APPENDIX A – GLOSSARY

APPENDIX B – METHODOLOGY AND ASSUMPTIONS

APPENDIX C – DATA AND WORKSHEETS

APPENDIX D – REFERENCES

APPENDIX A: GLOSSARY – DEFINITIONS OR DESCRIPTIONS

BMP – Bicycle Master Plan – A citywide plan for Seattle, the Bicycle Master Plan identifies priorities for investments to make improvements to bicycle facilities. (http://www.seattle.gov/transportation/bikemaster_materials.htm)

CMP – Campus Master Plan – The University of Washington's Campus Master Plan guides development on campus and within the MIO, determining how the campus can grow in the coming years while minimizing impacts to the community. The most recent University of Washington Campus Master Plan for the Seattle campus was completed in 2003 and is being updated for 2018.

CTR – Commute Trip Reduction – Washington's Commute Trip Reduction Act adopted in 1991 encourages employers to reduce single occupant, drive alone behavior through incentives and other programs. The act passes regulations requiring local governments to develop programs that reduce drive-alone trips and vehicle miles traveled in order to reduce traffic congestion, air pollution, and fuel consumption levels.

CUA – City University Agreement – An agreement between the City of Seattle and the University of Washington, signed in 1998 and updated in 2004, that defines maximum parking and peak period trip thresholds. Currently, the PM peak period (3-6 PM) trip cap is approximately 10,500 trips from the University District, and approximately 8,500 trips from the University of Washington campus. The current AM peak period (7-9 AM) trip cap is approximately 10,100 inbound trips to the University District and approximately 7,900 inbound trips to the University of Washington campus. The maximum parking threshold is 12,300 spaces.

FMP – Freight Master Plan – The Draft Freight Master Plan is a Citywide Seattle plan that identifies priorities for investments to make improvements to freight and loading facilities. (http://www.seattle.gov/transportation/freight_fmp.htm)

FTE – Full Time Equivalent – A Full Time Equivalent converts actual campus headcounts of students, faculty, and staff to a full time equivalency based on eight hour days and 40-hour work week.

GMA – Growth Management Act – Washington's Growth Management Act establishes regulations for local governments to prepare plans that will track and manage growth and impact on natural resources and defines concurrency as a tool to ensure investments in infrastructure are in place to address the impacts of growth and development.

GSF – Gross Square Footage – Includes the entire building footprint in addition to walls and other non-usable space

HCM – Highway Capacity Manual (HCM) – The Highway Capacity Manual defines methodology used to calculate LOS for study area intersections and corridors. For this report, HCM 2000 methodology and HCM 2010 methodology were used. HCM 2000 was applied to intersections limited by HCM 2010's inability to model five-legged intersections as well as intersections with restricted signal timing.

HCT – High Capacity Transit – High-capacity transit is intended to move more people than a car or typical bus, and typically has fewer stops, higher speeds, and more frequent service than local bus service.

HOV – High Occupancy Vehicle – A high occupancy vehicle carries one driver and at least one other passenger.

LOS – Level of Service – Traffic operations for an intersection or corridor can be described alphabetically with a range of LOS values (LOS A through F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Intersection LOS incorporate intersection signal timing, signal phasing, channelization, traffic volumes, and pedestrian volumes for both signalized and unsignalized intersections.

Move Seattle – A citywide strategic vision and levy for transportation investments in the City of Seattle

MIO – Major Institution Overlay – The Major Institution Overlay is a boundary defined by the City of Seattle Land Use and Zoning Code, noting the extents of the University of Washington.

NEPA – National Environmental Policy Act

PBL – Protected Bike Lane – A protected bike lane separates bicycles from pedestrians and vehicles on a roadway, creating safe facilities for all modes of travel.

PMP – Pedestrian Master Plan – A Pedestrian Master Plan identifies priorities for investments to make improvements within the pedestrian realm. The City of Seattle's Pedestrian Master Plan is in the process of being updated at the time of this writing.
(http://www.seattle.gov/transportation/pedestrian_masterplan/)

SDOT – Seattle Department of Transportation

SEPA – State Environmental Policy Act

SOV – Single Occupancy Vehicle – A single occupancy vehicle carries one driver.

TMP – Transit Master Plan –A Transit Master Plan identifies priorities for investments to make improvements to transit service and facilities.
(http://www.seattle.gov/transportation/docs/TMP/final/TMPSupplmtALL2-16FINAL.pdf)

TMP – Transportation (Demand) Management Program – A transportation management program provides strategies for limiting traffic impacts and promoting active communities by managing vehicle trips and parking, as well as accommodating transit and non-motorized travel modes.

U-PASS – U-PASS Program – The University of Washington's U-PASS Program provides students, faculty, and staff with subsidized access to transit. Participating local agencies include King County Metro, Sound Transit, Community Transit, Pierce Transit, Kitsap Transit, and Everett Transit, as well as the King County Water Taxis and Seattle Streetcar. Unlimited rides on these transit agencies are free with the Student U-PASS, and discounts for Zipcar, car2go, and Pronto memberships are also included. The Student U-PASS includes an $80 per student mandatory fee incorporated into quarterly tuition. The University's Employee U-PASS includes the same benefits as the Student U-PASS for $150 per calendar quarter.

UWTS – University of Washington Transportation Services

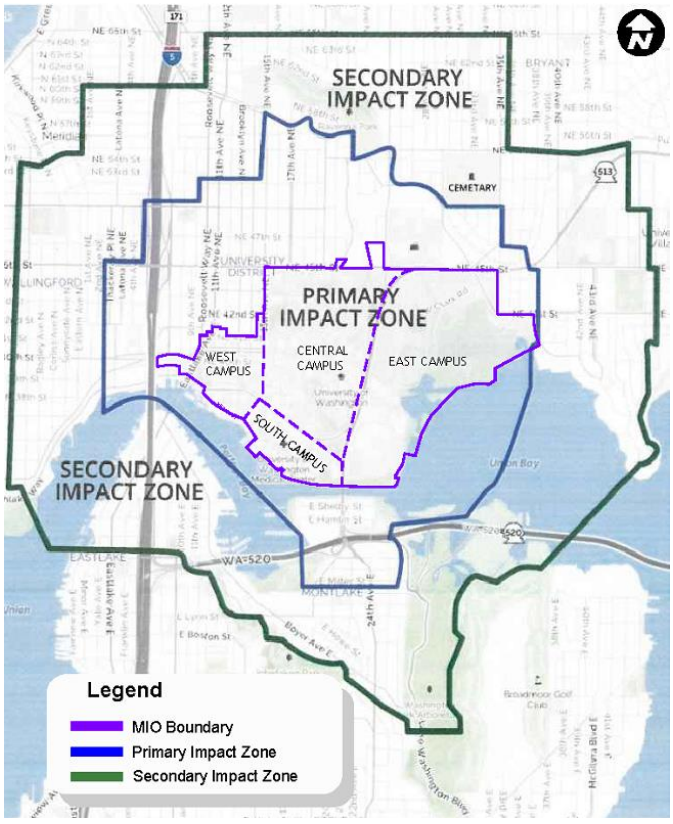
V/C – Volume to Capacity ratio – A ratio typically relating demand to capacity

APPENDIX B: METHODOLOGY AND ASSUMPTIONS

This section provides technical details, background, and descriptions of the methodology for evaluating the proposed alternatives effects on transportation systems. It describes analysis parameters including the study area limits, analysis years, background transportation investments, analysis time periods, performance measures for modes and methods for calculating, and performance thresholds.

1 STUDY AREA

To evaluate impacts of an updated Campus Master Plan, the affected area is assumed to be consistent with the City University Agreement[1] (CUA), which defines the primary and secondary impact zones associated with the evaluation and monitoring of the transportation related impacts of the university. Thus the primary and secondary impacts zone boundaries serve as the project study limits. As the names suggest, growth at the University of Washington is expected to have greater impacts in the primary impact zone with lesser impacts in the secondary impact zone. For this reason, the analysis conducted in the primary impact zone is more detailed, while analysis in the secondary impact zone will be less detailed. The boundaries are shown in Figure B.1.



Source: CUA

Figure B.1 University of Washington Primary/Secondary Transportation Impact Zones

[1] 1998, amended November 29, 2004

2 HORIZON YEAR/ANALYSIS PERIODS/BACKGROUND IMPROVEMENTS

The Campus Master Plan reflects a 10-year planning horizon with a base year for development to begin of 2018 extending to 2028. A general list of the City and regional investments anticipated between today (2016) and 2028 are noted in Table B.1. These investments are considered as part of the background conditions for the different transportation modes noted in the introduction of this report.

Table B.1
BACKGROUND IMPROVEMENTS BY 2028

Type of Improvements	Description
Pedestrians	New multiuse trail across the Montlake Cut connecting the University of Washington with the Washington Park Arboretum as part of the Move Seattle Levy. Continued modifications of the regional Burke Gilman trail through the University of Washington. Green streets are intended to enhance and expand public open space give priority to pedestrian circulation and open space over other transportation uses. Green streets use treatments that may include sidewalk widening, landscaping, traffic calming, and other pedestrian-oriented features. Brooklyn Avenue, NE 43rd Street and NE 42nd Street are designated green streets in the University District.
Bicycles	As part of the Move Seattle Levy, protected bicycle lanes (PBL) on N 50th Street, 35th Avenue NE and bicycle lanes on Brooklyn Ave N are proposed. PBLs have also been identified along 15th Avenue; however, concepts have not been developed, making it unclear how these lanes would be implemented. PBLs have not been identified in the Seattle Bicycle Master Plan 2016-2020 Implementation Plan.
Transit	The Transit Master Plan identifies Multimodal Transit Corridor enhancements along Roosevelt Way NE/11th Avenue NE/Eastlake Avenue NE, 15th Avenue NE/NE Pacific Street/23rd Avenue NE (extension of Montlake) and Market Street/NE 45th Street. Completion of Sound Transit 2 extension of Link Light Rail from the University of Washington Station to Lynnwood including an additional light rail station near campus (University District at Brooklyn Avenue). Expansion of King County Metro Express, Frequent/Rapid Ride and Local service identified in Metro Connects the King County Metro Long Range Plan.
Vehicle	A second Montlake Boulevard Bascule Bridge has been identified as part of the SR 520 Bridge Replacement, which is funded as part of the Connecting Washington Partners Projects and is expected to be completed by 2027.
Freight	The draft Seattle Freight Master Plan includes designation of a network prioritized for use by freight. This plan identifies 45th Street, Pacific Street and Montlake Avenue, and the Roosevelt 11th Avenue couplet as Minor Truck Streets. There are not planned infrastructure investments identifies in the project area.

Source: State Route 520 Bridge Replacement and HOV Project High Capacity Transit Plan (2008), King County Metro Draft Long-Range Plan Summary (2016), Sound Transit 2 (2008), City of Seattle Draft Pedestrian Master Plan (2016), City of Seattle Bicycle Master Plan (2015), City of Seattle Transit Master Plan (2016), and City of Seattle Draft Freight Master Plan, U District Green Streets Concept Plan (2015).

Guiding future city infrastructure investments, the City of Seattle has developed modal plans (Pedestrian Mobility Plan, Bike Mobility Plan, Transit Mobility Plan, and Freight Mobility Plan) that identify projects

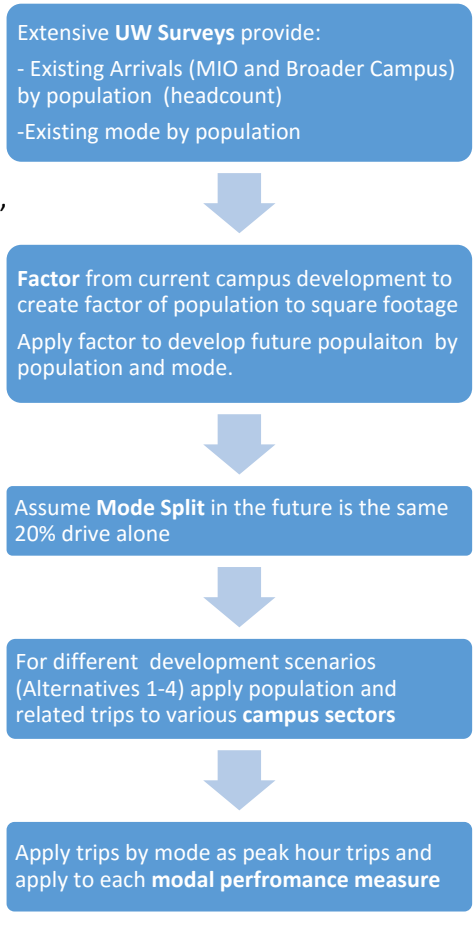
and corridor needs. These plans support an aspirational long range, often 20-year, horizon and may not include implementation timelines nor details on how infrastructure could change.
Additionally, King County Metro has developed Metro Connects, their long range plan for transit investments to the year 2040. Finally, Sound Transit completed work on their Long Range Transit Plan, ST 3, which identifies the next range of transit investments.

3 ANTICIPATED (BACKGROUND) AND PROPOSED GROWTH

The City has published a draft 2035 Comprehensive Plan as well as a U District Upzone Plan that reflect increased density and heights in the University District surrounding the University of Washington campus. The City 2035 plan includes an increase of 120,000 residents and 115,000 jobs, citywide by 2035. The U District Urban Design process suggests a potential increase in building heights over the Comprehensive plan levels. For this analysis, background growth was interpolated from the 2035 plan using the City developed travel demand model to reflect the 2028 design year. Land use and traffic as part of the U District up zone are assumed as part of a cumulative analysis. In addition to vehicle traffic, the City developed travel demand model provides background growth related to transit, pedestrians and bicycles.

Trip Generation and Growth:
The transportation analysis of growth on the University of Washington Campus as an update of their Campus Master Plan, required consideration of:

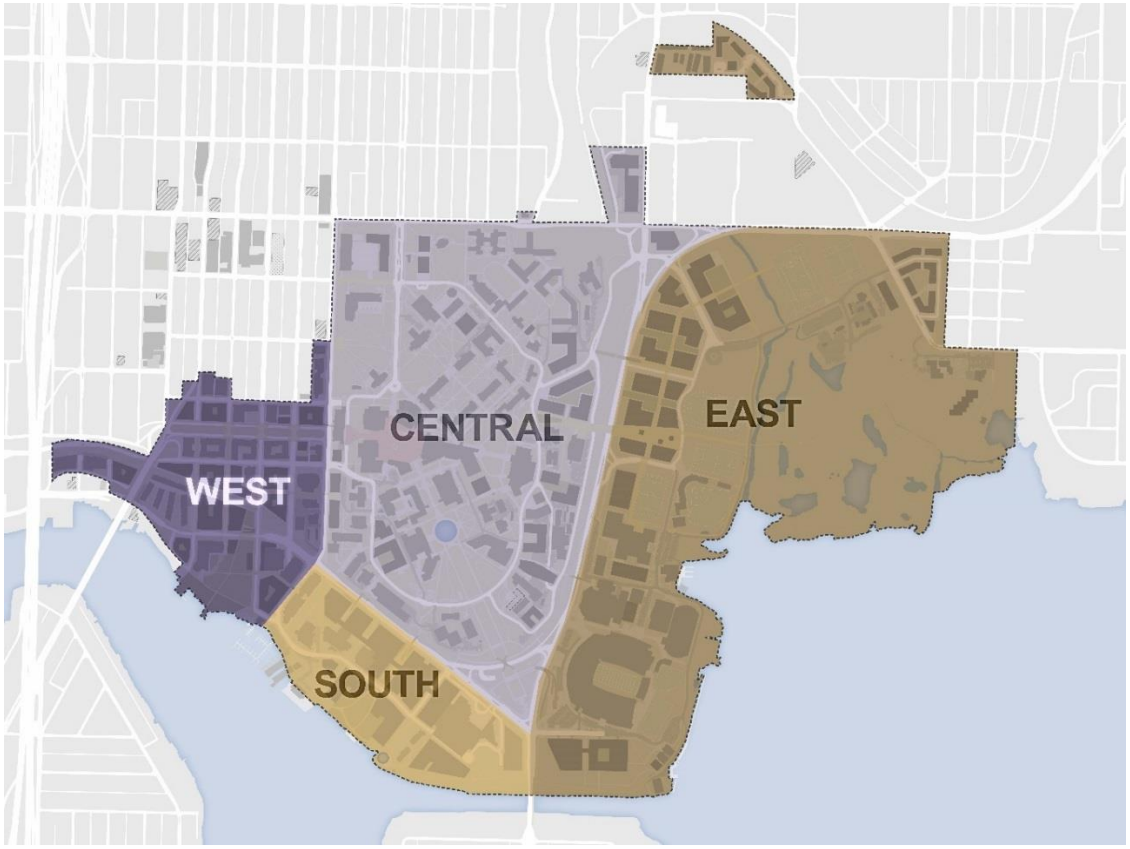
- Background growth – Growth that is planned to occur outside the campus growth
- Campus Growth – Increased trips reflective of the planned, as well as proposed Campus Master Plan
- Growth from Pending Zoning – Growth from proposed, yet not approved zoning, as is proposed by the U District Upzone is considered as part of the Cumulative development scenarios



Background Growth – The City Travel Demand Model used for the 2035 Comprehensive Plan was used to estimate growth trends These trends were applied as growth factors on top of existing trips to represent growth to the year 2028 as background traffic.
Campus Growth – Campus growth is reported for the planned development which is approved as part of the 2003 Campus Master Plan, considered to be No Action, and, on top of that, growth proposed as action alternatives for this EIS including up to 6 million gross square feet of development. In the four proposed action alternatives, this additional 6 million net new gross square feet of development is allocated to different sectors of the campus.
Generation of trips for both No Action and Action alternatives was developed using trends from available data University of Washington surveys to estimate total trips by population type (students, faculty and staff), allocated to

different sectors (see **Figure B.2**) based on development alternative and assigned to various modes and reported for different times of day.

Growth for Pending Zoning – Trips resulting from proposed upzoning and increased heights in the University District are not currently approved, but to assess the cumulative impacts of upzoning with the increased 6 million square feet of development, additional landuse reflecting increased building height. This prospective development is evaluated under cumulative impacts

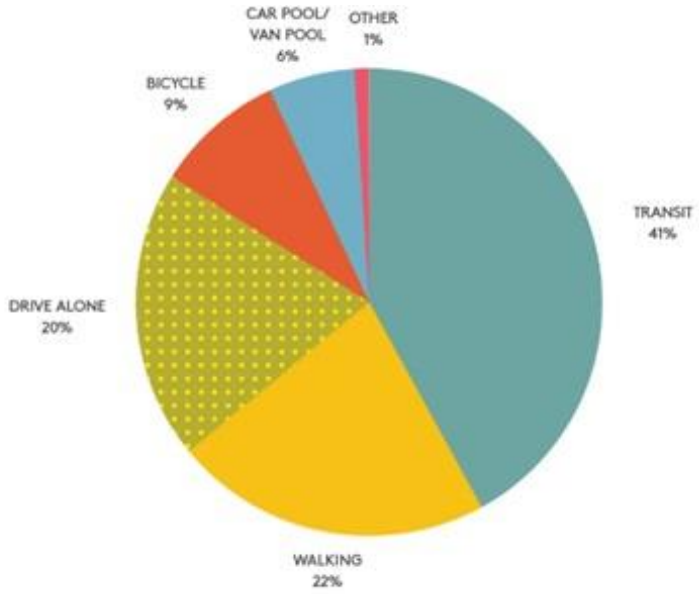


Source: Transpo 2016

Figure B.2 University of Washington Primary/Secondary Transportation Impact Zones

4 MODE SPLIT

The mode split, or proportion of trips using a particular mode, is an important factor in evaluating the effects of growth. It is desirable to have travel made by students, faculty and staff use lower impacting and more sustainable modes such as walking, biking or taking transit. The University of Washington has a strong record of achieving an aggressive mode split with drive alone trips to the campus accounting for just 20 percent of all trips (See **Figure B.3**). This is significantly lower than other areas, employers, and communities. The drive alone percentage has stayed near 20 percent for several years. While mode split could fluctuate with the increased access to rail transit or other emerging trends, **for the purposes of the Transportation Discipline Report and this EIS, mode split is assumed to remain a conservative 20 percent single occupant driver through the year 2028 and for all alternatives**.



