		19.0	3.5	49.4		66.0	6.0	41.5
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	105.8
HCM 2010 LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1183	948	0	774	155
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1455	1455	0	1309	1309
Adj Flow Rate, veh/h	0	1183	948	0	774	155
Adj No. of Lanes	0	4	3	0	2	2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	10	10	0	10	10
Cap, veh/h	0	2864	2148	0	939	838
Arrive On Green	0.00	0.49	0.49	0.00	0.38	0.38
Sat Flow, veh/h	0	5818	4364	0	2494	2225
Grp Volume(v), veh/h	0	1183	948	0	774	155
Grp Sat Flow(s),veh/h/ln	0	1455	1455	0	1247	1113
Q Serve(g_s), s	0.0	7.9	8.6	0.0	17.1	2.8
Cycle Q Clear(g_c), s	0.0	7.9	8.6	0.0	17.1	2.8
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2864	2148	0	939	838
V/C Ratio(X)	0.00	0.41	0.44	0.00	0.82	0.18
Avail Cap(c_a), veh/h	0	2864	2148	0	1718	1533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	9.9	10.0	0.0	17.2	12.7
Incr Delay (d2), s/veh	0.0	0.4	0.7	0.0	1.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.2	3.6	0.0	6.1	0.9
LnGrp Delay(d),s/veh	0.0	10.3	10.7	0.0	19.1	12.8
LnGrp LOS		B	B		B	B
Approach Vol, veh/h		1183	948		929	
Approach Delay, s/veh		10.3	10.7		18.0	
Approach LOS		B	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				53.0		27.0		53.0
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				30.0		42.0		30.0
Max Q Clear Time (g_c+I1), s				9.9		19.1		10.6
Green Ext Time (p_c), s				13.2		3.8		12.9

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1719	0	0	998	594	628
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	0	0	1455	1309	1455
Adj Flow Rate, veh/h	1719	0	0	998	594	628
Adj No. of Lanes	4	0	0	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	0	0	10	10	10
Cap, veh/h	1964	0	0	1473	2104	695
Arrive On Green	0.34	0.00	0.00	0.34	0.56	0.56
Sat Flow, veh/h	5818	0	0	4364	3740	1236
Grp Volume(v), veh/h	1719	0	0	998	594	628
Grp Sat Flow(s),veh/h/ln	1455	0	0	1455	1247	1236
Q Serve(g_s), s	22.2	0.0	0.0	15.7	6.6	36.1
Cycle Q Clear(g_c), s	22.2	0.0	0.0	15.7	6.6	36.1
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1964	0	0	1473	2104	695
V/C Ratio(X)	0.88	0.00	0.00	0.68	0.28	0.90
Avail Cap(c_a), veh/h	1964	0	0	1473	2104	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	22.8	9.1	15.6
Incr Delay (d2), s/veh	5.8	0.0	0.0	2.5	0.3	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	0.0	0.0	6.6	2.3	15.5
LnGrp Delay(d),s/veh	30.8	0.0	0.0	25.3	9.4	32.8
LnGrp LOS	C			C	A	C
Approach Vol, veh/h	1719			998	1222	
Approach Delay, s/veh	30.8			25.3	21.5	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		49.0		31.0				31.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		45.0		27.0				27.0
Max Q Clear Time (g_c+I1), s		38.1		24.2				17.7
Green Ext Time (p_c), s		3.1		2.6				8.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.5
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	92	296	100	311	1379	97
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1455	1455	1455	1455	1455	1455
Adj Flow Rate, veh/h	92	296	100	311	1379	97
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	367	327	118	2625	1961	556
Arrive On Green	0.26	0.26	0.09	0.60	0.45	0.45
Sat Flow, veh/h	1385	1236	1385	4364	4364	1236
Grp Volume(v), veh/h	92	296	100	311	1379	97
Grp Sat Flow(s),veh/h/ln	1385	1236	1385	1455	1455	1236
Q Serve(g_s), s	3.1	13.8	4.3	1.8	15.2	2.8
Cycle Q Clear(g_c), s	3.1	13.8	4.3	1.8	15.2	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	367	327	118	2625	1961	556
V/C Ratio(X)	0.25	0.90	0.85	0.12	0.70	0.17
Avail Cap(c_a), veh/h	370	331	185	2625	1961	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	21.3	27.0	5.1	13.3	9.8
Incr Delay (d2), s/veh	0.4	26.7	18.6	0.1	2.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.9	2.2	0.7	6.4	1.0
LnGrp Delay(d),s/veh	17.7	48.0	45.6	5.2	15.4	10.5
LnGrp LOS	B	D	D	A	B	B
Approach Vol, veh/h	388			411	1476	
Approach Delay, s/veh	40.8			15.0	15.1	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		19.9	9.1	30.9		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	8.0	24.0		
Max Q Clear Time (g_c+I1), s		3.8		15.8	6.3	17.2		
Green Ext Time (p_c), s		15.1		0.0	0.0	5.1		