Source: University of Washington Transportation Services and Sasaki, 2016 CMP

Figure B.3 Existing Mode Split

5 PEAK ANALYSIS PERIOD

The campus is a vibrant and active place with activities at all times of the day and every day of the week. To determine the appropriate analysis period (morning or afternoon, weekday or weekend), 24-hour count data from the City of Seattle was obtained and reviewed for several key locations throughout the study area. This data was also used to compare weekday AM and PM peak hour volumes to determine which peak period had higher volumes, and thus should be included in the analysis. The weekday comparison was done for the 7 – 9 a.m. period and the 4 – 6 p.m. period. Table B.2 summarizes the peak one-hour count information at key locations within the study area within these time periods. The data presented in the table represents the peak of the daily volumes and may not necessarily correspond to the same one-hour period at each location.

Table B.2
PEAK HOUR COMPARISON (WEEKDAY VS. WEEKEND)

Location	Peak Hour Volumes							
	Weekday PM (Tues-Thurs)[1]		Weekday AM (Tues-Thurs)[1] (Percent of PM Peak)		Saturday (Percent of Weekday)		Sunday (Percent of Weekday)	
	Volume	Peak Hour	Volume	Peak Hour	Volume	Peak Hour	Volume	Peak Hour
Montlake Boulevard NE, north of NE Pacific Place.[2]	4,035	5 – 6 PM	3,465 (85%)	8 – 9 AM	4,885[4] (121%)	5 – 6 PM	3,680 (91%)	4 – 5 PM
15th Avenue NE, south of NE 45th Street.[2]	1,220	4 – 5 PM	905 (74%)	8 – 9 AM	895 (73%)	3 – 4 PM	705 (58%)	3 – 4 PM
11th Avenue NE, south of NE 45th Street.[2]	1,080	5 – 6 PM	305 (28%)	8 – 9 AM	785 (73%)	2 – 3 PM	455 (42%)	3 – 4 PM
Roosevelt Way NE, north of NE 50th Street.[3]	880	5 – 6 PM	910 (103%)	8 – 9 PM	895 (102%)	7 – 8 PM	710 (81%)	5 – 6 PM

1. PM peak hour between 4:00 PM – 6:00 PM, AM peak hour between 7:00 AM – 9:00 AM
2. February 2016, SDOT traffic count data
3. October 2014, SDOT traffic count data
4. Traffic volumes reflects activity associated with a sporting event (basketball game)

As shown in Table B.2, traffic volumes observed during peak Saturday and Sunday peak hours range from 42 percent to 121 percent of the weekday PM peak hour. The highest Saturday volume along Montlake Boulevard NE (121 percent of the PM peak hour) coincides with a University of Washington Huskies basketball game and explains the higher volumes. Additionally, the AM peak hours ranged from 28 to 103 percent of the weekday PM peak hour. During the AM peak hour volumes are higher along Roosevelt Way NE. Roosevelt Way NE and 11th Avenue NE operate as a couplet, one-way southbound along Roosevelt Way NE and one-way northbound along 11th Avenue NE. The higher volumes along Roosevelt Way NE indicates the directionality of traffic i.e. more vehicles are traveling southbound (Roosevelt Way NE) during the AM and northbound (11th Avenue NE) during the PM peak hours. Total couplet volumes during the PM peak hour are 1,960 vehicles and the AM peak hour are approximately 1,215 vehicles or 62 percent of the PM peak hour volumes.

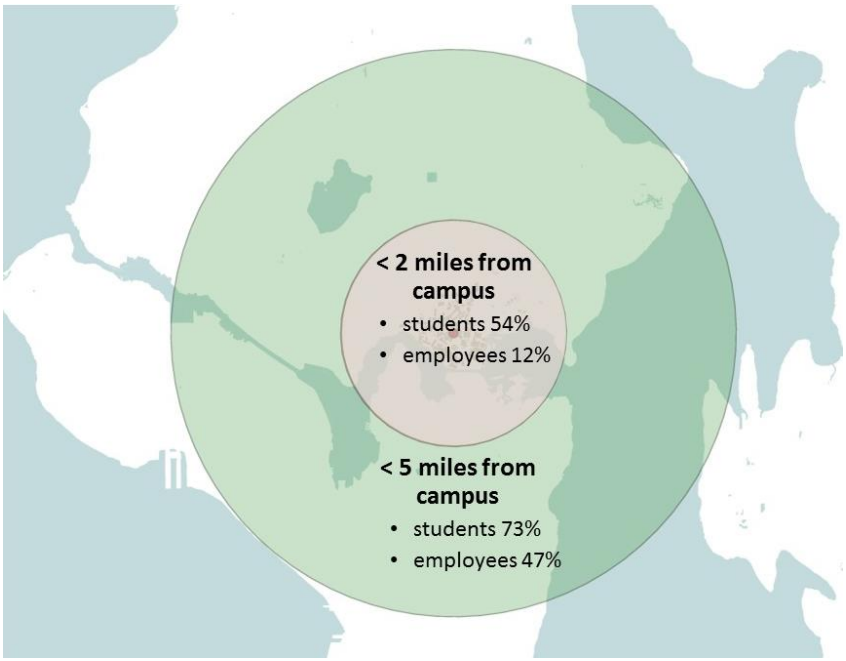
Generally, throughout the study area the PM peak hour represents the highest volumes. The differences noted between the weekday AM and PM peak hour volumes are nominal and within the range of daily fluctuations. Existing turning movement counts were collected in October and November 2015 within the study area shown in Appendix C. As such, the weekday PM peak hour was chosen as the time period

to measure the impacts of the alternatives. This time coincides with the end of the work day for much of the University as well as people travelling through the area and the end of classes for many. As a result, the PM Peak period will be analyzed for all transportation operations.

6 TRIP DISTRIBUTION

The campus is a unique environment as a large number of students live near and on campus. General distribution patterns for students, faculty, and staff were estimated based on the City Travel Demand Model and campus surveys.

Data from the University of Washington indicates that currently, more than half of the students and over 10% of the employees (faculty and staff) live within 2 miles of the campus, as shown in Figure B.4. These amounts increase to almost 75% for students and almost half of employees when the distance increased to 5 miles. The 2035 City of Seattle travel demand model provides distribution patterns based on regional growth, changing modes and expansion of transit.



Source: Transpo 2016.

Figure B.4 Proportion of Students and Employees within 5 Miles of Campus

7 OTHER TRENDS

Other assumptions that support this transportation analysis are also discussed in greater detail in the methods and assumptions and include:

- **Emerging Trends: Shared Use and Transportation Network Companies** – Anticipated trends in transportation that could affect the analysis of transportation for the Campus Master Plan include emerging Transportation Network Companies like Lyft, Uber, and shared use transportation providers such as Pronto (bicycle), Car2go, and Zipcar. While use of TNCs for travel is increasing, use and trend data for TNC companies is not broadly available. The Transportation Discipline

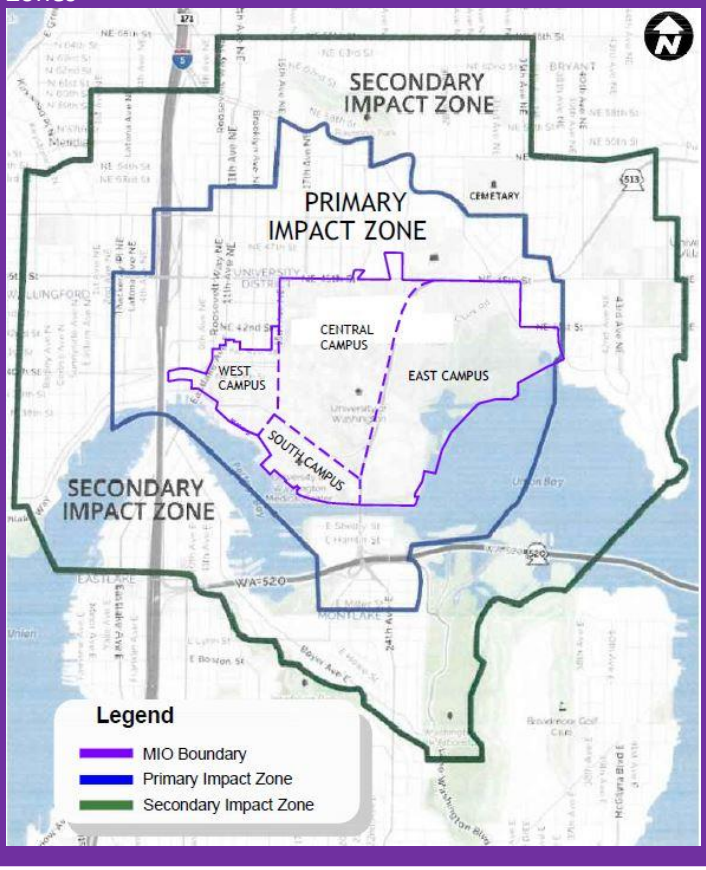
Report and this EIS includes information related to TNCs and shared use providers to the extent it is available, but assumes it remains a small portion of overall travel.

8 PERFORMANCE MEASURES

Impact to transportation systems is generally assessed as a comparison between the No Action Alternative with permitted development and background growth) and each action alternative (Alternatives 1-5). As noted in Section 1 Introduction, the CMP action alternatives consist of up to 6.0 million gross square feet of net new development allocated to different sectors of the campus. Even though the amount of development is the same between all action alternatives, the impacts may vary for transportation depending on where development occurs on campus (i.e., depending on sector development). The City has a variety of measurements for assessing impact including screenlines as part of concurrency and the comprehensive plan. A variety of performance measures are used to analyze the effects and impacts of the proposed CMP alternatives. These performance measures are defined for the Primary and Secondary Impact zones, apply to different transportation modes with different potential thresholds, and may measure cumulative impacts.

Primary and Secondary Impact zones – As noted in Section 2.1 Study Area, the CUA identifies a Primary and Secondary Impact Zone to be monitored related to campus growth and development. The Primary Impact zone includes within it an area also defined as the Major Institutions Overlay or MIO. The impact zones suggest that impacts dissipate as you get farther away from the campus. It is expected that there will be greater impacts identified in the Primary Impact zone and thus more fine grained analysis is conducted within this area. In the Secondary Impact zone impacts are expected to dissipate and thus more aggregate analysis is applied.

Major Institution Overlay (MIO): The Major Institution Overlay is a boundary defined by the City of Seattle Land Use and Zoning Code, noting the extents of the University of Washington. It is shown below in reference to the Primary and Secondary Impact Zones



Thresholds – For some performance areas there are defined and established measures of impact or thresholds such as intersection operational analysis and parking utilization. Thresholds

specific to the University are described in the CUA and include maximum allowable caps for vehicle trips to the University facilities in the MIO (University Cap), to University area facilities (U District Cap) and University parking facilities in the MIO (Parking Cap). Where this is the case the thresholds are noted.

The measures applied in this Transportation Discipline Report are summarized in Table B.3.

Table B.3
PERFORMANCE MEASURES

Measure	Mode	Period Evaluated	Description	Impact Zone	Threshold
Proportion of Development within ½ mile of Multifamily Housing	Pedestrian	All Day	Measures amount/proportion of development in a half mile proximity to multifamily housing	MIO/ Primary	Alternative comparison only
Proportion of Development within ½ mile of University of Washington Residence Halls	Pedestrian	All Day	Measures amount/proportion of development in a half mile proximity to University of Washington Residence Halls housing	MIO/ Primary	Alternative comparison only
Quality of Pedestrian Environment	Pedestrian	All Day	Qualitative assessment of the existing walking environment based on the Landscape Framework Plan	Primary/ Secondary	Information only
Burke-Gilman Trail Capacity	Ped and Bicycle	PM Peak Hour	Pedestrian & bicycle level of service analysis based on findings from the Burke-Gilman Trail Corridor Study	MIO/ Primary	Information only
Bicycle Parking & Utilization	Bicycle	Mid-day Peak	Bicycle parking utilization	MIO/ Primary	Information only
Quality of Bicycle Environment	Bicycle	All Day	Qualitative assessment of bicycle environment based on demand, network connectivity, and safety	Primary/ Secondary	Information only
Proportion of Development within ½ mile of Rapid Ride	Transit	All Day	Measures amount/proportion of new development in a half mile proximity to proposed rapid ride	MIO/ Primary	Alternative comparison only
Proportion of Development within ½ mile of Light Rail	Transit	All Day	Measures amount/proportion of new development in a half mile proximity to proposed rapid ride	MIO/ Primary	Alternative comparison only
Transit Service Guidelines	Transit	All Day	Measures amount/proportion of campus meeting proposed Metro Service Guidelines	Primary/ Secondary	Information only
Arterial Operations	All Vehicles[2]	Peak Hour	Measures travel times for various modes along adjacent corridors	Primary/ Secondary	Speed Travel Time

Measure	Mode	Period Evaluated	Description	Impact Zone	Threshold
Intersection Operations	All Vehicles[2]	Peak Hour	Measures delay and operations at intersections	Secondary	Intersection Capacity and LOS
Comp Plan Screenlines	All Vehicles[2]	Peak Hour	Measures aggregate demand crossing a screenline as compared to the capacity	Primary/ Secondary	Comp Plan Screenline Capacity
Cordon Screenlines	All Vehicles[2]	Peak hour	Measures aggregate comparative demand crossing a cordon around the campus for arterials entering/exiting the campus	Primary/ Secondary	
University Trip Cap[1]	All Vehicles[2]	AM Peak and PM Peak	Measures aggregate number of vehicle trips assumed to enter / exit parking areas on campus within the MIO	MIO	Trip Cap[1]
University District Trip Cap[1]	All Vehicles[2]	AM Peak and PM Peak	Measures aggregate number of vehicle trips assumed to enter / exit campus parking areas in the University District	MIO/ Primary	Trip Cap[1]
Parking Supply & Utilization	Vehicle parking spaces	Mid-day	Measures the amount parking supply needs to accommodate alternative development scenarios assuming an 85% parking utilization	MIO	85% Utilization
Parking Cap[1]	Vehicle parking spaces	Mid-day	Maximum number of stalls permitted within the MIO	MIO	Parking Cap[1]

5. Caps as defined by the CUA agreement
6. All vehicles include vehicles, carpools, freight, and transit

CUA (City-University Agreement) An agreement between the City of Seattle and the University of Washington, that defines maximum parking and peak period trip thresholds.

Cordon: A hypothetical boundary where trips are measured crossing in and or out of that boundary is measured and compared.

Screenline: A hypothetical line where the aggregate of trips crossing the line is measured and compared.

8.1 PEDESTRIAN PERFORMANCE MEASURES

1. **Level of Service for Screenlines surrounding the Campus** (Alternative: Screenline LOS if methodology can be identified) ON HOLD UNTIL CAMPUS IN SESSION
    a. Measure: Pedestrian LOS at or adjacent to 15th Ave NE, NE Pacific St, Montlake Blvd NE and NE 45th St along primary or secondary routes as defined by the CMP
    b. Data Needs:

i. Field data collect to determine effective width/capacity of each location
ii. Field data collection to assess street/path quality
iii. Field data collection for peak period pedestrian volumes
iv. Methodology to forecast pedestrian volumes increases at locations based on alternative and major changes in destinations such as U-District Station

c. Map: Map of locations with LOS
d. Assessment of Measure: Aggregate pedestrian volumes across screenlines surrounding the campus

2. **Proximity of Each Sector to Multi-family Housing and Residency Halls** (Alternative: flip measure to focus on zoning type/residence halls units within 1/2mile of subarea, would factor in potential zoning changes)
    a. Measure: Quantitative, percent of subarea within ½ mile of multifamily zones or residence halls by subarea
    b. Data Needs: Location of multifamily zones and residency halls
    c. Map: map of buffers
    d. Assessment of Measure: Provides some differentiation between alternatives but limited with ½ mile buffer. Alterative measure would be more sensitive to U-District upzone.
3. **Assessment of Pedestrian Environment within Primary and Secondary Impact Zones**
    a. Measures: Qualitative assessment of alternative based on pedestrian demand, network connectivity, and safety
    b. Data Needs: Baseline data on pedestrian demand, network and safety. List of alternative specific projects that might affect these.
    c. Map: None
    d. Assessment of Measure: Provides a good area to address impacts to the pedestrian environment outside the MIO (such as along University Way)

8.2 BICYCLE PERFORMANCE MEASURES

1. **Level of Service along Burke Gilman Trail within MIO**
    a. Measures: quantitative assessment of bicycle level of services along trail based on existing and proposed cross section and pedestrian/bicycle demand (existing/2030)
    b. Data Needs: Burke Gilman study (SvR and ALTA studies)
    c. Map: From Studies
    d. Assessment of Measure: Leverage past work, assert need for trail expansion and position this as potential mitigation that directly benefits UW and already is a UW priority
2. **Assessment of Bicycle Environment within Primary and Secondary Impact Zones**
    a. Measures: Qualitative assessment of alternative based on bicycle demand, network connectivity, and safety
    b. Data Needs: Baseline data on bicycle demand, network and safety. List of alternative specific projects that might affect these.
    c. Map: None
    d. Assessment of Measure: Provides good area to talk about city planned/funded bike improvements outside MIO as well as a good place to discuss impact/value of major

project investments like a ped/bike Montlake bridge which is valuable to highlight and priority of UW

3. **Parking Utilization**
    a. Measures: Quantitative assessment of forecasted demand and supply of bicycle parking by subarea
    b. Data Needs:
        i. Latest bicycle parking study with data by subarea
        ii. Assumptions with regards to existing/new bicycle parking supply
    c. Map: map of utilization by subarea for each alternative
    d. Assessment of Measure: Consider historical data especially where development has occurred.

8.3 TRANSIT PERFORMANCE MEASURES

1. **Proximity of Each Sector to Link and RapidRide Station** (Alternative: existing/proposed UW building capacity within 1/2mile station)
    a. Measure: Percent of subarea within a ½ mile walk of station
    b. Data Needs: station locations
    c. Map: buffers
    d. Assessment of Measure: Okay proximity measure that helps show the value of the U-District station and additional proposed Metro RapidRide lines.

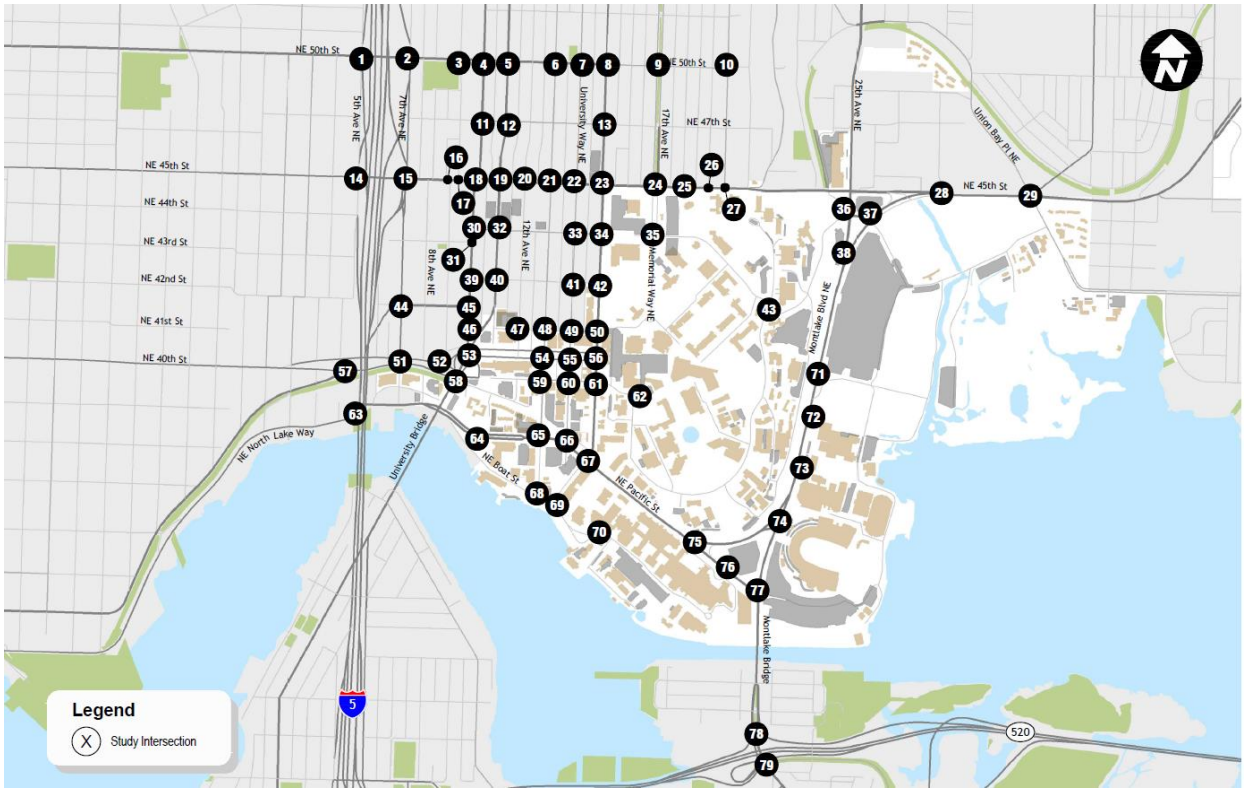
8.4 VEHICLE PERFORMANCE MEASURES

Study area intersections and corridors were determined based on a review of the key access routes to the university campus, development areas, consideration of previous studies, and limits of the existing Major Institution Overlay (MIO) boundary. Within this study area this report evaluates traffic operations at 79 intersections. These study area intersections are shown in Figure B.5 and are concentrated within the primary impact area.

The evaluation of traffic operations within the study area included an evaluation of both intersection performance (through calculation intersection level of service [LOS]) and arterial performance (through the calculation of arterial travel speeds and associated LOS).

The operational performance of intersections in the study area was determined by calculating the intersection LOS using Synchro 9, based on the *Highway Capacity Manual* (HCM, 2010) method. The HCM 2010 methodology was utilized where possible. HCM 2000 methodology was utilized at a number of intersections due to limitations of the HCM 2010 methodology which include the inability to model five-legged intersections as well as restrictions related to signal phasing.

At signalized and all-way stop-controlled intersections, LOS is measured in average delay per vehicle for all vehicles at the intersection. At two-way stop sign-controlled intersections, LOS is reported for the worst operating approach of the intersection. Traffic operations for an intersection can be described alphabetically with a range of LOS values (LOS A through F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Intersection LOS incorporate several intersection characteristics, including signal timing, signal phasing, intersection channelization, traffic volumes, and pedestrian volumes.



Source: Transpo 2016

Figure B.5 Study Area Intersections

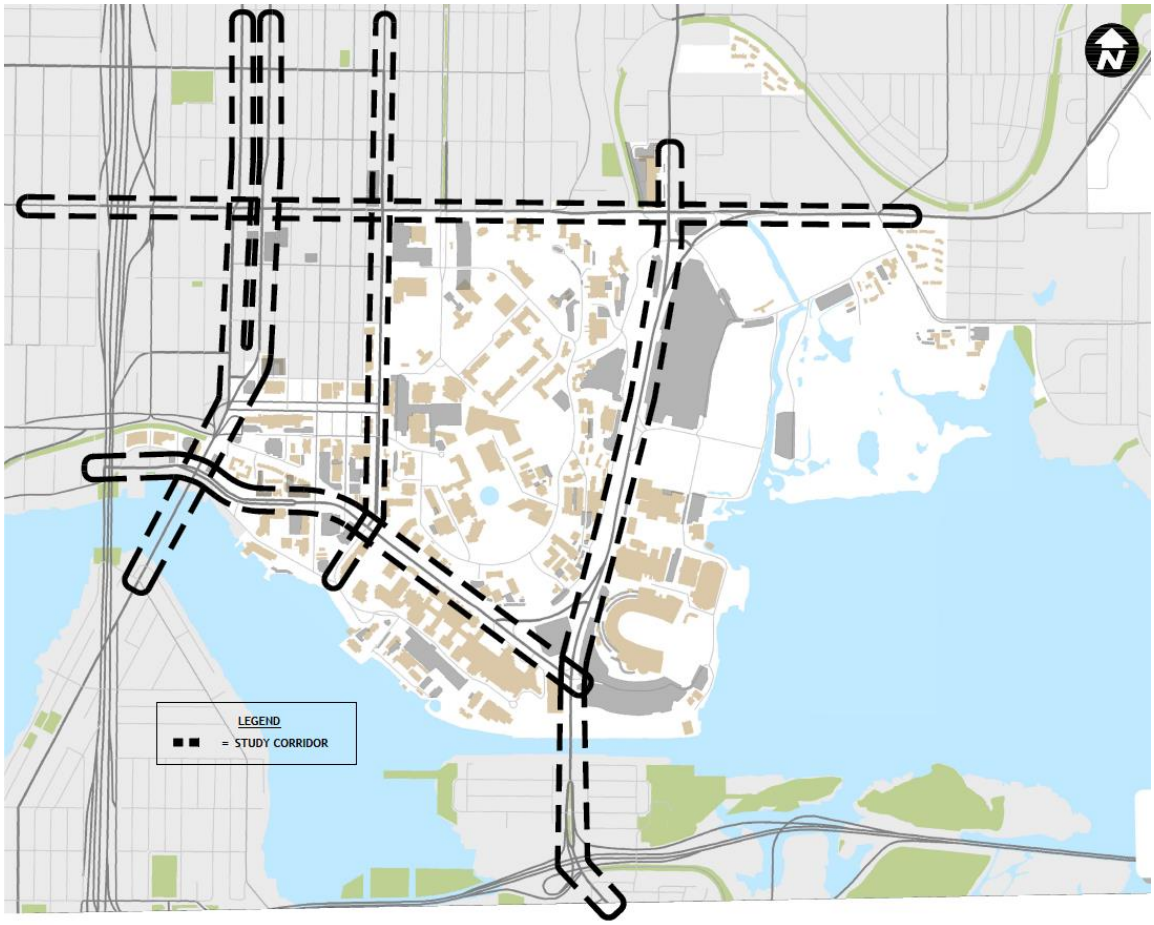
The City's Comprehensive Plan does not define an LOS standard for individual intersections; however, the City generally recognizes LOS E and F as poor operations for signalized locations and LOS F as poor for unsignalized locations as shown in Table B.4.

Table B.4
LEVEL OF SERVICE CRITERIA: SIGNALIZED AND UNSIGNALIZED INTERSECTIONS

LOS[1]	Average Signalized Delay	Average Unsignalized Delay	General Description
A	< 10 seconds	< 10 seconds	Free Flow
B	10 - 20 seconds	10 - 15 seconds	Stable Flow (slight delays)
C	20 - 35 seconds	15 - 25 seconds	Stable flow (acceptable delays)
D	35 - 55 seconds	25 - 35 seconds	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	55 - 80 seconds	35 - 50 seconds	Unstable flow (intolerable delay)
F	> 80 seconds	> 50 seconds	Forced flow (jammed)

Source: Highway Capacity Manual, Transportation Research Board, Special Report 209, 2000.

A corridor analysis was used to assess impacts within both the primary and secondary impact zones to evaluate corridor travel times and speeds. The corridors evaluated are shown in Figure B.6.



Source: Transpo 2016

Figure B.6 Study Corridors

8.5 NE CAMPUS PARKWAY ANALYSIS METHODOLOGY

Note, as directed by Seattle Department of Construction and Inspections (DCI) staff, additional analysis was conducted at the Brooklyn Avenue NE/NE Campus Parkway and University Way NE/NE Campus Parkway intersections to determine the most appropriate way to evaluate the intersections operations due to the current configuration. The NE Campus Parkway intersections at Brooklyn Avenue NE and University Way NE could each be evaluated in two different ways since each location is separated by a grass median along NE Campus Parkway. Because of this median, each intersection has two traffic signals operating as one. Operations at these two intersections were reviewed as either separate or combined intersections considering the overall weighted average delay. The results are summarized in Table B.5.

Table B.5
CAMPUS WAY LEVEL OF SERVICE ALTERNATIVE METHODOLOGY SUMMARY – EXISTING CONDITIONS

Intersection	Existing PM Peak Hour	
	LOS[1]	Delay[2]
Brooklyn Avenue NE/NE Campus Parkway		
North Intersection	B	14
South Intersection	B	18
Evaluated as Two Intersections – Weighted Average	*B*	*17*
Evaluated as One Intersection	*B*	*19*
University Way NE/NE Campus Parkway		
North Intersection	B	16
South Intersection	B	10
Evaluated as Two Intersections – Weighted Average	*B*	*12*
Evaluated as One Intersection	B	14

Source: Transpo Group, 2016
1. Level of service.
2. Delay in seconds

As shown in Table B.5, the total intersection delay is approximately two seconds greater when the intersections are evaluated as a single intersection. Based on this, the operational analysis at these two intersections evaluates each location as a single intersection which provides a conservative analysis considering a single intersection configuration. All future scenarios the intersections are evaluated as one intersection.

8.6 ARTERIAL LEVEL OF SERVICE OPERATIONS

It is recognized that six arterial corridors in the site vicinity—NE 45th Street, NE Northlake Way/Pacific Street, Roosevelt Way NE, 11th Avenue NE, 15th Avenue NE, and Montlake Boulevard NE—can experience extensive congestion related to the high volume of traffic that accesses I-5 and SR 520. Corridor analysis adds context to the results of the intersection LOS because it takes into account general travel times between intersections as well as additional delay anticipated at intersections for the specific movements relevant to the identified route. The City of Seattle has not defined a level of service standard for corridors. Instead this information is used to gauge the change in operations when evaluating the different alternatives.

Corridor travel times/speeds were evaluated using the Synchro 9 network used for the intersection operations analysis and observed travel times/speeds collected in January 2016. Signalized intersections along this corridor not evaluated in the previous section were added to the Synchro 9 network and existing traffic volumes collected at these intersections from a variety of sources included for this corridor evaluation and balanced with the individual study intersections described in the previous section.

Travel time projections and average speeds reported from the Synchro model were calibrated to data measured in the field. The adjustment or calibration factor accounts for operational impacts from vehicle queuing, mid-block pedestrian crossing, on-street parking maneuvers, etc. not reflected in the Synchro delay calculations. Future travel times from the Synchro model are multiplied by the adjustment factor to determine future travel times calibrated to field conditions and accounting for the factors described above (i.e., queuing, parking, etc.).

8.7 SCREENLINE ANALYSIS

The following section describes the screenline analysis completed for two designated screenlines within the study area, consistent with the City of Seattle's Transportation Concurrency system. Screenlines are imaginary lines across which the number of passing vehicles is counted. In this study, screenlines were selected to count vehicle traffic entering and exiting the University of Washington primary and secondary study area. As part of the Mayor's Seattle 2035 Comprehensive Plan (City of Seattle, 2016), two screenlines are identified within the vicinity of the University of Washington, as shown in Figure B.6. Screenline 5.16 is an east-west screenline, measuring north-south travel, and extending along the ship canal to include the University and Montlake Bridges. Screenline 13.13 is a north-south screenline, measuring east-west travel, and extending east of I-5 between NE Pacific Street and NE Ravenna Boulevard. Screenline locations are shown in Figure B.7.

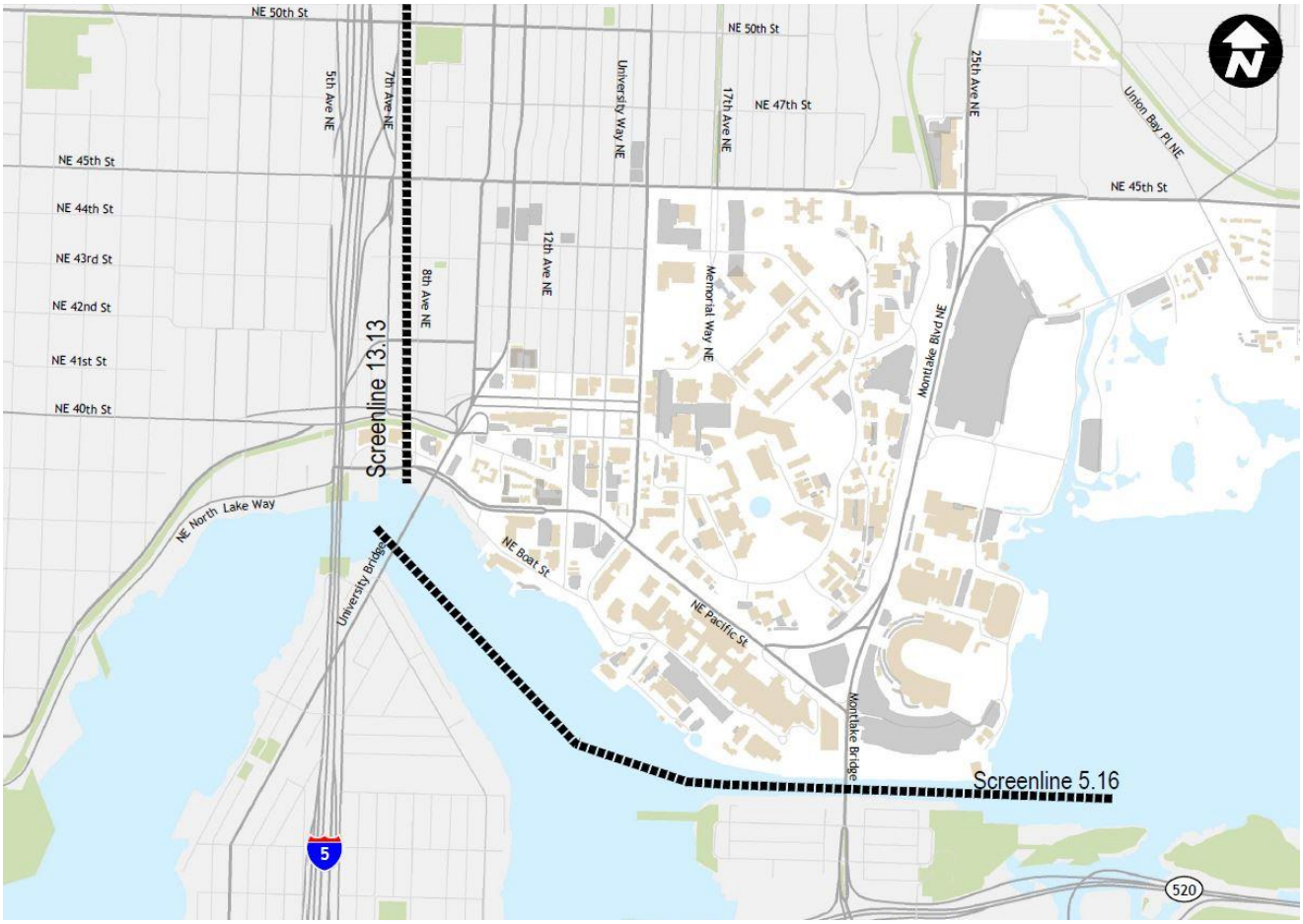


Figure B.7 Study Area Screenlines

The screenline analysis includes volume to capacity (V/C) calculations for the vehicles traversing the screenlines using existing (2015) traffic volumes and roadway capacity estimates. Existing roadway capacity estimates are shown in Table B.6 below.

Table B.6
ROADWAY CAPACITY ASSUMPTIONS

Roadway Description	Capacity (per direction, per hour)
Two-lane street	800
Four-lane street	1,600
Six-lane street	2,400
Two-lane street with frequent buses	750
Four-lane street with frequent buses	1,450
Six-lane street with frequent buses	2,150

Source: NACTO and Transpo Group, 2016

Level of service standards for the screenline analysis are based on the volume to capacity ratio of a screenline. As described in the Seattle Comprehensive Plan Update EIS, the LOS standard volume to capacity ratio for Screenline 5.16 and Screenline 13.13 are 1.20 and 1.00, respectively.

9 PARKING

The evaluation of existing parking was based on 2015 parking supply inventory and demand counts provided by the University of Washington. Existing University of Washington parking characteristics are identified by population and sector (West, South, East, and Central). Key data components of the existing conditions analysis include:

- UW parking supply by sector
- Weekday midday 2015 campus parking counts by sector to establish existing peak parking usage
- Annual campus travel demand survey data to establish mode splits by user type and identify existing parking demand by population group

The data was used to establish parking demand by sector and demonstrate that some sectors are highly utilized and are at or near parking capacity, while others have available parking. In addition, a calibrated parking demand model was developed to provide a basis for forecasting future demands by campus sector. Parking demand was allocated to sectors based on the level of proposed development. It should be noted parking on campus fluctuates, for example new development may occur on surface lots, reducing overall available parking. In general, all of the CMP development alternatives are assumed to result in the same amount of new parking demand; however, the demand by sector is influenced by the intensity of development. A desired performance measure of a utilization of no more than 85% was applied to see where sector demands might exceed available supply.