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

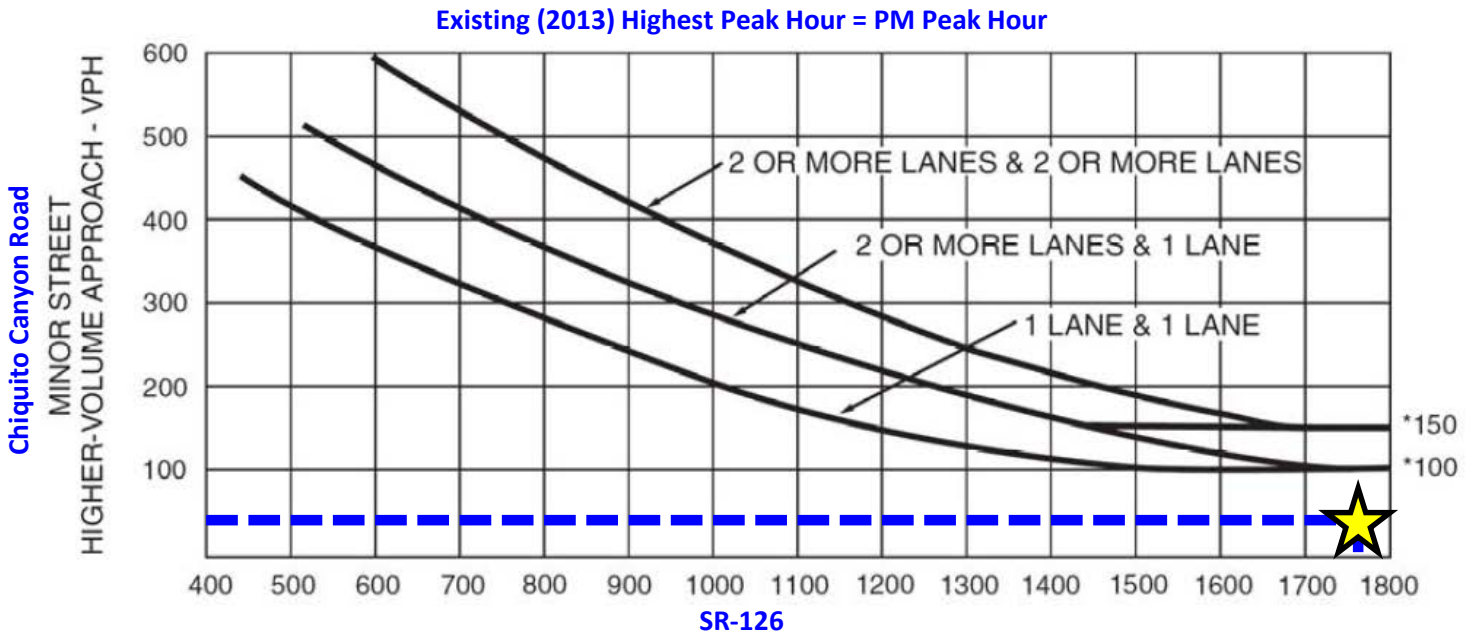
Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Vol, veh/h	0	1	112	0	46	1	0	81	12
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	1	112	0	46	1	0	81	12
Number of Lanes	0	1	0	0	0	1	0	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	7.6	8.6	8.2
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	100%	0%	0%	98%
Vol Thru, %	0%	0%	0%	1%	2%
Vol Right, %	0%	0%	100%	99%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	41	41	12	113	47
LT Vol	0	0	0	1	1
Through Vol	0	0	12	112	0
RT Vol	41	41	0	0	46
Lane Flow Rate	40	40	12	113	47
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.063	0.063	0.008	0.134	0.072
Departure Headway (Hd)	5.558	5.558	2.479	4.261	5.485
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	647	647	1446	845	656
Service Time	3.27	3.27	0.19	1.97	3.195
HCM Lane V/C Ratio	0.062	0.062	0.008	0.134	0.072
HCM Control Delay	8.6	8.6	5.2	7.6	8.6
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0	0.5	0.2

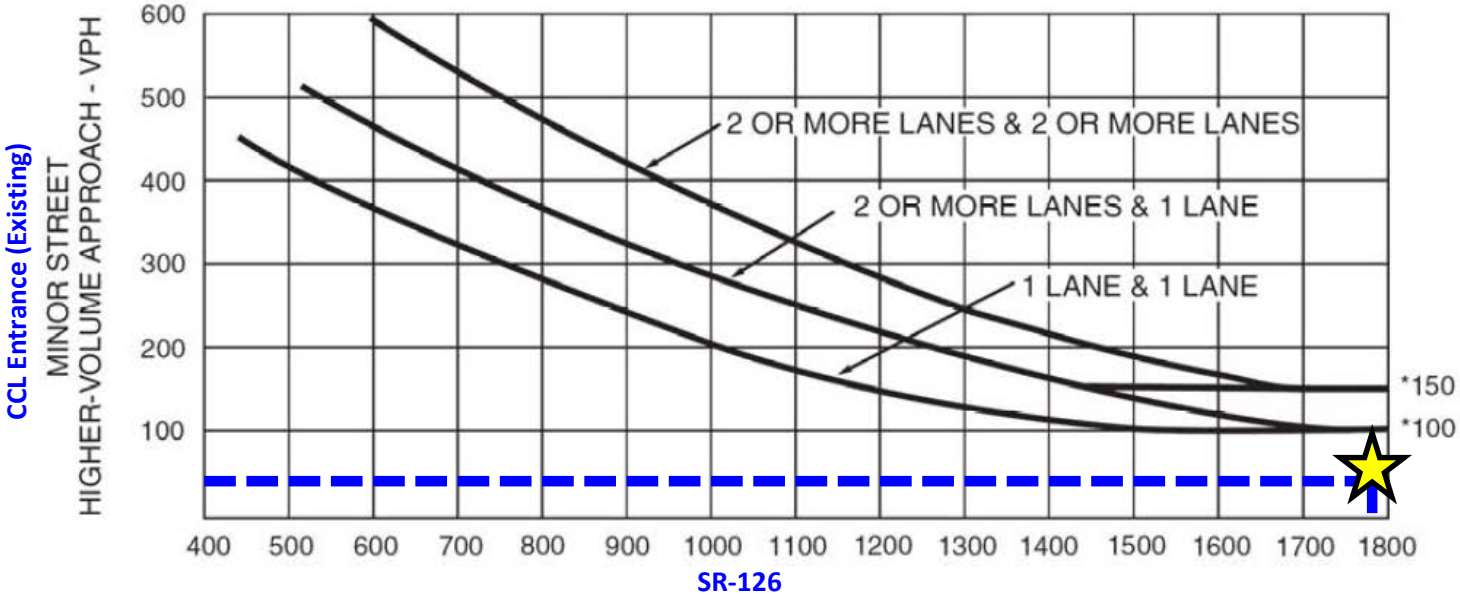
APPENDIX D
TRAFFIC SIGNAL WARRANT WORKSHEETS



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

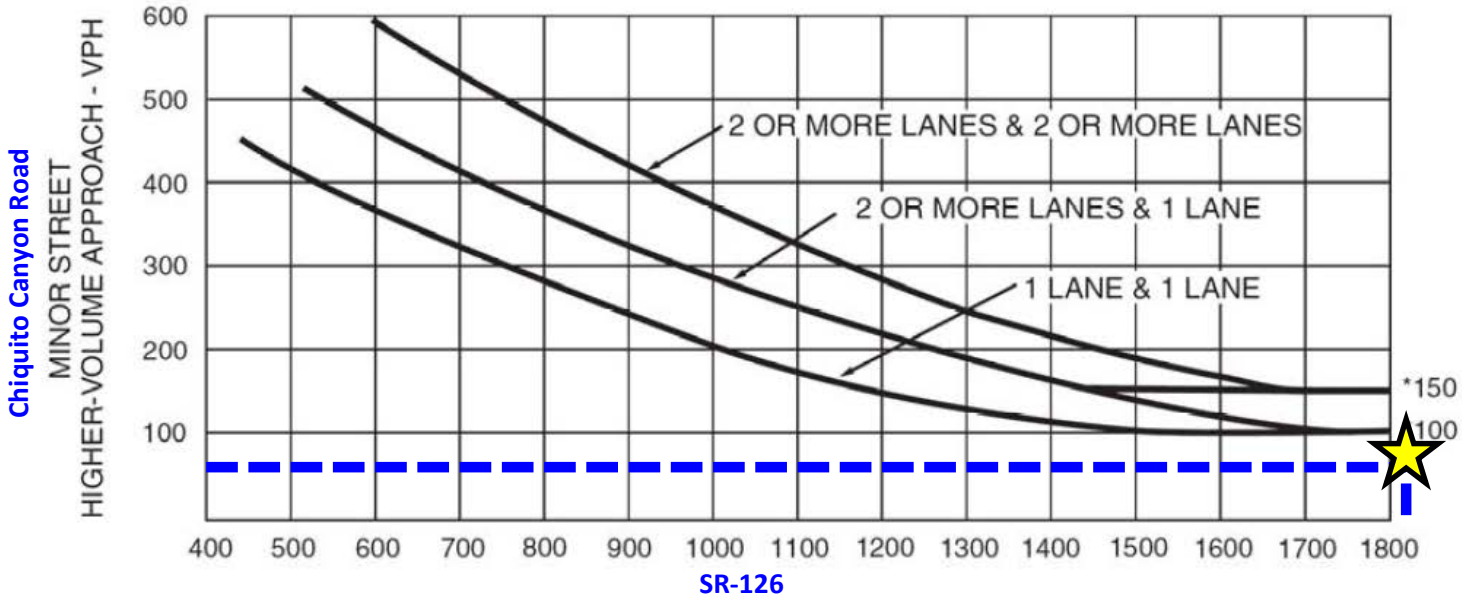
Existing (2013) Highest Peak Hour = PM Peak Hour