APPENDIX C: DATA AND WORKSHEETS

1 INTERSECTION TRAFFIC OPERATIONS

1.1 SUMMARY

1.2 SYNCHRO 9 REPORTS

2 ARTERIAL OPERATIONS

2.1 SUMMARY & CALCULATIONS

2.2 SYNCHRO 9 REPORTS

3 CUMULATIVE ANALYSIS ARTERIAL OPERATIONS

3.1 SUMMARY & CALCULATIONS

3.2 SYNCHRO 9 REPORTS

4 CORDON VOLUME ANALYSIS CALCULATIONS

5 SCREENLINE ANALYSIS VOLUMES & CALCULATIONS

1 INTERSECTION TRAFFIC OPERATIONS

1.1 SUMMARY

1.2 SYNCHRO 9 REPORTS

University of Washington EIS Traffic Operations Summary

PM Peak Hour

Intersection	Existing (2015)			2028 No Action			2028 Alternative 1					2028 Alternative 2					2028 Alternative 3					2028 Alternative 4					2028 Alternative 5.1					2028 Alternative 5.2					2028 Alternative 5.3					2028 Alternative 5.4				
	LOS[1]	Delay[2]	WM[3]	LOS[1]	Delay[2]	WM[3]	LOS[1]	Delay[2]	WM[3]	change in Delay	Project Share	LOS[1]	Delay[2]	WM[3]	change in Delay	Project Share	LOS[1]	Delay[2]	WM[3]	change in Delay	Project Share	LOS[1]	Delay[2]	WM[3]	change in Delay	Project Share	LOS[1]	Delay[2]	WM[3]	change in Delay	Project Share	LOS[1]	Delay[2]	WM[3]	change in Delay	Project Share	LOS[1]	Delay[2]	WM[3]	change in Delay	Project Share	LOS[1]	Delay[2]	WM[3]	change in Delay	Project Share
1. 5th Ave NE / I-5 SB Ramp / NE 50th St[4]	B	17	-	B	16	-	B	17	-	0.5		B	17	-	0.5		B	17	-	0.5		B	17	-	0.5		B	17	-	0.5		B	17	-	1		B	17	-	1		B	17	-	1	
2. 7th Ave NE / I-5 NB Ramp / NE 50th St	C	28	-	C	26	-	C	26	-	0.6		C	26	-	0.5		C	26	-	0.6		C	26	-	0.6		C	26	-	0.6		C	26	-	0.5		C	26	-	0.6		C	26	-	0.5	
3. 9th Ave NE / NE 50th St[4]	A	3	-	A	3	-	A	3	-	0.1		A	3	-	0.1		A	3	-	0.1		A	3	-	0.1		A	3	-	0.1		A	3	-	0.1		A	3	-	0.1		A	3	-	0.1	
4. Roosevelt Way NE / NE 50th St[4]	B	14	-	B	15	-	B	15	-	0		B	15	-	0		B	15	-	0		B	15	-	0		B	15	-	0		B	15	-	0		B	15	-	0		B	15	-	0	
5. 11th Ave NE / NE 50th St[4]	C	26	-	C	27	-	C	29	-	2.1		C	29	-	2.2		C	29	-	2		C	29	-	2		C	29	-	2.1		C	29	-	2		C	29	-	2.2		C	29	-	2	
6. Brooklyn Ave NE / NE 50th St	B	13	-	B	15	-	B	16	-	1.3		B	16	-	1.3		B	16	-	1.1		B	16	-	1.4		B	16	-	1.3		B	16	-	1.3		B	16	-	1.1		B	16	-	1.4	
7. University Way NE / NE 50th St[4]	A	5	-	A	10	-	A	6	-	-3.6		A	6	-	-3.6		A	6	-	-3.3		A	6	-	-3.6		A	6	-	-3.6		A	6	-	-3.6		A	6	-	-3.3		A	6	-	-3.6	
8. 15th Ave NE / NE 50th St[4]	B	15	-	B	18	-	B	17	-	-0.1		B	18	-	0.1		B	18	-	0.2		B	18	-	0.2		B	17	-	-0.1		B	18	-	0.1		B	18	-	0.2		B	18	-	0.2	
9. 17th Ave NE / NE 50th St	D	38	-	C	33	-	C	34	-	0.9		C	34	-	1.1		C	34	-	0.9		C	35	-	1.4		C	34	-	0.9		C	34	-	1.1		C	34	-	0.9		C	35	-	1.4	
10. 20th Ave NE / NE 50th St[4]	C	15	EB	C	17	EB	C	18	EB	0.8		C	19	EB	1.8		C	17	EB	0.2		C	19	EB	2.3		C	18	EB	0.8		C	19	EB	1.8		C	17	EB	0.2		C	19	EB	2.3	
11. Roosevelt Way NE / NE 47th St	B	15	-	B	14	-	B	15	-	0.9		B	15	-	0.9		B	15	-	0.9		B	15	-	0.9		B	15	-	0.9		B	15	-	0.9		B	15	-	0.9		B	15	-	0.9	
12. 11th Ave NE / NE 47th St	A	8	-	A	9	-	A	10	-	0.3		A	10	-	0.1		A	10	-	0.3		A	10	-	0.1		A	10	-	0.3		A	10	-	0.1		A	10	-	0.3		A	10	-	0.1	
13. 15th Ave NE / NE 47th St	B	16	-	B	11	-	B	11	-	0.2		B	11	-	0.2		B	11	-	0.4		B	11	-	0.2		B	11	-	0.2		B	11	-	0.2		B	11	-	0.4		B	11	-	0.2	
14. I-5 SB Ramps / 5th Ave NE / NE 45th St	C	25	-	C	32	-	C	32	-	0.6		C	32	-	0.6		C	32	-	0.7		C	32	-	0.7		C	32	-	0.7		C	32	-	0.6		C	32	-	0.7		C	32	-	0.7	
15. 7th Ave (I-5 NB) / NE 45th St	D	37	-	D	44	-	**E**	**61**	**-**	**17.8**	11.0%	**E**	**61**	**-**	**17**	10.9%	**E**	**61**	**-**	**17.6**	11.0%	**E**	**64**	**-**	**20.1**	11.4%	**E**	**62**	**-**	**17.9**	**11.0%**	**E**	**61**	**-**	**17**	**10.9%**	**E**	**64**	**-**	**20.1**	11.4%					
16. 9th Ave NE (South) / NE 45th St[4]	E	38	NB	E	48	NB	**F**	**83**	**NB**	**34**	14.5%	**F**	**83**	**NB**	**34.3**	14.5%	**F**	**83**	**NB**	**34.3**	14.5%	**F**	**83**	**NB**	**34.3**	15.0%	**F**	**83**	**NB**	**34.3**	**14.5%**	**F**	**83**	**NB**	**34.3**	**14.5%**	**F**	**83**	**NB**	**34.3**	15.0%					
17. 9th Ave NE (North) / NE 45th St[4]	C	22	SB	D	**25**	**SB**	D	34	SB	9.1		D	34	SB	8.9		D	34	SB	9.1		D	35	SB	9.3		D	34	SB	9.1		D	34	SB	8.9		D	34	SB	9.1		D	35	SB	9.3	
18. Roosevelt Way NE / NE 45th St	B	20	-	C	29	-	C	30	-	1		C	31	-	1.2		C	31	-	1.3		C	31	-	1.1		C	31	-	1.1		C	31	-	1.2		C	31	-	1.3		C	31	-	1.1	
19. 11th Ave NE / NE 45th St	B	12	-	B	13	-	B	14	-	1.4		B	14	-	1		B	14	-	1.3		B	14	-	1		B	14	-	1.4		B	14	-	1		B	14	-	1.3		B	14	-	1	
20. 12th Ave NE / NE 45th St	B	12	-	B	12	-	B	11	-	-0.9		B	11	-	-0.9		B	11	-	-0.9		B	11	-	-1.2		B	11	-	-0.9		B	11	-	-0.9		B	11	-	-0.9		B	11	-	-0.8	
21. Brooklyn Ave NE / NE 45th St	B	11	-	A	10	-	B	12	-	1.7		B	11	-	1.2		B	12	-	1.9		B	11	-	1.6		B	12	-	1.7		B	12	-	1.2		B	11	-	1.9		B	11	-	1.6	
22. University Way NE / NE 45th St	B	12	-	B	19	-	C	21	-	1.6		C	21	-	1.4		C	21	-	1.8		C	21	-	1.7		C	21	-	1.6		C	21	-	1.4		C	21	-	1.8		C	21	-	1.7	
23. 15th Ave NE / NE 45th St[4]	C	31	-	C	29	-	C	32	-	2.4		C	32	-	2.4		C	32	-	2.8		C	31	-	1.7		C	32	-	2.4		C	32	-	2.4		C	32	-	2.8		C	31	-	1.7	
24. 17th Ave NE / NE 45th St	C	22	-	B	20	-	C	23	-	3.2		C	23	-	3.4		C	23	-	3		C	23	-	3.4		C	23	-	3.2		C	23	-	3.4		C	23	-	3		C	23	-	3.4	
25. 18th Ave NE / NE 45th St	A	3	-	A	1	-	A	1	-	-0.1		A	1	-	-0.1		A	1	-	-0.1		A	1	-	-0.1		A	1	-	-0.1		A	1	-	-0.1		A	1	-	-0.1		A	1	-	-0.1	
26. 19th Ave NE / NE 45th St	A	3	-	A	10	-	B	12	-	1.7		B	12	-	2.4		B	11	-	1.1		B	13	-	2.8		B	12	-	1.7		B	12	-	2.4		B	11	-	1.1		B	13	-	2.8	
27. 20th Ave NE / NE 45th St	B	10	-	B	13	-	B	15	-	1.6		B	15	-	1.9		B	15	-	1.6		B	16	-	2.1		B	15	-	1.6		B	15	-	1.9		B	15	-	1.6		B	16	-	2.1	
28. Montlake Blvd NE / NE 45th St	C	23	-	C	24	-	C	27	-	3.8		C	29	-	5.1		C	26	-	2.9		C	30	-	6.2		C	27	-	3.8		C	29	-	5.1		C	26	-	2.9		C	30	-	6.2	
29. Montlake Blvd NE / Mary Gates Memorial Dr NE	D	54	-	**E**	**56**	**-**	E	67	-	10.4	5.0%	E	67	-	10.2	4.9%	E	67	-	10.4	4.9%	E	66	-	9.7	4.9%	E	67	-	10.4	5.0%	E	67	-	10.5	5.0%	E	66	-	9.7	4.9%					
30. Roosevelt Way NE / NE 43rd St (East)[4]	E	48	WB	**F**	**68**	**WB**	F	101	WB	33.6	3.8%	F	100	WB	32	3.5%	F	105	WB	37.1	4.3%	F	98	WB	30.3	3.0%	F	103	WB	35.4	3.9%	F	100	WB	32	3.5%	F	107	WB	39	4.3%	F	98	WB	30.3	3.0%
31. Roosevelt Way NE / NE 43rd St (West)[4]	E	36	EB	E	45	EB	**F**	**62**	**EB**	**17**	3.9%	**F**	**62**	**EB**	**17**	3.6%	**F**	**62**	**EB**	**17.8**	4.3%	**F**	**61**	**EB**	**16.2**	3.1%	**F**	**62**	**EB**	**17**	**4.0%**	**F**	**62**	**EB**	**17**	**3.6%**	**F**	**63**	**EB**	**18.6**	**4.4%**	**F**	**61**	**EB**	**16.2**	3.1%
32. 11th Ave NE / NE 43rd St	B	14	-	B	14	-	C	24	-	9.4		C	22	-	7.3		C	25	-	10.6		C	22	-	7.7		C	24	-	9.1		C	22	-	7.3		C	25	-	10.6		C	22	-	7.7					
33. University Way NE / NE 43rd St	A	7	-	A	10	-	B	11	-	1.5		B	11	-	1.4		B	11	-	1.5		B	11	-	1.5		B	11	-	1.5		B	11	-	1.4		B	11	-	1.5		B	11	-	1.5					
34. 15th Ave NE / NE 43rd St	B	13	-	B	11	-	B	12	-	0.5		B	12	-	0.5		B	12	-	0.5		B	12	-	0.7		B	12	-	0.5		B	12	-	0.5		B	12	-	0.5		B	12	-	0.7					
35. Memorial Way NE / East Stevens Way NE	B	11	SB	B	11	SB	B	12	SB	1.3		B	12	SB	1.3		B	12	SB	1.3		B	12	SB	1.6		B	12	SB	1.3		B	12	SB	1.3		B	12	SB	1.3		B	12	SB	1.6					
36. 25th Ave NE / NE 44th St / Pend Oreille Road NE[4]	D	36	-	D	36	-	D	42	-	5.6		D	42	-	6.1		D	41	-	5.2		D	42	-	5.8		D	42	-	5.6		D	42	-	6.1		D	41	-	5.2		D	42	-	5.8					
37. Montlake Blvd NE / NE 44th St	A	7	-	A	6	-	A	8	-	1.3		A	9	-	2.2		A	7	-	1.1		A	9	-	2.8		A	8	-	1.6		A	9	-	2.2		A	7	-	1.1		A	9	-	2.8					
38. 25th Ave NE / Montlake Blvd NE	C	26	-	C	21	-	B	19	-	-2.4		B	19	-	-2		B	18	-	-2.8		B	19	-	-1.8		B	19	-	-2.4		B	19	-	-2		B	18	-	-2.8		B	19	-	-1.8					
39. Roosevelt Way NE / NE 42nd St (north)[4]	B	15	-	B	16	-	B	16	-	0.9		B	16	-	0.8		B	17	-	1		B	16	-	0.7		B	16	-	0.9		B	16	-	0.8		B	17	-	1		B	16	-	0.7					
40. 11th Ave NE / NE 42nd St	A	9	-	A	9	-	B	13	-	3.3		B	13	-	3		B	12	-	3.7		B	12	-	3.3		B	12	-	3.3		B	12	-	3		B	12	-	3.7		B	13	-	2.5					
41. University Way NE / NE 42nd St	B	12	-	B	11	-	B	12	-	0.9		B	11	-	0.7		B	12	-	1		B	11	-	0.6		B	12	-	0.9		B	11	-	0.7		B	12	-	1		B	11	-	0.6					
42. 15th Ave NE / NE 42nd St	B	13	-	B	11	-	B	11	-	0.3		B	11	-	0.2		B	12	-	0.4		B	11	-	0.3		B	12	-	0.4		B	11	-	0.3		B	12	-	0.5		B	12	-	0.4					
43. East Stevens Way NE / Pend Oreille Road NE[4]	A	10	WB	A	10	WB	B	11	WB	1.1		B	11	WB	1.1		B	11	WB	1.1		B	11	WB	1.4		B	11	WB	1.1		B	11	WB	1.1		B	11	WB	1.1		B	11	WB	1.4					
44. 7th Ave NE / NE 42nd St	C	28	-	C	27	-	C	29	-	2		C	29	-	1.7		C	29	-	2.3		C	30	-	2.4		C	29	-	2		C	29	-	1.7		C	29	-	2.3		C	29	-	1.8					
45. Roosevelt Way NE / NE 42nd St (South)	B	12	-	A	10	-	B	11	-	0.7		B	10	-	0.5		B	11	-	0.7		B	11	-	0.6		B	11	-	0.7		B	10	-	0.5		B	11	-	0.7		B	11	-	0.6					
46. Roosevelt Way NE / NE 41st St[4]	E	39	WB	**F**	**434**	**WB**	F	712	WB	278	1.5%	F	655	WB	221.5	1.3%	F	732	WB	298.3	1.6%	F	712	WB	278	1.5%	F	712	WB	278	1.5%	F	655	WB	221.5	1.3%	F	732	WB	298.3	1.6%	F	712	WB	278	1.5%
47. 12th Ave NE / NE 41st St[4]	E	41	WB	**F**	**76**	**WB**	F	906	WB	830.1	22.5%	F	593	WB	517.4	20.0%	F	1056	WB	980	23.1%	F	1021	WB	945.1	22.5%	F	906	WB	830.1	22.5%	F	593	WB	517.4	20.0%	F	1056	WB	980	23.1%	F	1021	WB	945.1	22.5%
48. Brooklyn Ave NE / NE 41st St[4]	A	9	NB	A	9	NB	B	12	NB	2.4		B	11	NB	1.9		B	12	NB	2.4		B	12	NB	2.4		B	12	NB	2.4		B	11	NB	1.9		B	12	NB	2.6		B	12	NB	2.4	
49. University Way NE / NE 41st St[4]	F	*	EB/WB	F	*	EB/WB	F	*	EB/WB	#VALUE!	22.9%	F	*	EB/WB	#VALUE!	19.3%	F	*	EB/WB	#VALUE!	22.6%	F	*	EB/WB	#VALUE!	21.9%	F	*	EB/WB	#VALUE!	21.9%	F	*	EB/WB	#VALUE!	19.3%	F	*	EB/WB	#VALUE!	22.6%	F	*	EB/WB	#VALUE!	21.9%
50. 15th Ave NE / NE 41st St	A	8	-	A	8	-	A	9	-	1		A	9	-	1		A	9	-	1		A	9	-	1		A	9	-	1		A	9	-	1		A	9	-	1		A	9	-	1					
51. 7th Ave NE / NE 40th St4	E	37	WB	**F**	**77**	**WB**	F	101	WB	23.5	5.5%	F	98	WB	20.8	4.9%	F	103	WB	26.3	6.0%	F	95	WB	18.2	4.9%	F	101	WB	23.5	5.5%	F	98	WB	20.8	4.9%	F	103	WB	26.3	6.0%	F	95	WB	18.2	4.9%
52. 9th Ave NE / NE 40th St[4]	B	10	SB	B	11	SB	B	11	SB	0		B	11	SB	0		B	11	SB	0		B	11	SB	0		B	11	SB	0		B	11	SB	0		B	11	SB	0		B	11	SB	0	
53. Eastlake Ave NE / NE Campus Pkway (East)	A	4	-	A	3	-	A	3	-	1		A	3	-	1		A	3	-	1		A	3	-	1		A	3	-	1		A	3	-	1		A	3	-	1		A	3	-	1					
54. Brooklyn Ave NE / NE Campus Pkway[5]	B	19	-	C	20	-	C	21	-	0		C	21	-	0		C	21	-	0		C	21	-	1		C	21	-	0		C	21	-	0		C	21	-	0		C	21	-	0					
55. University Way NE / NE Campus Pkway[5]	B	14	-	B	12	-	B	13	-	1		B	13	-	1		B	13	-	1		B	13	-	1		B	13	-	1		B	13	-	1		B	13	-	1		B	13	-	1					
56. 15th Ave NE / NE Campus Pkway	B	11	-	A	8	-	A	8	-	0		A	8	-	-1		A	8	-	-1		A	9	-	0		A	8	-	-1		A	8	-	-1		A	8	-	-1		A	8	-	0					
57. 6th Ave NE / NE 40th St4	F	60	EB	F	113	EB	F	135	NB	21.8	5.4%	F	131	NB	18.3	4.8%	F	137	NB	24	5.9%	F	132	NB	18.9	4.8%	F	135	NB	21.8	5.4%	F	131	NB	18.3	4.8%	F	137	NB	24	5.9%	F	132	NB	18.6	4.7%
58. Eastlake Ave NE / NE 40th St			-							0					0					0					0					0					0					0					0	
59. Brooklyn Ave NE / NE 40th St[4]	A	9	NB	A	10	NB	B	15	NB	5		B	13	NB	4		C	15	NB	6		B	15	NB	5		B	15	NB	5		B	13	NB	4		C	15	NB	6		B	15	NB	5	
60. University Way NE / NE 40th St[4]	A	9	NB/WB	A	9	WB	B	11	NB	2		B	11	NB	1		B	11	NB	2		B	11	NB	2		B	11	NB	2		B	11	NB	1		B	11	NB	2		B	11	NB	2	
61. 15th Ave NE / NE 40th St	C	30	-	C	32	-	C	32	-	0		C	31	-	-1		C	32	-	0		C	31	-	-1		C	33	-	1		C	33	-	1		C	33	-	2		C	32	-	0	
62. Northeast Stevens Way / West Stevens Way NE / NE 40th St[4]	A	10	NB	A	10	NB	B	10	NB	1		A	10	NB	0		B	10	NB	1		B	10	NB	1		B	10	NB	1		A	10	NB	0		B	10	NB	1		B	10	NB	1	
63. 6th Ave NE / NE Northlake Way[4]	C	25	NB	**E**	**46**	**NB**	**F**	**105**	**NB**	**59.3**	16.9%	**F**	**105**	**NB**	**58.5**	16.6%	**F**	**107**	**NB**	**60.7**	17.2%	**F**	**102**	**NB**	**55.5**	16.3%	**F**	**105**	**NB**	**59.3**	**16.9%**	**F**	**105**	**NB**	**58.5**	**16.6%**	**F**	**104**	**NB**	**57.4**	**17.2%**	**F**	**102**	**NB**	**55.5**	16.3%
64. NE Boat St / NE Pacific St	B	13	-	A	9	-	B	11	-	2		B	11	-	2		B	11	-	2		B	11	-	2		B	12	-	3		B	12	-	3		B	13	-	4		B	12	-	3	
65. Brooklyn Ave NE / NE Pacific St[4]	C	25	-	C	26	-	C	29	-	3		C	28	-	2		C	31	-	5		C	28	-	2		C	29	-	3		C	28	-	2		C	29	-	3		C	29	-	3	
66. University Way NE / NE Pacific St	B	11	-	B	11	-	B	13	-	2		B	12	-	2		B	13	-	2		B	12	-	2		B	12	-	1		B	11	-	1		B	12	-	1		B	11	-	1	
67. 15th Ave NE / NE Pacific St	D	38	-	D	37	-	**F**	**100**	**-**	**63**	23.7%	**F**	**100**	**-**	**62.5**	23.1%	**F**	**114**	**-**	**77.1**	25.2%	**E**	**77**	**-**	**40.4**	19.4%	**F**	**85**	**-**	**47.7**	**20.4%**	**F**	**82**	**-**	**45.4**	**19.8%**	**F**	**95**	**-**	**57.6**	**22.1%**	**E**	**59**	**-**	**21.6**	15.8%
68. Brooklyn Ave NE / NE Boat St[4]	B	13	SB	B	13	SB	B	12	SB	-2		B	11	SB	-2		B	12	SB	-2		B	11	SB	-2		C	16	SB	2		C	15	SB	2		C	16	SB	3		B	15	SB	1	
69. 15th Ave NE / NE Boat St[4]	B	15	NB	C	15	NB	**E**	**41**	**NB**	**25.2**	25.0%	**E**	**41**	**NB**	**25.2**	25.0%	**F**	**57**	**NB**	**41.8**	31.3%	B	14	NB	-1		**F**	**62**	**NB**	**47**	**31.0%**	**F**	**62**	**NB**	**47**	**31.0%**	**F**	**90**	**NB**	**74.2**	36.3%	C	18	NB	2.9	
70. Gate 6 turnaround / NE Boat St / Columbia Rd	B	12	WB	B	12	WB	C	24	WB	12.5		C	24	WB	12.5		D	**34**	**WB**	**22.7**		B	13	WB	1.1		C	24	WB	12.5		C	24	WB	12.5		D	**34**	**WB**	**22.7**		B	13	WB	1.1	
71. Montlake Blvd NE / Wahkiakum Rd[4]	F	295	WB	F	463	WB	F	233	WB	-229.7	10.6%	F	335	WB	-127.3	12.8%	F	6951	WB	6488	8.9%	F	376	WB	-87	13.3%	F	233	WB	-230	10.6%	F	335	WB	-127	12.8%	F	6951	WB	6488	8.9%	F	51	SB	-412	13.3%
72. Montlake Blvd NE / IMA exit[4]	D	34	WB	**E**	**38**	**WB**	E	49	WB	10.4	10.2%	**F**	**51**	**WB**	**12.5**	11.9%	**F**	**61**	**WB**	**22.9**	9.0%	**F**	**51**	**WB**	**12.5**	12.1%	E	49	WB	10.4	10.2%	**F**	**51**	**WB**	**12.5**	11.9%	E	47	WB	8.9	9.0%	**F**	**51**	**WB**	**12.5**	12.1%
73. Montlake Blvd NE / IMA Entrance[3]	C	22	WB	C	24	-	D	**28**	**WB**	**3.3**		D	**28**	**WB**	**3.9**		D	**27**	**WB**	**2.9**		D	**28**	**WB**	**3.9**		D	**28**	**WB**	**3**		D	**28**	**WB**	**3.9**		D	**27**	**WB**	**2.9**		D	**28**	**WB**	**3.9**					
74. Montlake Blvd NE / NE Pacific Pl	B	15	-	B	18	-	C	21	-	4		C	23	-	5		C	21	-	3		C	23	-	6		C	21	-	4		C	23	-	5		C	21	-	3		C	23	-	6					
75. NE Pacific Pl / NE Pacific St	B	13	-	B	14	-	B	19	-	5		B	18	-	4.5		B	19	-	6		B	17	-	3		B	19	-	5		B	18	-	5		B	19	-	6		B	17	-	3					
76. Hospital Exit / NE Pacific St	B	17	-	B	14	-	B	14	-	0		B	15	-	0		B	14	-	-0.3		B	15	-	0		B	14	-	0		B	15	-	0		B	14	-	0		B	15	-	0					
77. Montlake Blvd NE / NE Pacific St	C	24	-	C	31	-	D	**40**	**-**	**9**		D	**41**	**-**	**9.5**		D	**38**	**-**	**7**		D	**41**	**-**	**10**		D	**41**	**-**	**9**		D	**41**	**-**	**10**		D	**38**	**-**	**7**		D	**41**	**-**	**10**					
78. Montlake Blvd NE / SR 520 WB Off-Ramp	F	214	WB	C	34	-	D	**43**	**-**	**9**		D	**41**	**-**	**7**		D	**42**	**-**	**8**		D	**42**	**-**	**8**		D	**43**	**-**	**9**		D	**41**	**-**	**7**		D	**42**	**-**	**8**		D	**42**	**-**	**8**					
79. Montlake Blvd NE / E Lake WA Blvd / SR 520 E	F	105	-	D	51	-	D	53	-	2		D	54	-	2.8		D	53	-	1.8		D	53	-	2.3		D	53	-	2		D	54	-	2.8		D	53	-	1.7		D	53	-	2.3					