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

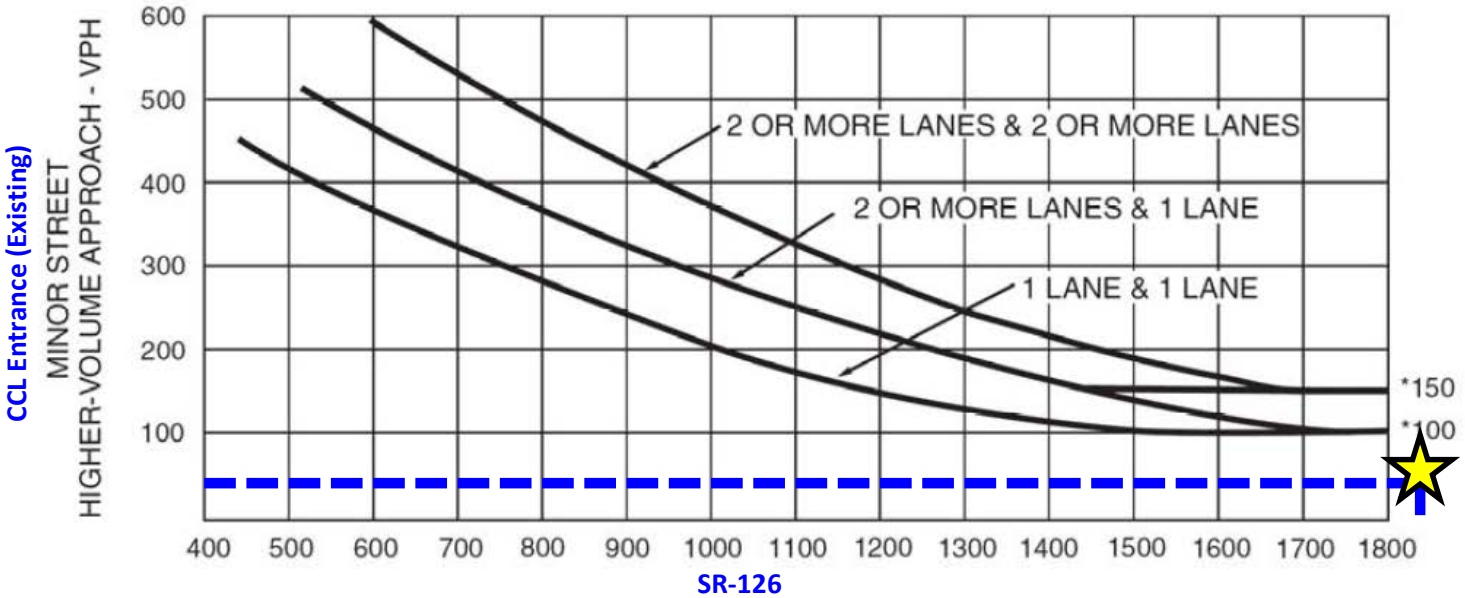
Existing plus Growth without Project Highest Peak Hour = PM Peak Hour



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

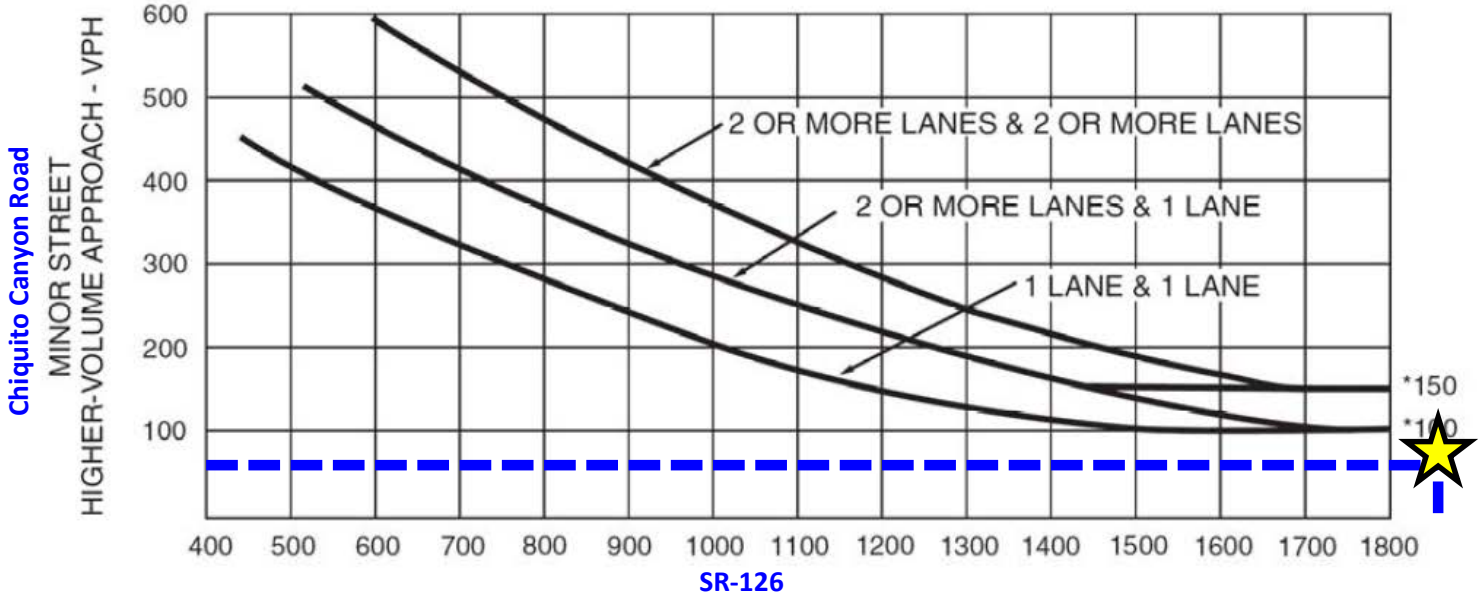
Existing plus Growth without Project Highest Peak Hour = PM Peak Hour



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

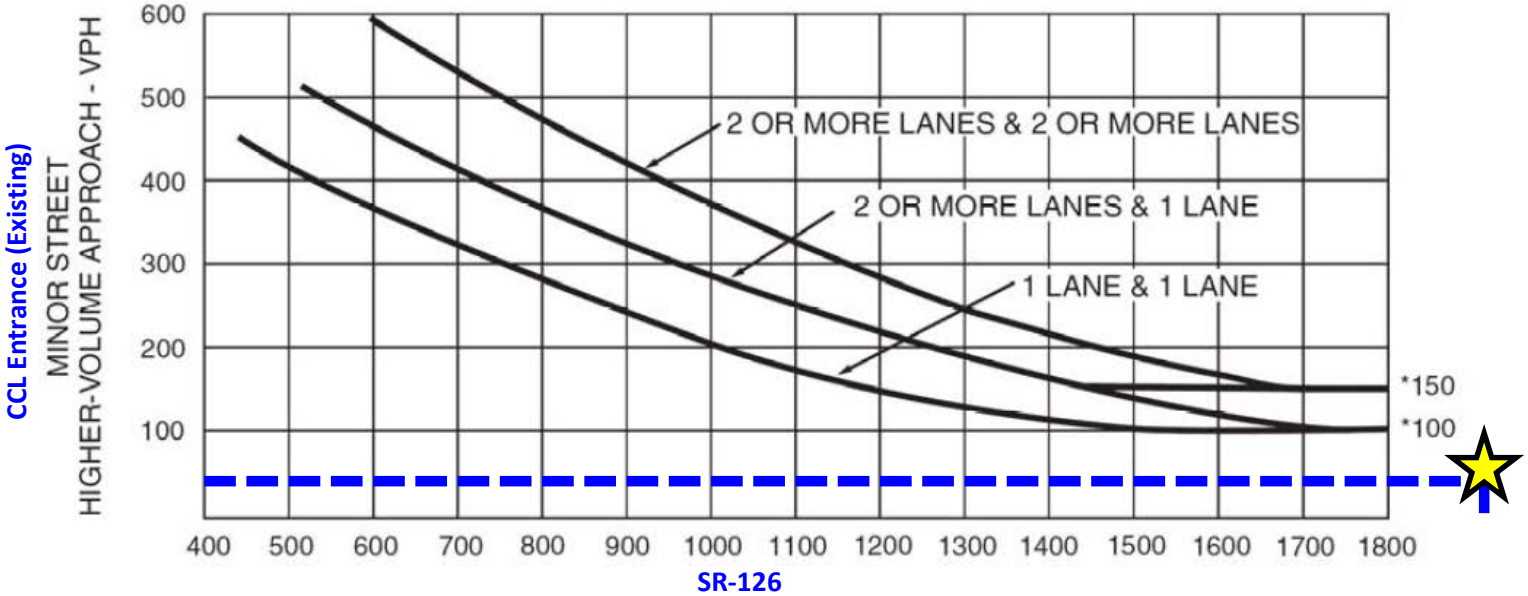
Existing plus Growth plus Other Development without Project Highest Peak Hour = PM Peak Hour