Notes:

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 2000)
2. Average delay per vehicle in seconds rounded to the whole second.
3. Worst movement or approach reported for side-street stop-controlled intersections.
4. Intersection modeled with HCM 2010.
5. Intersection modeled in two parts for existing (2015) conditions, and modeled as one intersection for all future conditions.

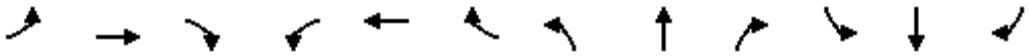
=impacts

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	670	250	230	1060	0	0	0	0	150	125	200
Future Volume (veh/h)	0	670	250	230	1060	0	0	0	0	150	125	200
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	684	255	235	1082	0				156	123	204
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1393	519	269	2647	0				569	299	249
Arrive On Green	0.00	0.55	0.55	0.30	1.00	0.00				0.16	0.16	0.16
Sat Flow, veh/h	0	2622	942	1774	3632	0				3619	1900	1587
Grp Volume(v), veh/h	0	483	456	235	1082	0				156	123	204
Grp Sat Flow(s),veh/h/ln	0	1787	1683	1774	1770	0				1810	1900	1587
Q Serve(g_s), s	0.0	16.6	16.7	12.6	0.0	0.0				3.8	5.8	12.4
Cycle Q Clear(g_c), s	0.0	16.6	16.7	12.6	0.0	0.0				3.8	5.8	12.4
Prop In Lane	0.00		0.56	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	985	928	269	2647	0				569	299	249
V/C Ratio(X)	0.00	0.49	0.49	0.87	0.41	0.00				0.27	0.41	0.82
Avail Cap(c_a), veh/h	0	985	928	399	2647	0				941	494	413
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.73	0.73	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	33.9	0.0	0.0				37.1	38.0	40.8
Incr Delay (d2), s/veh	0.0	1.7	1.9	12.0	0.3	0.0				0.2	0.7	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.7	8.2	7.0	0.1	0.0				1.9	3.1	5.8
LnGrp Delay(d),s/veh	0.0	15.6	15.7	45.9	0.3	0.0				37.3	38.7	45.7
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		939			1317						483	
Approach Delay, s/veh		15.6			8.5						41.2	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.7	59.6		20.7		79.3		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	22.5	37.5		26.0		64.5		
Max Q Clear Time (g_c+I1), s	14.6	18.7		14.4		2.0		
Green Ext Time (p_c), s	0.6	14.7		1.2		32.9		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	510	0	0	695	285	585	140	315	0	0	0
Future Volume (vph)	320	510	0	0	695	285	585	140	315	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.89	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (prot)	1787	3574			3539	1402	1698	1733	1565			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (perm)	1787	3574			3539	1402	1698	1733	1565			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	333	531	0	0	724	297	609	146	328	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	82	0	0	244	0	0	0
Lane Group Flow (vph)	333	531	0	0	724	215	371	384	84	0	0	0
Confl. Peds. (#/hr)	21		19	19		21			5	5		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	21.5	65.5			39.5	39.5	25.5	25.5	25.5			
Effective Green, g (s)	21.5	65.5			39.5	39.5	25.5	25.5	25.5			
Actuated g/C Ratio	0.22	0.66			0.40	0.40	0.26	0.26	0.26			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	384	2340			1397	553	432	441	399			
v/s Ratio Prot	c0.19	0.15			c0.20		0.22	c0.22				
v/s Ratio Perm						0.15			0.05			
v/c Ratio	0.87	0.23			0.52	0.39	0.86	0.87	0.21			
Uniform Delay, d1	37.9	7.0			23.0	21.6	35.5	35.7	29.3			
Progression Factor	0.83	1.27			0.38	0.13	1.00	1.00	1.00			
Incremental Delay, d2	16.8	0.2			1.3	1.9	19.4	20.4	1.2			
Delay (s)	48.4	9.1			10.1	4.8	54.9	56.0	30.5			
Level of Service	D	A			B	A	D	E	C			
Approach Delay (s)		24.2			8.5			47.9			0.0	
Approach LOS		C			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	705	30	5	890	5	40	20	30	15	10	15
Future Volume (veh/h)	20	705	30	5	890	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.95	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	719	31	5	908	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	63	1957	83	39	2096	11	240	119	156	216	147	188
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	43	3289	140	4	3523	19	587	372	488	519	460	587
Grp Volume(v), veh/h	398	0	372	480	0	438	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1792	0	1680	1856	0	1691	1447	0	0	1566	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.05		0.08	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1104	0	999	1140	0	1006	515	0	0	551	0	0
V/C Ratio(X)	0.36	0.00	0.37	0.42	0.00	0.43	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1104	0	999	1140	0	1006	515	0	0	551	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	24.5	0.0	0.0	23.7	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.1	1.1	0.0	1.4	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.4	0.0	0.4	1.9	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	0.9	0.0	1.1	1.1	0.0	1.4	25.3	0.0	0.0	23.9	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		770			918			92			40	
Approach Delay, s/veh		1.0			1.3			25.3			23.9	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		64.0		36.0		64.0		36.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		59.5		32.0		59.5		32.0
Max Q Clear Time (g_c+I1), s		2.0		6.2		2.0		3.6
Green Ext Time (p_c), s		2.0		0.1		2.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	2.9
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	665	95	95	790	0	0	0	0	80	580	115
Future Volume (veh/h)	0	665	95	95	790	0	0	0	0	80	580	115
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	686	98	98	814	0				82	598	119
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1734	247	0	2004	0				149	1146	517
Arrive On Green	0.00	0.56	0.56	0.00	1.00	0.00				0.35	0.35	0.35
Sat Flow, veh/h	0	3218	446	0	3705	0				420	3227	1457
Grp Volume(v), veh/h	0	392	392	0	814	0				363	317	119
Grp Sat Flow(s),veh/h/ln	0	1787	1783	0	1805	0				1860	1787	1457
Q Serve(g_s), s	0.0	12.5	12.5	0.0	0.0	0.0				15.6	13.9	5.7
Cycle Q Clear(g_c), s	0.0	12.5	12.5	0.0	0.0	0.0				15.6	13.9	5.7
Prop In Lane	0.00		0.25	0.00		0.00				0.23		1.00
Lane Grp Cap(c), veh/h	0	992	989	0	2004	0				660	634	517
V/C Ratio(X)	0.00	0.40	0.40	0.00	0.41	0.00				0.55	0.50	0.23
Avail Cap(c_a), veh/h	0	992	989	0	2004	0				660	634	517
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.7	12.7	0.0	0.0	0.0				25.8	25.3	22.7
Incr Delay (d2), s/veh	0.0	1.2	1.2	0.0	0.6	0.0				3.3	2.8	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
%ile BackOfQ(50%),veh/ln	0.0	6.4	6.4	0.0	0.2	0.0				8.6	7.4	2.5
LnGrp Delay(d),s/veh	0.0	13.9	13.9	0.0	0.6	0.0				29.1	28.1	23.7
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		784			814						799	
Approach Delay, s/veh		13.9			0.6						27.9	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		60.0			0.0	60.0		40.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		55.5			11.5	39.5		35.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	14.5		17.6
Green Ext Time (p_c), s		2.2			0.0	2.2		0.7

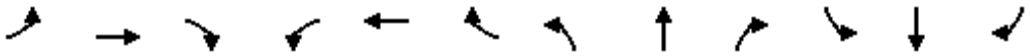
Intersection Summary	
HCM 2010 Ctrl Delay	14.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	560	0	0	670	45	205	680	70	0	0	0
Future Volume (veh/h)	165	560	0	0	670	45	205	680	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	176	596	0	0	713	48	218	723	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	58	929	0	0	1505	101	263	919	98			
Arrive On Green	0.37	0.37	0.00	0.00	0.89	0.89	0.12	0.12	0.12			
Sat Flow, veh/h	2	1760	0	0	3475	227	740	2589	276			
Grp Volume(v), veh/h	297	475	0	0	377	384	538	0	477			
Grp Sat Flow(s),veh/h/ln	50	1627	0	0	1787	1821	1826	0	1779			
Q Serve(g_s), s	18.8	22.8	0.0	0.0	4.0	4.0	28.8	0.0	26.0			
Cycle Q Clear(g_c), s	18.8	22.8	0.0	0.0	4.0	4.0	28.8	0.0	26.0			
Prop In Lane	0.59		0.00	0.00		0.12	0.41		0.16			
Lane Grp Cap(c), veh/h	0	903	0	0	795	810	648	0	632			
V/C Ratio(X)	0.00	0.53	0.00	0.00	0.47	0.47	0.83	0.00	0.76			
Avail Cap(c_a), veh/h	0	903	0	0	795	810	648	0	632			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	21.1	0.0	0.0	3.3	3.3	41.2	0.0	39.9			
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.0	2.0	2.0	11.7	0.0	8.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	10.8	0.0	0.0	2.1	2.2	16.7	0.0	14.3			
LnGrp Delay(d),s/veh	0.0	23.3	0.0	0.0	5.3	5.3	52.9	0.0	48.1			
LnGrp LOS		C			A	A	D		D			
Approach Vol, veh/h		772			761			1015				
Approach Delay, s/veh		14.4			5.3			50.7				
Approach LOS		B			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		49.0		40.0		60.0		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 45		35.5		55.5		
Max Q Clear Time (g_c+I1), s		6.0		30.8		24.8		
Green Ext Time (p_c), s		0.8		0.8		1.4		

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	480	55	30	570	45	10	20	10	10	65	60
Future Volume (vph)	65	480	55	30	570	45	10	20	10	10	65	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.97			0.97	
Flpb, ped/bikes		0.99			0.99			0.99			0.99	
Frt		0.99			0.99			0.97			0.94	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3274			3352			1749			1682	
Flt Permitted		0.80			0.90			0.95			0.99	
Satd. Flow (perm)		2617			3036			1678			1667	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	68	500	57	31	594	47	10	21	10	10	68	62
RTOR Reduction (vph)	0	7	0	0	5	0	0	6	0	0	29	0
Lane Group Flow (vph)	0	618	0	0	667	0	0	35	0	0	112	0
Confl. Peds. (#/hr)	104		173	173		104	80		137	137		80
Confl. Bikes (#/hr)			1			3			12			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1243			1442			738			733	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.22			0.02			c0.07	
v/c Ratio		0.50			0.46			0.05			0.15	
Uniform Delay, d1		18.0			17.7			16.0			16.8	
Progression Factor		0.78			0.46			1.39			1.00	
Incremental Delay, d2		1.1			1.0			0.1			0.4	
Delay (s)		15.2			9.1			22.4			17.3	
Level of Service		B			A			C			B	
Approach Delay (s)		15.2			9.1			22.4			17.3	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	415	40	35	525	20	55	130	30	25	90	75
Future Volume (veh/h)	70	415	40	35	525	20	55	130	30	25	90	75
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.81	0.91		0.81	0.91		0.85	0.90		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	76	451	43	38	571	22	60	141	33	27	98	82
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	218	1239	118	111	1568	60	173	385	84	90	294	226
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	0.40	0.40	0.40
Sat Flow, veh/h	333	2406	229	137	3044	116	324	976	213	125	745	571
Grp Volume(v), veh/h	272	0	298	322	0	309	234	0	0	207	0	0
Grp Sat Flow(s),veh/h/ln	1377	0	1591	1671	0	1626	1514	0	0	1441	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	9.5	0.0	0.0
Prop In Lane	0.28		0.14	0.12		0.07	0.26		0.14	0.13		0.40
Lane Grp Cap(c), veh/h	755	0	819	901	0	837	643	0	0	610	0	0
V/C Ratio(X)	0.36	0.00	0.36	0.36	0.00	0.37	0.36	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	755	0	819	901	0	837	643	0	0	610	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	21.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	1.3	1.1	0.0	1.3	1.6	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.3	0.0	0.3	2.1	0.0	0.0	4.2	0.0	0.0
LnGrp Delay(d),s/veh	1.3	0.0	1.3	1.1	0.0	1.3	8.4	0.0	0.0	22.7	0.0	0.0
LnGrp LOS	A		A	A		A	A			C		
Approach Vol, veh/h		570			631			234			207	
Approach Delay, s/veh		1.3			1.2			8.4			22.7	
Approach LOS		A			A			A			C	

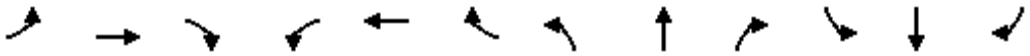
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		56.0		44.0		56.0		44.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		51.5		39.5		51.5		39.5
Max Q Clear Time (g_c+I1), s		2.0		6.0		2.0		11.5
Green Ext Time (p_c), s		1.6		0.6		1.6		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	5.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	325	85	30	395	25	145	395	40	15	250	40
Future Volume (veh/h)	55	325	85	30	395	25	145	395	40	15	250	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.79	0.97		0.87	0.99		0.93	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	58	342	89	32	416	26	153	416	42	16	263	42
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	148	829	217	101	1231	76	385	1014	103	57	746	115
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	1.00	1.00	1.00	0.50	0.50	0.50
Sat Flow, veh/h	257	2048	535	150	3040	187	652	2008	204	38	1477	228
Grp Volume(v), veh/h	256	0	233	245	0	229	281	0	330	321	0	0
Grp Sat Flow(s),veh/h/ln	1436	0	1404	1729	0	1647	1257	0	1608	1743	0	0
Q Serve(g_s), s	4.3	0.0	11.9	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.9	0.0	11.9	8.9	0.0	9.6	0.0	0.0	0.0	10.9	0.0	0.0
Prop In Lane	0.23		0.38	0.13		0.11	0.55		0.13	0.05		0.13
Lane Grp Cap(c), veh/h	626	0	568	741	0	667	691	0	812	918	0	0
V/C Ratio(X)	0.41	0.00	0.41	0.33	0.00	0.34	0.41	0.00	0.41	0.35	0.00	0.00
Avail Cap(c_a), veh/h	626	0	568	741	0	667	691	0	812	918	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.3	0.0	21.2	20.4	0.0	20.6	0.0	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	2.2	1.2	0.0	1.4	1.8	0.0	1.5	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	4.9	4.9	0.0	4.6	0.3	0.0	0.3	5.6	0.0	0.0
LnGrp Delay(d),s/veh	23.3	0.0	23.4	21.5	0.0	22.0	1.8	0.0	1.5	16.0	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		489			474			611			321	
Approach Delay, s/veh		23.3			21.7			1.6			16.0	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		45.0		55.0		45.0		55.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		40.5		50.5		40.5		50.5
Max Q Clear Time (g_c+I1), s		11.6		2.0		15.9		12.9
Green Ext Time (p_c), s		7.2		7.6		6.8		7.4