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

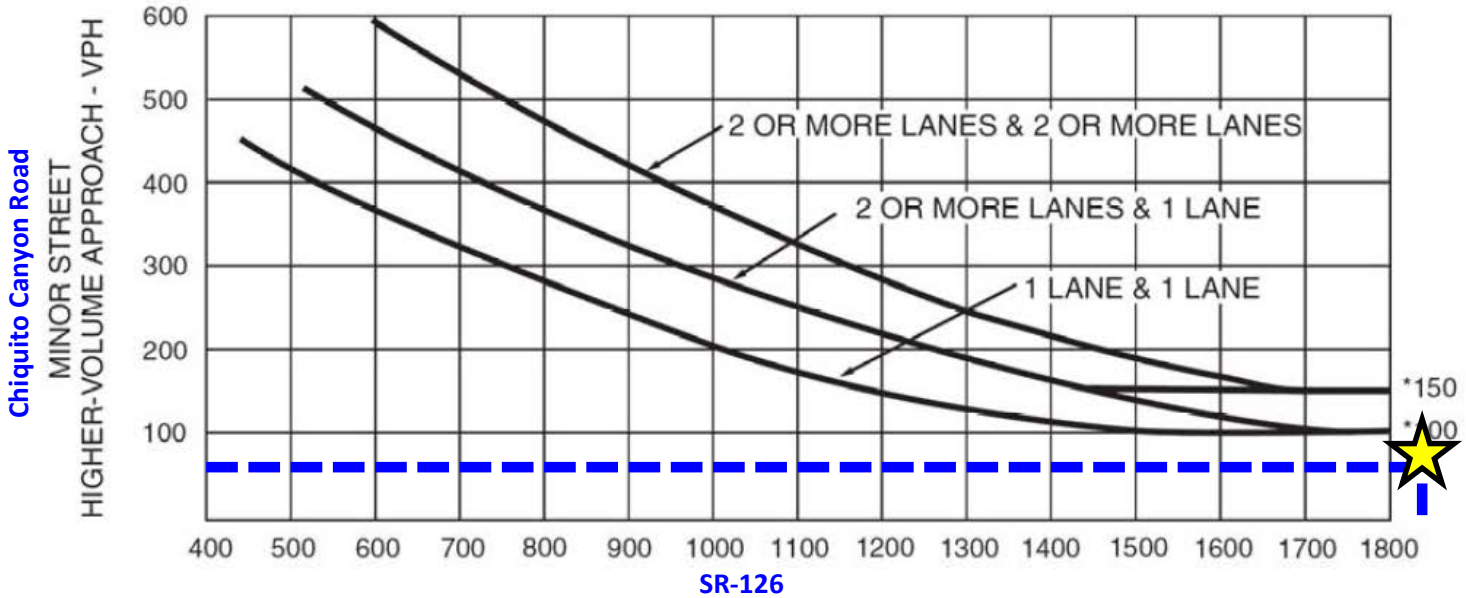
Existing plus Growth plus Other Development without Project Highest Peak Hour = PM Peak Hour



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

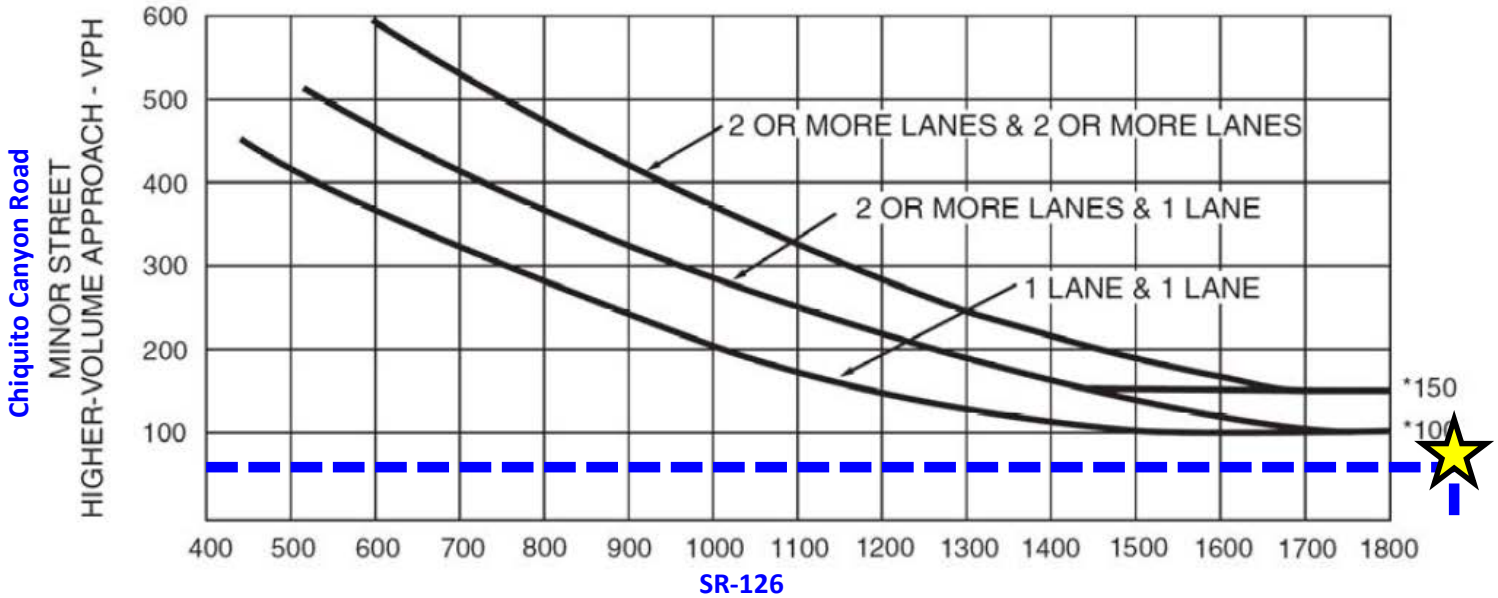
Existing plus Growth with Project Highest Peak Hour = PM Peak Hour



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing plus Growth plus Other Development with Project Highest Peak Hour = PM Peak Hour



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

APPENDIX E
TRAFFIC INDEX CALCULATION WORKSHEETS

10-Year Traffic Index Calculations

Roadway: SR-126 **Limits:** Wolcott Way to Commerce Center

	2014 without Project			10-Year		
	(A)	(B)	(C)	(D)	(E)	(F)
Axle	**24-Hour TAB Volumes**	**EWL Constants**	**Existing EWL (A) x (B)**	**Ambient Growth***	**24-Hour TAB Volumes (A) x $(1+D/100)^{10}$**	**10 Year EWL (E) x (B)**
2	802	300	240,600	2.75	1052	315,600
3	593	920	545,560	2.75	778	715,760
4	373	1320	492,360	2.75	489	645,480
5	2601	4080	10,612,080	2.75	3412	13,920,960
Total			**11,890,600**			**15,597,800**

* Based on LA County CMP and signed MOU.

10-Year EWL = $\frac{\text{(C) Total + (F) Total}}{2}$ **x 10 = 137,442,000**

10-Year TI = 12.0 (based on 2014 without project volumes)

Roadway: Wolcott Way **Limits:** SR-126 to Franklin Pkwy

	2014 without Project			10-Year		
	(A)	(B)	(C)	(D)	(E)	(F)
Axle	**24-Hour TAB Volumes**	**EWL Constants**	**Existing EWL (A) x (B)**	**Ambient Growth***	**24-Hour TAB Volumes (A) x $(1+D/100)^{10}$**	**10 Year EWL (E) x (B)**
2	13	300	3,900	2.75	17	5,100
3	10	920	9,200	2.75	13	11,960
4	6	1320	7,920	2.75	8	10,560
5	43	4080	175,440	2.75	56	228,480
Total			**196,460**			**256,100**

* Based on LA County CMP and signed MOU.

10-Year EWL = $\frac{\text{(C) Total + (F) Total}}{2}$ **x 10 = 2,262,800**

10-Year TI = 7.5 (based on 2014 without project volumes)

Roadway: SR-126 **Limits:** Wolcott Way to Commerce Center

	2014 with Project			10-Year		
	(A)	(B)	(C)	(D)	(E)	(F)
Axle	24-Hour TAB Volumes	EWL Constants	Existing EWL (A) x (B)	Ambient Growth*	24-Hour TAB Volumes (A) x $(1+D/100)^{10}$	10 Year EWL (E) x (B)
2	846	300	253,800	2.75	1110	333,000
3	626	920	575,920	2.75	821	755,320
4	394	1320	520,080	2.75	517	682,440
5	2745	4080	11,199,600	2.75	3600	14,688,000
Total			**12,549,400**			**16,458,760**

* Based on LA County CMP and signed MOU.