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	375	110	25	305	10	230	75	25	15	85	25
Future Volume (vph)	20	375	110	25	305	10	230	75	25	15	85	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.97	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3290			1835			1781			1767	
Flt Permitted		0.93			0.93			0.97			0.99	
Satd. Flow (perm)		3065			1714			1781			1767	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	23	431	126	29	351	11	264	86	29	17	98	29
RTOR Reduction (vph)	0	23	0	0	1	0	0	3	0	0	8	0
Lane Group Flow (vph)	0	557	0	0	390	0	0	376	0	0	136	0
Confl. Peds. (#/hr)	48		72	72		48	75		57	57		75
Confl. Bikes (#/hr)						2			36			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		37.0			37.0			30.0			30.0	
Effective Green, g (s)		37.0			37.0			30.0			30.0	
Actuated g/C Ratio		0.33			0.33			0.27			0.27	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1026			573			483			479	
v/s Ratio Prot								c0.21			c0.08	
v/s Ratio Perm		0.18			c0.23							
v/c Ratio		0.54			0.68			0.78			0.28	
Uniform Delay, d1		29.9			31.7			37.2			31.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.1			6.4			11.7			1.5	
Delay (s)		31.9			38.1			48.9			33.3	
Level of Service		C			D			D			C	
Approach Delay (s)		31.9			38.1			48.9			33.3	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	310	30	50	0	5	30	5	0	85	60	5
Future Vol, veh/h	0	310	30	50	0	5	30	5	0	85	60	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	348	34	56	0	6	34	6	0	96	67	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

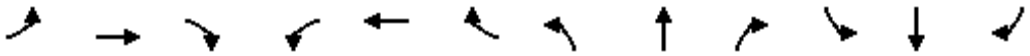
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	19.1	9.7	11.4
HCM LOS	C	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	57%	79%	12%	2%
Vol Thru, %	40%	8%	75%	18%
Vol Right, %	3%	13%	12%	81%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	390	40	310
LT Vol	85	310	5	5
Through Vol	60	30	30	55
RT Vol	5	50	5	250
Lane Flow Rate	169	438	45	348
Geometry Grp	1	1	1	1
Degree of Util (X)	0.28	0.67	0.077	0.5
Departure Headway (Hd)	5.977	5.505	6.132	5.171
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	598	653	581	693
Service Time	4.045	3.551	4.209	3.23
HCM Lane V/C Ratio	0.283	0.671	0.077	0.502
HCM Control Delay	11.4	19.1	9.7	13.3
HCM Lane LOS	B	C	A	B
HCM 95th-tile Q	1.1	5.1	0.2	2.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	55	250
Future Vol, veh/h	0	5	55	250
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	281
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.3
HCM LOS	B

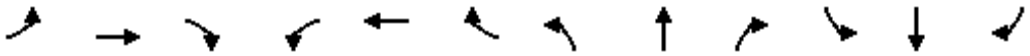


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	105	70	0	0	0	0	50	735	35
Future Volume (vph)	0	90	45	105	70	0	0	0	0	50	735	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.93			1.00						0.98	
Flpb, ped/bikes		1.00			0.91						0.99	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1696			1670						3413	
Flt Permitted		1.00			0.67						1.00	
Satd. Flow (perm)		1696			1154						3413	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	112	74	0	0	0	0	53	782	37
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	118	0	0	186	0	0	0	0	0	870	0
Confl. Peds. (#/hr)	67		98	98		67	99		51	51		99
Confl. Bikes (#/hr)			5			20						9
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		21.4			21.4						69.1	
Effective Green, g (s)		21.4			21.4						69.1	
Actuated g/C Ratio		0.21			0.21						0.69	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		362			246						2358	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.16						0.25	
v/c Ratio		0.33			0.76						0.37	
Uniform Delay, d1		33.2			36.9						6.4	
Progression Factor		1.00			0.83						0.83	
Incremental Delay, d2		0.7			12.5						0.4	
Delay (s)		33.9			43.2						5.7	
Level of Service		C			D						A	
Approach Delay (s)		33.9			43.2			0.0			5.7	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	0	120	100	50	805	60	0	0	0
Future Volume (vph)	0	80	0	0	120	100	50	805	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.95			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.94			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1656			3485				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1656			3485				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	86	0	0	129	108	54	866	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	35	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	86	0	0	202	0	0	978	0	0	0	0
Confl. Peds. (#/hr)	77		81	81		77	38		42	42		38
Confl. Bikes (#/hr)			12			26			70			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		11.1			11.1			28.9				
Effective Green, g (s)		11.1			11.1			28.9				
Actuated g/C Ratio		0.22			0.22			0.58				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		421			367			2014				
v/s Ratio Prot		0.05			c0.12							
v/s Ratio Perm								0.28				
v/c Ratio		0.20			0.55			0.49				
Uniform Delay, d1		15.9			17.2			6.2				
Progression Factor		0.53			0.90			0.78				
Incremental Delay, d2		0.1			1.0			0.7				
Delay (s)		8.5			16.5			5.6				
Level of Service		A			B			A				
Approach Delay (s)		8.5			16.5			5.6			0.0	
Approach LOS		A			B			A			A	

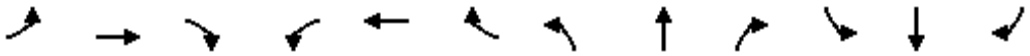
Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	75	55	20	65	25	65	535	30	30	350	15
Future Volume (vph)	45	75	55	20	65	25	65	535	30	30	350	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.96			0.97			0.99			0.99	
Flpb, ped/bikes		0.97			0.98			0.99			0.99	
Frt		0.96			0.97			0.99			0.99	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1658			1707			3369			1743	
Flt Permitted		0.91			0.94			0.87			0.93	
Satd. Flow (perm)		1528			1613			2960			1625	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	48	81	59	22	70	27	70	575	32	32	376	16
RTOR Reduction (vph)	0	33	0	0	18	0	0	7	0	0	3	0
Lane Group Flow (vph)	0	155	0	0	101	0	0	670	0	0	421	0
Confl. Peds. (#/hr)	121		126	126		121	152		114	114		152
Confl. Bikes (#/hr)			5			4			21			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		519			548			1450			796	
v/s Ratio Prot												
v/s Ratio Perm		c0.10			0.06			0.23			c0.26	
v/c Ratio		0.30			0.18			0.46			0.53	
Uniform Delay, d1		12.1			11.6			8.4			8.8	
Progression Factor		0.97			1.00			1.96			1.47	
Incremental Delay, d2		1.5			0.7			0.7			2.4	
Delay (s)		13.3			12.4			17.2			15.2	
Level of Service		B			B			B			B	
Approach Delay (s)		13.3			12.4			17.2			15.2	
Approach LOS		B			B			B			B	

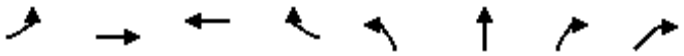
Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	590	245	385	705	0	0	0	0	280	220	185
Future Volume (vph)	0	590	245	385	705	0	0	0	0	280	220	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.98	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.94	
Flt Protected		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (prot)		3288		3433	3539					1579	3035	
Flt Permitted		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (perm)		3288		3433	3539					1579	3035	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	615	255	401	734	0	0	0	0	292	229	193
RTOR Reduction (vph)	0	45	0	0	0	0	0	0	0	0	105	0
Lane Group Flow (vph)	0	825	0	401	734	0	0	0	0	242	367	0
Confl. Peds. (#/hr)	105		114	114		105	29					29
Confl. Bikes (#/hr)			2			6						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		35.5		25.5	65.5					25.0	25.0	
Effective Green, g (s)		35.5		25.5	65.5					25.0	25.0	
Actuated g/C Ratio		0.36		0.26	0.66					0.25	0.25	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1167		875	2318					394	758	
v/s Ratio Prot		c0.25		c0.12	0.21					c0.15	0.12	
v/s Ratio Perm												
v/c Ratio		0.71		0.46	0.32					0.61	0.48	
Uniform Delay, d1		27.8		31.4	7.5					33.2	32.0	
Progression Factor		1.00		1.16	1.05					0.85	0.76	
Incremental Delay, d2		2.0		1.3	0.3					6.5	2.1	
Delay (s)		29.7		37.8	8.2					34.7	26.3	
Level of Service		C		D	A					C	C	
Approach Delay (s)		29.7			18.6			0.0			29.1	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	240	635	645	330	480	370	435	60
Future Volume (vph)	240	635	645	330	480	370	435	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.89		1.00	1.00	0.97	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	2942		3400	1707	1438	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	2942		3400	1707	1438	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	253	668	679	347	505	389	458	63
RTOR Reduction (vph)	0	0	65	0	0	6	145	0
Lane Group Flow (vph)	253	668	961	0	505	447	249	63
Confl. Peds. (#/hr)	233			233	75		19	
Confl. Bikes (#/hr)				19				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	13.5	54.2	43.5		29.5	29.5	29.5	58.5
Effective Green, g (s)	13.5	54.2	43.5		29.5	29.5	29.5	58.5
Actuated g/C Ratio	0.14	0.54	0.44		0.29	0.29	0.29	0.58
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	234	1881	1279		1003	503	424	981
v/s Ratio Prot	c0.15	0.19	c0.33		0.15	c0.26		0.00
v/s Ratio Perm							0.17	0.04
v/c Ratio	1.08	0.36	0.75		0.50	0.89	0.59	0.06
Uniform Delay, d1	43.2	13.0	23.7		29.2	33.7	30.1	8.9
Progression Factor	0.69	2.09	0.81		1.00	1.00	1.00	1.00
Incremental Delay, d2	73.8	0.4	3.9		1.8	20.4	5.8	0.0
Delay (s)	103.6	27.5	23.1		31.0	54.1	35.9	9.0
Level of Service	F	C	C		C	D	D	A
Approach Delay (s)		48.4	23.1			40.2		
Approach LOS		D	C			D		

Intersection Summary			
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	995	10	10	965	5	95
Future Vol, veh/h	995	10	10	965	5	95
Conflicting Peds, #/hr	0	177	177	0	177	177
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1070	11	11	1038	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1258	0	1969	894
Stage 1	-	-	-	-	1252	-
Stage 2	-	-	-	-	717	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	543	-	56	288
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	450	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	463	-	40	209
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	375	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	37.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	209	-	-	463	-
HCM Lane V/C Ratio	0.489	-	-	0.023	-
HCM Control Delay (s)	37.7	-	-	13	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	2.4	-	-	0.1	-

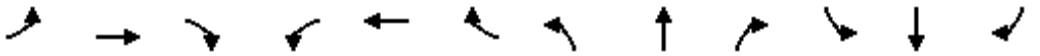
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1000	950	30	5	25
Future Vol, veh/h	95	1000	950	30	5	25
Conflicting Peds, #/hr	118	0	0	117	117	118
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1053	1000	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1150	0	-	0	1977	752
Stage 1	-	-	-	-	1134	-
Stage 2	-	-	-	-	843	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	598	-	-	-	55	357
Stage 1	-	-	-	-	273	-
Stage 2	-	-	-	-	388	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	539	-	-	-	36	290
Mov Cap-2 Maneuver	-	-	-	-	137	-
Stage 1	-	-	-	-	246	-
Stage 2	-	-	-	-	285	-

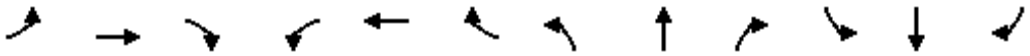
Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	21.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	539	-	-	-	244
HCM Lane V/C Ratio	0.186	-	-	-	0.129
HCM Control Delay (s)	13.2	-	-	-	21.9
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.7	-	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	825	195	225	830	0	0	0	0	45	690	140
Future Volume (vph)	0	825	195	225	830	0	0	0	0	45	690	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					4.5	4.5	4.5
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	1.00
Frpb, ped/bikes		0.95		1.00	1.00					1.00	1.00	0.67
Flpb, ped/bikes		1.00		0.99	1.00					0.89	1.00	1.00
Frt		0.97		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3220		1725	3471					1581	3539	1062
Flt Permitted		1.00		0.19	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3220		352	3471					1581	3539	1062
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	859	203	234	865	0	0	0	0	47	719	146
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	0	50
Lane Group Flow (vph)	0	1042	0	234	865	0	0	0	0	47	719	96
Confl. Peds. (#/hr)	213		184	184		213	235		71	71		235
Confl. Bikes (#/hr)			2			14						27
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		55.5		64.0	68.5					22.5	22.5	22.5
Effective Green, g (s)		55.5		64.0	68.5					22.5	22.5	22.5
Actuated g/C Ratio		0.56		0.64	0.68					0.22	0.22	0.22
Clearance Time (s)		4.5		4.5						4.5	4.5	4.5
Vehicle Extension (s)		0.2		1.0						1.0	1.0	1.0
Lane Grp Cap (vph)		1787		341	2377					355	796	238
v/s Ratio Prot		0.32		c0.06	0.25						c0.20	
v/s Ratio Perm				c0.38						0.03		0.09
v/c Ratio		0.58		0.69	0.36					0.13	0.90	0.40
Uniform Delay, d1		14.6		23.8	6.6					31.0	37.7	33.0
Progression Factor		1.05		0.75	0.27					1.02	0.79	0.93
Incremental Delay, d2		1.3		4.0	0.0					0.1	12.7	0.4
Delay (s)		16.7		21.8	1.8					31.7	42.6	31.1
Level of Service		B		C	A					C	D	C
Approach Delay (s)		16.7			6.1			0.0			40.2	
Approach LOS		B			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

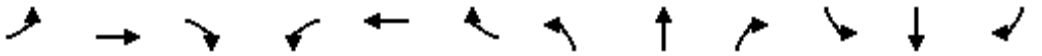


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	790	0	0	740	30	300	825	155	0	0	0
Future Volume (vph)	5	790	0	0	740	30	300	825	155	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.82			
Flpb, ped/bikes		1.00			1.00		0.93	1.00	1.00			
Frt		1.00			0.99		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3503			3408		1656	3574	1304			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3332			3408		1656	3574	1304			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	849	0	0	796	32	323	887	167	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	32	0	0	0
Lane Group Flow (vph)	0	854	0	0	825	0	323	887	135	0	0	0
Confl. Peds. (#/hr)	192		103	103		192	44		88	88		44
Confl. Bikes (#/hr)						13			74			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		47.5			47.5		43.5	43.5	43.5			
Effective Green, g (s)		47.5			47.5		43.5	43.5	43.5			
Actuated g/C Ratio		0.48			0.48		0.44	0.44	0.44			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1582			1618		720	1554	567			
v/s Ratio Prot					0.24			c0.25				
v/s Ratio Perm		c0.26					0.20		0.10			
v/c Ratio		0.54			0.51		0.45	0.57	0.24			
Uniform Delay, d1		18.5			18.2		19.8	21.2	17.8			
Progression Factor		0.25			0.58		0.79	0.77	0.76			
Incremental Delay, d2		1.1			1.1		1.5	1.1	0.7			
Delay (s)		5.7			11.7		17.1	17.5	14.2			
Level of Service		A			B		B	B	B			
Approach Delay (s)		5.7			11.7			17.0			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

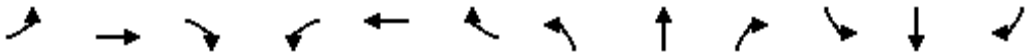
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	845	50	45	710	15	35	60	35	15	45	30
Future Volume (vph)	85	845	50	45	710	15	35	60	35	15	45	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99			0.96			0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.99	
Frt	1.00	0.99		1.00	1.00			0.96			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3326		1703	3356			1649			1601	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.95	
Satd. Flow (perm)	1736	3326		1703	3356			1523			1536	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	899	53	48	755	16	37	64	37	16	48	32
RTOR Reduction (vph)	0	3	0	0	1	0	0	14	0	0	19	0
Lane Group Flow (vph)	90	949	0	48	770	0	0	124	0	0	77	0
Confl. Peds. (#/hr)	169		239	239		169	57		77	77		57
Confl. Bikes (#/hr)			2			7			24			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	7.3	66.1		4.3	62.6			16.6			16.6	
Effective Green, g (s)	7.3	66.1		4.3	62.6			16.6			16.6	
Actuated g/C Ratio	0.07	0.66		0.04	0.63			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	126	2198		73	2100			252			254	
v/s Ratio Prot	c0.05	c0.29		0.03	0.23							
v/s Ratio Perm								c0.08			0.05	
v/c Ratio	0.71	0.43		0.66	0.37			0.49			0.30	
Uniform Delay, d1	45.3	8.0		47.1	9.1			37.9			36.6	
Progression Factor	1.19	0.30		1.34	0.32			1.00			1.00	
Incremental Delay, d2	13.2	0.6		14.4	0.5			0.6			0.2	
Delay (s)	67.4	2.9		77.5	3.4			38.4			36.9	
Level of Service	E	A		E	A			D			D	
Approach Delay (s)		8.5			7.7			38.4			36.9	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