10-Year EWL = $\frac{\text{(C) Total + (F) Total}}{2}$ **x 10 = 145,040,800**

10-Year TI = 12.0 (based on 2014 with project volumes)

Roadway: Wolcott Way **Limits:** SR-126 to Franklin Pkwy

	2014 with Project			10-Year		
	(A)	(B)	(C)	(D)	(E)	(F)
Axle	24-Hour TAB Volumes	EWL Constants	Existing EWL (A) x (B)	Ambient Growth*	24-Hour TAB Volumes (A) x $(1+D/100)^{10}$	10 Year EWL (E) x (B)
2	76	300	22,800	2.75	100	30,000
3	56	920	51,520	2.75	73	67,160
4	35	1320	46,200	2.75	46	60,720
5	245	4080	999,600	2.75	321	1,309,680
Total			**1,120,120**			**1,467,560**

* Based on LA County CMP and signed MOU.

10-Year EWL = $\frac{\text{(C) Total + (F) Total}}{2}$ **x 10 = 12,938,400**

10-Year TI = 9.0 (based on 2014 with project volumes)

20-Year Traffic Index Calculations

Roadway: SR-126 **Limits:** Wolcott Way to Commerce Center

	2014 without Project			20-Year		
	(A)	(B)	(C)	(D)	(E)	(F)
Axle	24-Hour TAB Volumes	EWL Constants	Existing EWL (A) x (B)	Ambient Growth*	24-Hour TAB Volumes (A) x $(1+D/100)^{20}$	20 Year EWL (E) x (B)
2	802	300	240,600	2.75	1380	414,000
3	593	920	545,560	2.75	1020	938,400
4	373	1320	492,360	2.75	642	847,440
5	2601	4080	10,612,080	2.75	4475	18,258,000
Total			**11,890,600**			**20,457,840**

* Based on LA County CMP and signed MOU.

20-Year EWL = $\frac{\text{(C) Total + (F) Total}}{2}$ **x 20 = 323,484,400**

20-Year TI = 13.5 (based on 2014 without project volumes)

Roadway: Wolcott Way **Limits:** SR-126 to Franklin Pkwy

	2014 without Project			20-Year		
	(A)	(B)	(C)	(D)	(E)	(F)
Axle	24-Hour TAB Volumes	EWL Constants	Existing EWL (A) x (B)	Ambient Growth*	24-Hour TAB Volumes (A) x $(1+D/100)^{20}$	20 Year EWL (E) x (B)
2	13	300	3,900	2.75	22	6,600
3	10	920	9,200	2.75	17	15,640
4	6	1320	7,920	2.75	10	13,200
5	43	4080	175,440	2.75	74	301,920
Total			**196,460**			**337,360**

* Based on LA County CMP and signed MOU.

20-Year EWL = $\frac{\text{(C) Total + (F) Total}}{2}$ **x 20 = 5,338,200**

20-Year TI = 8.0 (based on 2014 without project volumes)

Roadway: SR-126 **Limits:** Wolcott Way to Commerce Center

	2014 with Project			20-Year		
	(A)	(B)	(C)	(D)	(E)	(F)
Axle	24-Hour TAB Volumes	EWL Constants	Existing EWL (A) x (B)	Ambient Growth*	24-Hour TAB Volumes (A) x $(1+D/100)^{20}$	20 Year EWL (E) x (B)
2	846	300	253,800	2.75	1455	436,500
3	626	920	575,920	2.75	1077	990,840
4	394	1320	520,080	2.75	678	894,960
5	2745	4080	11,199,600	2.75	4723	19,269,840
Total			**12,549,400**			**21,592,140**

* Based on LA County CMP and signed MOU.

20-Year EWL = $\frac{\text{(C) Total + (F) Total}}{2}$ **x 20 = 341,415,400**

20-Year TI = 13.5 (based on 2014 with project volumes)

Roadway: Wolcott Way **Limits:** SR-126 to Franklin Pkwy

	2014 with Project			20-Year		
	(A)	(B)	(C)	(D)	(E)	(F)
Axle	24-Hour TAB Volumes	EWL Constants	Existing EWL (A) x (B)	Ambient Growth*	24-Hour TAB Volumes (A) x $(1+D/100)^{20}$	20 Year EWL (E) x (B)
2	76	300	22,800	2.75	131	39,300
3	56	920	51,520	2.75	96	88,320
4	35	1320	46,200	2.75	60	79,200
5	245	4080	999,600	2.75	422	1,721,760
Total			**1,120,120**			**1,928,580**

* Based on LA County CMP and signed MOU.

20-Year EWL = $\frac{\text{(C) Total + (F) Total}}{2}$ **x 20 = 30,487,000**

20-Year TI = 10.0 (based on 2014 with project volumes)