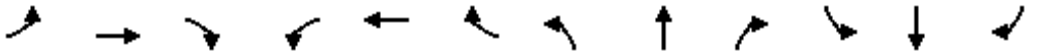
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	850	5	5	725	30	5	5	5	50	0	115
Future Volume (vph)	70	850	5	5	725	30	5	5	5	50	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00			0.98			1.00	0.73		1.00	0.79
Flpb, ped/bikes	1.00	1.00			1.00			0.91	1.00		0.75	1.00
Frt	1.00	1.00			0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.98	1.00		0.95	1.00
Satd. Flow (prot)	1736	3453			3329			1681	1183		1338	1262
Flt Permitted	0.95	1.00			0.95			0.91	1.00		0.75	1.00
Satd. Flow (perm)	1736	3453			3165			1562	1183		1058	1262
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	74	904	5	5	771	32	5	5	5	53	0	122
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	4	0	0	103
Lane Group Flow (vph)	74	909	0	0	806	0	0	10	1	0	53	19
Confl. Peds. (#/hr)	266		548	548		266	120		153	153		120
Confl. Bikes (#/hr)			7			9			7			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	6.7	75.2			64.5			15.8	15.8		15.8	15.8
Effective Green, g (s)	6.7	75.2			64.5			15.8	15.8		15.8	15.8
Actuated g/C Ratio	0.07	0.75			0.64			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	116	2596			2041			246	186		167	199
v/s Ratio Prot	c0.04	0.26										
v/s Ratio Perm					c0.25			0.01	0.00		c0.05	0.02
v/c Ratio	0.64	0.35			0.40			0.04	0.00		0.32	0.10
Uniform Delay, d1	45.5	4.2			8.5			35.7	35.5		37.3	36.0
Progression Factor	0.97	1.01			0.81			1.00	1.00		1.07	1.27
Incremental Delay, d2	7.6	0.3			0.5			0.0	0.0		0.4	0.1
Delay (s)	51.9	4.6			7.4			35.7	35.5		40.1	45.9
Level of Service	D	A			A			D	D		D	D
Approach Delay (s)		8.1			7.4			35.6			44.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	770	65	0	675	35	5	160	35	5	135	55
Future Volume (vph)	5	770	65	0	675	35	5	160	35	5	135	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.94			0.97			0.93			0.87	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.99			0.99			0.98			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3222			3425			1597			1510	
Flt Permitted		0.95			1.00			0.99			0.99	
Satd. Flow (perm)		3067			3425			1590			1503	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	819	69	0	718	37	5	170	37	5	144	59
RTOR Reduction (vph)	0	3	0	0	4	0	0	8	0	0	14	0
Lane Group Flow (vph)	0	890	0	0	751	0	0	204	0	0	194	0
Confl. Peds. (#/hr)	390		481	481		390	596		472	472		596
Confl. Bikes (#/hr)			1			5			56			15
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2						4			4		
Actuated Green, G (s)		54.5			54.5			36.5			36.5	
Effective Green, g (s)		54.5			54.5			36.5			36.5	
Actuated g/C Ratio		0.54			0.54			0.36			0.36	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1671			1866			580			548	
v/s Ratio Prot					0.22							
v/s Ratio Perm		c0.29						0.13			c0.13	
v/c Ratio		0.53			0.40			0.35			0.35	
Uniform Delay, d1		14.6			13.3			23.1			23.2	
Progression Factor		0.56			0.44			0.92			1.27	
Incremental Delay, d2		1.2			0.6			1.6			1.7	
Delay (s)		9.3			6.4			23.0			31.1	
Level of Service		A			A			C			C	
Approach Delay (s)		9.3			6.4			23.0			31.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



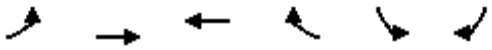
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	605	140	165	610	55	40	515	195	75	375	40
Future Volume (veh/h)	70	605	140	165	610	55	40	515	195	75	375	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.84	1.00		0.85	1.00		0.78	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	630	146	172	635	57	42	536	203	78	391	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	93	1124	260	172	1436	129	58	582	218	99	876	93
Arrive On Green	0.10	0.82	0.82	0.20	0.91	0.91	0.05	0.35	0.35	0.02	0.09	0.09
Sat Flow, veh/h	1774	2745	634	1723	3141	281	1691	2216	831	1723	3063	325
Grp Volume(v), veh/h	73	405	371	172	347	345	42	407	332	78	217	216
Grp Sat Flow(s),veh/h/ln	1774	1770	1609	1723	1719	1703	1691	1687	1359	1723	1719	1669
Q Serve(g_s), s	4.0	7.7	7.7	10.0	2.9	2.9	2.5	23.1	23.6	4.5	11.9	12.2
Cycle Q Clear(g_c), s	4.0	7.7	7.7	10.0	2.9	2.9	2.5	23.1	23.6	4.5	11.9	12.2
Prop In Lane	1.00		0.39	1.00		0.17	1.00		0.61	1.00		0.19
Lane Grp Cap(c), veh/h	93	725	659	172	786	779	58	443	357	99	492	477
V/C Ratio(X)	0.79	0.56	0.56	1.00	0.44	0.44	0.72	0.92	0.93	0.79	0.44	0.45
Avail Cap(c_a), veh/h	284	725	659	172	786	779	321	481	387	121	492	477
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.33	1.33	1.33	0.33	0.33	0.33
Upstream Filter(I)	0.83	0.83	0.83	0.88	0.88	0.88	0.89	0.89	0.89	0.83	0.83	0.83
Uniform Delay (d), s/veh	44.2	6.0	6.0	40.0	2.4	2.4	47.2	31.5	31.6	48.4	37.7	37.9
Incr Delay (d2), s/veh	4.5	2.6	2.9	63.5	1.6	1.6	5.5	19.0	24.6	16.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.9	3.6	7.7	1.5	1.5	1.2	13.0	11.2	2.6	5.7	5.7
LnGrp Delay(d),s/veh	48.8	8.6	8.9	103.5	4.0	4.0	52.7	50.5	56.3	64.9	37.9	38.1
LnGrp LOS	D	A	A	F	A	A	D	D	E	E	D	D
Approach Vol, veh/h		849			864			781			511	
Approach Delay, s/veh		12.2			23.8			53.1			42.1	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	50.2	9.8	30.8	14.0	45.5	7.4	33.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	16.0	31.5	7.0	28.5	10.0	37.5	19.0	16.5
Max Q Clear Time (g_c+I1), s	6.0	4.9	6.5	25.6	12.0	9.7	4.5	14.2
Green Ext Time (p_c), s	0.0	3.8	0.0	0.7	0.0	3.8	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.3
HCM 2010 LOS	C

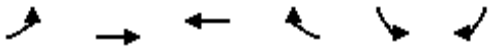
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	680	240	50	620	45	190	100	40	45	70	25
Future Volume (vph)	20	680	240	50	620	45	190	100	40	45	70	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.94		1.00	0.97		1.00	1.00	0.59		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1752	3177		1770	3394		1770	1863	927		1695	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1752	3177		1770	3394		1770	1863	927		1695	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	731	258	54	667	48	204	108	43	48	75	27
RTOR Reduction (vph)	0	30	0	0	4	0	0	0	37	0	9	0
Lane Group Flow (vph)	22	959	0	54	711	0	204	108	6	0	142	0
Confl. Peds. (#/hr)	173		146	146		173	260		345	345		260
Confl. Bikes (#/hr)			2			3			59			8
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.4	47.9		5.5	51.0		15.1	15.1	15.1		15.0	
Effective Green, g (s)	2.4	47.9		5.5	51.0		15.1	15.1	15.1		15.0	
Actuated g/C Ratio	0.02	0.48		0.06	0.51		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	42	1521		97	1730		267	281	139		254	
v/s Ratio Prot	0.01	c0.30		c0.03	c0.21		c0.12	0.06			c0.08	
v/s Ratio Perm									0.01			
v/c Ratio	0.52	0.63		0.56	0.41		0.76	0.38	0.05		0.56	
Uniform Delay, d1	48.2	19.4		46.1	15.2		40.7	38.3	36.3		39.4	
Progression Factor	1.08	0.60		0.97	0.97		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.4	1.6		3.8	0.7		11.1	0.3	0.1		1.5	
Delay (s)	56.4	13.2		48.7	15.5		51.8	38.6	36.3		40.9	
Level of Service	E	B		D	B		D	D	D		D	
Approach Delay (s)		14.2			17.8			45.9			40.9	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



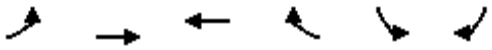
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	775	715	0	15	25
Future Volume (vph)	0	775	715	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.89	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1518	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1518	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	842	777	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	842	777	0	21	0
Confl. Peds. (#/hr)	165			165	97	95
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		258	
v/s Ratio Prot		c0.24	0.22		c0.01	
v/s Ratio Perm						
v/c Ratio		0.32	0.29		0.08	
Uniform Delay, d1		4.3	4.2		34.9	
Progression Factor		0.37	0.74		1.00	
Incremental Delay, d2		0.3	0.3		0.0	
Delay (s)		1.8	3.4		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.8	3.4		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	3.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	755	720	35	0	0
Future Volume (vph)	25	755	720	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	0.98	1.00	1.00			
Frt	1.00	1.00	0.99			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1754	1881	3430			
Flt Permitted	0.27	1.00	1.00			
Satd. Flow (perm)	497	1881	3430			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	28	839	800	39	0	0
RTOR Reduction (vph)	0	0	3	0	0	0
Lane Group Flow (vph)	28	839	836	0	0	0
Confl. Peds. (#/hr)	114			114	241	99
Confl. Bikes (#/hr)				6		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	53.5			
Effective Green, g (s)	71.5	74.5	53.5			
Actuated g/C Ratio	0.72	0.74	0.54			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	581	1401	1835			
v/s Ratio Prot	0.01	c0.45	0.24			
v/s Ratio Perm	0.03					
v/c Ratio	0.05	0.60	0.46			
Uniform Delay, d1	4.7	5.9	14.3			
Progression Factor	0.15	0.54	0.14			
Incremental Delay, d2	0.0	0.7	0.7			
Delay (s)	0.7	3.8	2.7			
Level of Service	A	A	A			
Approach Delay (s)		3.7	2.7		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	3.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	35	710	730	110	55	30
Future Volume (vph)	35	710	730	110	55	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3460		1726	
Flt Permitted	0.24	1.00	1.00		0.97	
Satd. Flow (perm)	455	1881	3460		1726	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	38	763	785	118	59	32
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	38	763	903	0	69	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	52.9		17.0	
Effective Green, g (s)	71.5	74.5	52.9		17.0	
Actuated g/C Ratio	0.72	0.74	0.53		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	573	1401	1830		293	
v/s Ratio Prot	0.01	c0.41	0.26		c0.04	
v/s Ratio Perm	0.04					
v/c Ratio	0.07	0.54	0.49		0.24	
Uniform Delay, d1	5.0	5.5	15.0		35.9	
Progression Factor	0.41	0.19	1.00		1.00	
Incremental Delay, d2	0.0	0.2	1.0		0.2	
Delay (s)	2.0	1.2	16.0		36.0	
Level of Service	A	A	B		D	
Approach Delay (s)		1.3	16.0		36.0	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	505	5	555	705	120	1405
Future Volume (vph)	505	5	555	705	120	1405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.91	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1454	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1454	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	537	5	590	750	128	1495
RTOR Reduction (vph)	0	1	0	0	0	10
Lane Group Flow (vph)	537	4	590	750	128	1485
Confl. Peds. (#/hr)		36	36			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	26.7	26.7	80.2	80.2	19.6	104.3
Effective Green, g (s)	26.7	26.7	80.2	80.2	19.6	104.3
Actuated g/C Ratio	0.19	0.19	0.57	0.57	0.14	0.74
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	681	277	1947	1056	247	2076
v/s Ratio Prot	c0.15		0.17	0.41	0.07	c0.53
v/s Ratio Perm		0.00				
v/c Ratio	0.79	0.02	0.30	0.71	0.52	0.72
Uniform Delay, d1	54.0	46.0	15.5	21.5	55.8	9.7
Progression Factor	1.00	1.00	0.50	0.73	1.11	1.38
Incremental Delay, d2	6.2	0.0	0.3	3.4	1.7	1.1
Delay (s)	60.2	46.0	8.1	19.2	63.7	14.5
Level of Service	E	D	A	B	E	B
Approach Delay (s)	60.0			14.3	18.4	
Approach LOS	E			B	B	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	285	1060	225	25	740	85	25	185	90	30	30
Future Volume (vph)	35	285	1060	225	25	740	85	25	185	90	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	4.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.93	1.00	0.99		0.95	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.98		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.98	1.00	
Satd. Flow (prot)	1752	1752	3505	1457	1736	4598		1272	1698	1756	1599	
Flt Permitted	0.95	0.12	1.00	1.00	0.12	1.00		1.00	0.95	0.98	1.00	
Satd. Flow (perm)	1752	221	3505	1457	215	4598		1272	1698	1756	1599	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	294	1093	232	26	763	88	26	191	93	31	31
RTOR Reduction (vph)	0	0	0	97	0	0	0	17	0	0	62	0
Lane Group Flow (vph)	36	294	1093	135	26	854	0	6	139	145	0	0
Confl. Peds. (#/hr)	16	16		14	14		16	16	31		16	15
Confl. Bikes (#/hr)				3				1				4
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	NA	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2				
Actuated Green, G (s)	8.9	63.6	48.4	48.4	34.0	34.0		34.0	21.9	21.9	0.0	
Effective Green, g (s)	8.9	59.6	48.4	48.4	34.0	34.0		34.0	21.9	21.9	0.0	
Actuated g/C Ratio	0.06	0.43	0.35	0.35	0.24	0.24		0.24	0.16	0.16	0.00	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5		
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0		
Lane Grp Cap (vph)	111	313	1211	503	52	1116		308	265	274	0	
v/s Ratio Prot	0.02	c0.13	c0.31			0.19			0.08	c0.08		
v/s Ratio Perm		c0.26		0.09	0.12			0.00				
v/c Ratio	0.32	0.94	0.90	0.27	0.50	0.77		0.02	0.52	0.53	0.00	
Uniform Delay, d1	62.7	38.5	43.6	33.0	45.7	49.3		40.3	54.3	54.3	70.0	
Progression Factor	1.06	1.12	0.97	1.08	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	28.0	8.3	0.9	30.5	5.0		0.1	0.9	0.9	0.0	
Delay (s)	67.4	71.0	50.4	36.7	76.2	54.3		40.4	55.1	55.2	70.0	
Level of Service	E	E	D	D	E	D		D	E	E	E	
Approach Delay (s)			52.5			54.6				57.8		
Approach LOS			D			D				E		

Intersection Summary			
HCM 2000 Control Delay	53.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	30	160	85	30	25	35	170	10
Future Volume (vph)	30	160	85	30	25	35	170	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.99			0.95	1.00	
Satd. Flow (prot)		1698	1693			1787	2814	
Flt Permitted		0.95	0.99			0.95	1.00	
Satd. Flow (perm)		1698	1693			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	165	88	31	26	36	175	10
RTOR Reduction (vph)	0	0	7	0	0	0	123	0
Lane Group Flow (vph)	0	158	150	0	0	62	62	0
Confl. Peds. (#/hr)	15	16		31	15	14	31	16
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		23.7	23.7			8.8	24.0	
Effective Green, g (s)		23.7	23.7			8.8	24.0	
Actuated g/C Ratio		0.17	0.17			0.06	0.17	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		287	286			112	482	
v/s Ratio Prot		c0.09	0.09			c0.03	0.02	
v/s Ratio Perm								
v/c Ratio		0.55	0.53			0.55	0.13	
Uniform Delay, d1		53.3	53.0			63.7	49.1	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		1.3	0.8			4.7	0.1	
Delay (s)		54.6	53.8			68.4	49.2	
Level of Service		D	D			E	D	
Approach Delay (s)			54.2			54.0		
Approach LOS			D			D		

Intersection Summary

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	125	0	0	0	40	1170
Future Vol, veh/h	125	0	0	0	40	1170
Conflicting Peds, #/hr	59	121	0	59	121	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	137	0	0	0	44	1286

Major/Minor	Minor1		Major2	
Conflicting Flow All	911	-	121	0
Stage 1	121	-	-	-
Stage 2	790	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	266	0	1472	-
Stage 1	-	0	-	-
Stage 2	397	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	214	-	1472	-
Mov Cap-2 Maneuver	214	-	-	-
Stage 1	-	-	-	-
Stage 2	355	-	-	-

Approach	WB	SB
HCM Control Delay, s	47.8	0.6
HCM LOS	E	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	214	1472	-
HCM Lane V/C Ratio	0.642	0.03	-
HCM Control Delay (s)	47.8	7.5	0.4
HCM Lane LOS	E	A	A
HCM 95th %tile Q(veh)	3.8	0.1	-

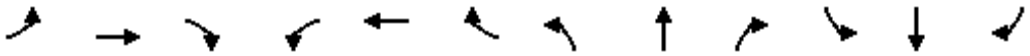
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	65	0	0	1255	40
Future Vol, veh/h	0	65	0	0	1255	40
Conflicting Peds, #/hr	219	119	119	0	0	219
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	71	0	0	1364	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1042	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	226	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	185	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	36	0
HCM LOS	E	

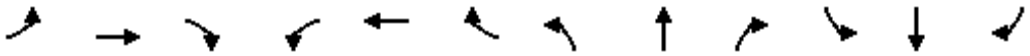
Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	185	-	-
HCM Lane V/C Ratio	0.382	-	-
HCM Control Delay (s)	36	-	-
HCM Lane LOS	E	-	-
HCM 95th %tile Q(veh)	1.7	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	30	0	0	95	45	15	1040	25	0	0	0
Future Volume (vph)	45	30	0	0	95	45	15	1040	25	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.97			1.00				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.96			1.00				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1772			1646			3507				
Flt Permitted		0.82			1.00			1.00				
Satd. Flow (perm)		1490			1646			3507				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	33	0	0	103	49	16	1130	27	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	82	0	0	141	0	0	1169	0	0	0	0
Confl. Peds. (#/hr)	93		63	63		93	44		48	48		44
Confl. Bikes (#/hr)			5			8			63			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		625			691			1437				
v/s Ratio Prot					c0.09							
v/s Ratio Perm		0.06						0.33				
v/c Ratio		0.13			0.20			0.81				
Uniform Delay, d1		8.9			9.2			13.1				
Progression Factor		0.84			0.93			0.75				
Incremental Delay, d2		0.4			0.7			4.7				
Delay (s)		7.9			9.3			14.5				
Level of Service		A			A			B				
Approach Delay (s)		7.9			9.3			14.5			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

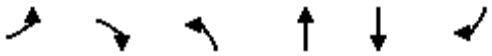
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	25	5	40	5	50	5	140	40	40	150	10
Future Volume (vph)	20	25	5	40	5	50	5	140	40	40	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.86			0.87			0.97	
Flpb, ped/bikes		0.91			0.84			0.99			0.91	
Frt		0.99			0.93			0.97			0.99	
Flt Protected		0.98			0.98			1.00			0.99	
Satd. Flow (prot)		1578			1237			1472			1562	
Flt Permitted		0.89			0.88			0.99			0.92	
Satd. Flow (perm)		1437			1114			1465			1456	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	27	5	43	5	54	5	151	43	43	161	11
RTOR Reduction (vph)	0	4	0	0	38	0	0	20	0	0	4	0
Lane Group Flow (vph)	0	51	0	0	64	0	0	179	0	0	211	0
Confl. Peds. (#/hr)	142		235	235		142	545		467	467		545
Confl. Bikes (#/hr)			2			3			50			20
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		431			334			776			771	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.06			0.12			c0.15	
v/c Ratio		0.12			0.19			0.23			0.27	
Uniform Delay, d1		12.7			13.0			6.3			6.5	
Progression Factor		0.74			0.47			0.94			0.75	
Incremental Delay, d2		0.5			1.3			0.7			0.8	
Delay (s)		9.9			7.4			6.6			5.6	
Level of Service		A			A			A			A	
Approach Delay (s)		9.9			7.4			6.6			5.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

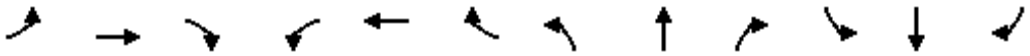
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	85	40	30	650	610	90
Future Volume (vph)	85	40	30	650	610	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.91			1.00	1.00	0.71
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.96			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1572			3350	3343	1057
Flt Permitted	0.97			0.91	1.00	1.00
Satd. Flow (perm)	1572			3063	3343	1057
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	42	32	684	642	95
RTOR Reduction (vph)	27	0	0	0	0	50
Lane Group Flow (vph)	104	0	0	716	642	45
Confl. Peds. (#/hr)	207	285	144			144
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	17.5			23.5	23.5	23.5
Effective Green, g (s)	17.5			23.5	23.5	23.5
Actuated g/C Ratio	0.35			0.47	0.47	0.47
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	550			1439	1571	496
v/s Ratio Prot	c0.07				0.19	
v/s Ratio Perm				c0.23		0.04
v/c Ratio	0.19			0.50	0.41	0.09
Uniform Delay, d1	11.3			9.2	8.7	7.3
Progression Factor	0.71			1.32	1.30	3.01
Incremental Delay, d2	0.8			1.1	0.7	0.3
Delay (s)	8.7			13.2	11.9	22.3
Level of Service	A			B	B	C
Approach Delay (s)	8.7			13.2	13.3	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	70	10	5	10	20	210	0	55	15	230	65	75
Future Volume (vph)	70	10	5	10	20	210	0	55	15	230	65	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	11	5	11	22	228	0	60	16	250	71	82

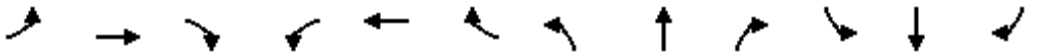
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	92	261	30	46	286	118
Volume Left (vph)	76	11	0	0	250	0
Volume Right (vph)	5	228	0	16	0	82
Hadj (s)	0.13	-0.52	0.44	0.20	0.52	-0.40
Departure Headway (s)	5.7	4.8	6.4	6.2	6.1	5.1
Degree Utilization, x	0.14	0.35	0.05	0.08	0.48	0.17
Capacity (veh/h)	581	704	515	534	570	670
Control Delay (s)	9.6	10.3	8.6	8.5	13.4	8.0
Approach Delay (s)	9.6	10.3	8.6		11.8	
Approach LOS	A	B	A		B	

Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	63.7%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	85	55	5	55	205	75	705	5	65	355	110
Future Volume (veh/h)	145	85	55	5	55	205	75	705	5	65	355	110
Number	3	8	18	7	4	14	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		0.91	0.96		0.87	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	153	89	58	5	58	216	79	742	5	68	374	116
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	208	582	336	41	311	224	99	2075	14	87	1501	459
Arrive On Green	0.09	0.29	0.29	0.18	0.18	0.18	0.05	0.56	0.56	0.05	0.56	0.56
Sat Flow, veh/h	1707	2004	1157	74	1710	1231	1810	3675	25	1792	2689	823
Grp Volume(v), veh/h	153	74	73	63	0	216	79	364	383	68	247	243
Grp Sat Flow(s),veh/h/ln	1707	1703	1458	1784	0	1231	1810	1805	1895	1792	1787	1724
Q Serve(g_s), s	9.9	4.5	5.2	0.0	0.0	24.4	6.0	15.4	15.4	5.3	9.9	10.2
Cycle Q Clear(g_c), s	9.9	4.5	5.2	4.0	0.0	24.4	6.0	15.4	15.4	5.3	9.9	10.2
Prop In Lane	1.00		0.79	0.08		1.00	1.00		0.01	1.00		0.48
Lane Grp Cap(c), veh/h	208	495	424	546	0	224	99	1019	1070	87	998	963
V/C Ratio(X)	0.73	0.15	0.17	0.12	0.00	0.96	0.80	0.36	0.36	0.79	0.25	0.25
Avail Cap(c_a), veh/h	389	675	578	546	0	224	213	1019	1070	160	998	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.00	0.99	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	36.8	37.1	48.5	0.0	56.8	65.4	16.6	16.6	65.9	15.9	15.9
Incr Delay (d2), s/veh	4.9	0.1	0.2	0.0	0.0	49.1	4.4	0.8	0.8	5.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.1	2.1	1.8	0.0	11.3	3.2	7.9	8.3	2.7	5.0	5.0
LnGrp Delay(d),s/veh	47.1	37.0	37.3	48.5	0.0	105.9	69.8	17.4	17.4	71.7	16.4	16.5
LnGrp LOS	D	D	D	D		F	E	B	B	E	B	B
Approach Vol, veh/h		300			279			826			558	
Approach Delay, s/veh		42.2			92.9			22.4			23.2	
Approach LOS		D			F			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.3	83.6	15.2	30.0	12.2	82.6		45.2
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	58.5	27.0	25.5	16.5	54.5		55.5
Max Q Clear Time (g_c+I1), s	7.3	17.4	11.9	26.4	8.0	12.2		7.2
Green Ext Time (p_c), s	0.0	5.5	0.3	0.0	0.0	5.5		2.4

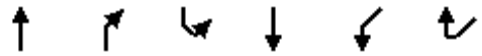
Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	10	0	5	20	45	0	1320	35	0	480	260
Future Volume (vph)	130	10	0	5	20	45	0	1320	35	0	480	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	0.96			0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1633			3342	1509		3558			3539	1545
Flt Permitted	0.74	0.74			0.91	1.00		1.00			1.00	1.00
Satd. Flow (perm)	1259	1257			3071	1509		3558			3539	1545
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	138	11	0	5	21	48	0	1404	37	0	511	277
RTOR Reduction (vph)	0	0	0	0	0	44	0	1	0	0	0	43
Lane Group Flow (vph)	75	74	0	0	26	4	0	1440	0	0	511	234
Confl. Peds. (#/hr)							5		2	2		5
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA			NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2						1
Actuated Green, G (s)	12.8	12.8			12.8	12.8		118.2			118.2	118.2
Effective Green, g (s)	12.8	12.8			12.8	12.8		118.2			118.2	118.2
Actuated g/C Ratio	0.09	0.09			0.09	0.09		0.84			0.84	0.84
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	115	114			280	137		3003			2987	1304
v/s Ratio Prot								c0.40			0.14	
v/s Ratio Perm	c0.06	0.06			0.01	0.00						0.15
v/c Ratio	0.65	0.65			0.09	0.03		0.48			0.17	0.18
Uniform Delay, d1	61.4	61.4			58.3	58.0		2.9			2.0	2.0
Progression Factor	0.68	0.67			1.00	1.00		1.04			0.23	0.00
Incremental Delay, d2	9.5	9.0			0.1	0.0		0.4			0.1	0.3
Delay (s)	51.1	50.4			58.3	58.0		3.4			0.6	0.3
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		50.7			58.1			3.4			0.5	
Approach LOS		D			E			A			A	

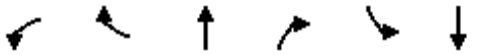
Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	755	1295	0	415	575	0
Future Volume (vph)	755	1295	0	415	575	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	778	1335	0	428	593	0
RTOR Reduction (vph)	0	802	0	0	0	0
Lane Group Flow (vph)	778	533	0	428	593	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	55.9	55.9		55.9	75.1	
Effective Green, g (s)	55.9	55.9		55.9	75.1	
Actuated g/C Ratio	0.40	0.40		0.40	0.54	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1427	1123		1441	1841	
v/s Ratio Prot	c0.22			0.12	c0.17	
v/s Ratio Perm		0.19				
v/c Ratio	0.55	0.47		0.30	0.32	
Uniform Delay, d1	32.3	31.2		28.7	18.2	
Progression Factor	1.00	1.00		0.67	0.40	
Incremental Delay, d2	0.2	0.1		0.0	0.5	
Delay (s)	32.5	31.3		19.3	7.8	
Level of Service	C	C		B	A	
Approach Delay (s)	31.7			19.3	7.8	
Approach LOS	C			B	A	

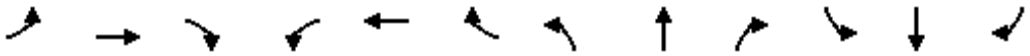
Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	125	1250
Future Volume (veh/h)	100	0	0	0	125	1250
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			136	1359
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			309	2965
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				279	3189
Grp Volume(v), veh/h	0.0				790	705
Grp Sat Flow(s),veh/h/ln					1773	1610
Q Serve(g_s), s					27.8	35.0
Cycle Q Clear(g_c), s					35.5	35.0
Prop In Lane					0.17	
Lane Grp Cap(c), veh/h					1736	1538
V/C Ratio(X)					0.46	0.46
Avail Cap(c_a), veh/h					1736	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					13.6	13.5
Incr Delay (d2), s/veh					0.9	1.0
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					17.9	16.1
LnGrp Delay(d),s/veh					14.4	14.5
LnGrp LOS					B	B
Approach Vol, veh/h						1495
Approach Delay, s/veh						14.5
Approach LOS						B

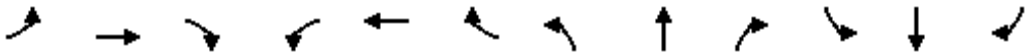
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		64.5						
Max Q Clear Time (g_c+I1), s		37.5						
Green Ext Time (p_c), s		1.8						

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	70	0	0	70	95	25	905	90	0	0	0
Future Volume (vph)	60	70	0	0	70	95	25	905	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.90			0.99				
Flpb, ped/bikes		0.95			1.00			1.00				
Frt		1.00			0.92			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1760			1561			3433				
Flt Permitted		0.76			1.00			1.00				
Satd. Flow (perm)		1361			1561			3433				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	77	0	0	77	104	27	995	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	31	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	143	0	0	150	0	0	1112	0	0	0	0
Confl. Peds. (#/hr)	158		104	104		158	22		57	57		22
Confl. Bikes (#/hr)			7			21			75			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		9.7			9.7			31.8				
Effective Green, g (s)		9.7			9.7			31.8				
Actuated g/C Ratio		0.19			0.19			0.64				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		264			302			2183				
v/s Ratio Prot					0.10							
v/s Ratio Perm		c0.11						0.32				
v/c Ratio		0.54			0.50			0.51				
Uniform Delay, d1		18.1			18.0			4.9				
Progression Factor		1.14			1.18			1.00				
Incremental Delay, d2		1.0			0.5			0.9				
Delay (s)		21.7			21.6			5.8				
Level of Service		C			C			A				
Approach Delay (s)		21.7			21.6			5.8			0.0	
Approach LOS		C			C			A			A	

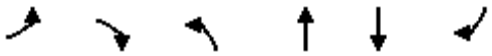
Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	115	15	10	60	25	10	115	15	15	105	40
Future Volume (vph)	35	115	15	10	60	25	10	115	15	15	105	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.86			0.94			0.84	
Flpb, ped/bikes		0.90			0.96			0.96			0.96	
Frt		0.99			0.96			0.99			0.97	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1596			1497			1577			1405	
Flt Permitted		0.93			0.97			0.98			0.97	
Satd. Flow (perm)		1504			1458			1552			1376	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	122	16	11	64	27	11	122	16	16	112	43
RTOR Reduction (vph)	0	7	0	0	18	0	0	8	0	0	22	0
Lane Group Flow (vph)	0	168	0	0	84	0	0	141	0	0	149	0
Confl. Peds. (#/hr)	361		395	395		361	547		413	413		547
Confl. Bikes (#/hr)			15			20			48			17
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		511			495			760			674	
v/s Ratio Prot												
v/s Ratio Perm		c0.11			0.06			0.09			c0.11	
v/c Ratio		0.33			0.17			0.19			0.22	
Uniform Delay, d1		12.3			11.6			7.2			7.3	
Progression Factor		1.48			0.56			0.78			1.74	
Incremental Delay, d2		1.6			0.7			0.5			0.7	
Delay (s)		19.7			7.2			6.1			13.4	
Level of Service		B			A			A			B	
Approach Delay (s)		19.7			7.2			6.1			13.4	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	85	70	40	595	605	45
Future Volume (vph)	85	70	40	595	605	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.87		1.00	1.00	0.98	
Flpb, ped/bikes	1.00		0.89	1.00	1.00	
Frt	0.94		1.00	1.00	0.99	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1502		1484	3343	3196	
Flt Permitted	0.97		0.32	1.00	1.00	
Satd. Flow (perm)	1502		505	3343	3196	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	76	43	647	658	49
RTOR Reduction (vph)	23	0	0	0	11	0
Lane Group Flow (vph)	145	0	43	647	696	0
Confl. Peds. (#/hr)	437	310	177			177
Confl. Bikes (#/hr)		4				10
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	21.0		20.5	20.5	20.5	
Effective Green, g (s)	21.0		20.5	20.5	20.5	
Actuated g/C Ratio	0.42		0.41	0.41	0.41	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	630		207	1370	1310	
v/s Ratio Prot	c0.10			0.19	c0.22	
v/s Ratio Perm			0.09			
v/c Ratio	0.23		0.21	0.47	0.53	
Uniform Delay, d1	9.3		9.5	10.8	11.1	
Progression Factor	0.38		1.44	1.48	0.95	
Incremental Delay, d2	0.8		2.2	1.2	1.5	
Delay (s)	4.4		15.9	17.1	12.0	
Level of Service	A		B	B	B	
Approach Delay (s)	4.4			17.0	12.0	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

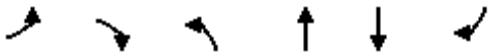
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	125	115	0	65	105	0	65	85
Future Vol, veh/h	0	125	115	0	65	105	0	65	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	142	131	0	74	119	0	74	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	10.3	9.1	9.9
HCM LOS	B	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	52%	43%
Vol Thru, %	38%	0%	57%
Vol Right, %	62%	48%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	170	240	150
LT Vol	0	125	65
Through Vol	65	0	85
RT Vol	105	115	0
Lane Flow Rate	193	273	170
Geometry Grp	1	1	1
Degree of Util (X)	0.244	0.355	0.245
Departure Headway (Hd)	4.553	4.686	5.166
Convergence, Y/N	Yes	Yes	Yes
Cap	784	764	692
Service Time	2.604	2.732	3.219
HCM Lane V/C Ratio	0.246	0.357	0.246
HCM Control Delay	9.1	10.3	9.9
HCM Lane LOS	A	B	A
HCM 95th-tile Q	1	1.6	1

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	105	15	85	5	250	125	295	160	135
Future Volume (vph)	105	15	85	5	250	125	295	160	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95			0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.87			0.96		1.00	0.85	
Flt Protected	0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	1537			1784		1736	1553	
Flt Permitted	0.95	1.00			1.00		0.95	1.00	
Satd. Flow (perm)	1770	1537			1784		1736	1553	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	122	17	99	6	291	145	343	186	157
RTOR Reduction (vph)	0	81	0	0	18	0	0	57	0
Lane Group Flow (vph)	122	35	0	0	424	0	343	286	0
Confl. Peds. (#/hr)			43	10					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	13.8	13.8			24.1		22.2	22.2	
Effective Green, g (s)	13.8	13.8			24.1		22.2	22.2	
Actuated g/C Ratio	0.18	0.18			0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)	325	282			572		513	459	
v/s Ratio Prot	c0.07	0.02					c0.20		
v/s Ratio Perm					0.24			0.18	
v/c Ratio	0.38	0.12			0.74		0.67	0.62	
Uniform Delay, d1	26.9	25.6			22.7		23.2	22.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.2			6.1		4.3	3.7	
Delay (s)	27.6	25.8			28.9		27.6	26.5	
Level of Service	C	C			C		C	C	
Approach Delay (s)		26.7			28.9		27.1		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	290	0	0	1250	150
Future Volume (vph)	0	290	0	0	1250	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.79
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1245
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1245
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	302	0	0	1302	156
RTOR Reduction (vph)	0	18	0	0	0	22
Lane Group Flow (vph)	0	284	0	0	1302	134
Confl. Peds. (#/hr)	141		93			93
Confl. Bikes (#/hr)		2				30
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		22.7			67.8	67.8
Effective Green, g (s)		22.7			67.8	67.8
Actuated g/C Ratio		0.23			0.68	0.68
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		358			2399	844
v/s Ratio Prot		c0.18			c0.37	
v/s Ratio Perm						0.11
v/c Ratio		0.79			0.54	0.16
Uniform Delay, d1		36.4			8.2	5.8
Progression Factor		1.00			0.52	0.46
Incremental Delay, d2		10.8			0.8	0.3
Delay (s)		47.2			5.0	3.0
Level of Service		D			A	A
Approach Delay (s)	47.2			0.0	4.8	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	0	0	0	120	1425
Future Vol, veh/h	15	0	0	0	120	1425
Conflicting Peds, #/hr	9	18	0	9	18	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	16	0	0	0	126	1500

Major/Minor	Minor1		Major2	
Conflicting Flow All	1030	-	18	0
Stage 1	18	-	-	-
Stage 2	1012	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	233	0	1597	-
Stage 1	-	0	-	-
Stage 2	317	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	121	-	1597	-
Mov Cap-2 Maneuver	121	-	-	-
Stage 1	-	-	-	-
Stage 2	167	-	-	-

Approach	WB	SB
HCM Control Delay, s	39.2	2
HCM LOS	E	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	121	1597	-
HCM Lane V/C Ratio	0.13	0.079	-
HCM Control Delay (s)	39.2	7.4	1.5
HCM Lane LOS	E	A	A
HCM 95th %tile Q(veh)	0.4	0.3	-

Intersection	
Int Delay, s/veh	17.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	10	15	15	60	20	15	25	5	15	80	20
Future Vol, veh/h	5	10	15	15	60	20	15	25	5	15	80	20
Conflicting Peds, #/hr	247	0	267	252	0	232	267	0	252	232	0	247
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	6	12	18	18	71	24	18	30	6	18	95	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	773	733	641	745	742	532	386	0	0	288	0	0
Stage 1	410	410	-	320	320	-	-	-	-	-	-	-
Stage 2	363	323	-	425	422	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	314	345	471	320	334	532	1184	-	-	1286	-	-
Stage 1	615	592	-	675	638	-	-	-	-	-	-	-
Stage 2	652	647	-	592	575	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	204	285	171	197	334	921	-	-	1021	-	-
Mov Cap-2 Maneuver	126	204	-	171	197	-	-	-	-	-	-	-
Stage 1	469	452	-	523	494	-	-	-	-	-	-	-
Stage 2	403	501	-	412	439	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.4	40.5	3	1.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	921	-	-	212	210	1021	-	-
HCM Lane V/C Ratio	0.019	-	-	0.168	0.539	0.017	-	-
HCM Control Delay (s)	9	0	-	25.4	40.5	8.6	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	2.8	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	20	10	0	20	55	25	0	40	110	10
Future Vol, veh/h	0	5	20	10	0	20	55	25	0	40	110	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	24	12	0	24	65	29	0	47	129	12
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.9	8.3	8.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	14%	20%	27%
Vol Thru, %	69%	57%	55%	53%
Vol Right, %	6%	29%	25%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	35	100	75
LT Vol	40	5	20	20
Through Vol	110	20	55	40
RT Vol	10	10	25	15
Lane Flow Rate	188	41	118	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.234	0.053	0.147	0.114
Departure Headway (Hd)	4.469	4.592	4.5	4.651
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	804	780	798	771
Service Time	2.49	2.62	2.524	2.676
HCM Lane V/C Ratio	0.234	0.053	0.148	0.114
HCM Control Delay	8.9	7.9	8.3	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.2	0.5	0.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	40	15
Future Vol, veh/h	0	20	40	15
Peak Hour Factor	0.85	0.85	0.85	0.85
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	24	47	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.3
HCM LOS	A

Intersection	
Int Delay, s/veh	1.3

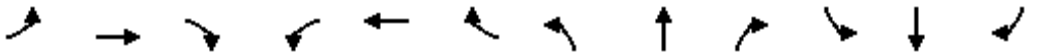
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	20	10	15	50	30	10	115	10	20	120	30
Future Vol, veh/h	10	20	10	15	50	30	10	115	10	20	120	30
Conflicting Peds, #/hr	686	0	746	780	0	720	746	0	780	720	0	686
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	12	25	12	19	62	37	12	142	12	25	148	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1904	1921	1693	1968	1934	1648	931	0	0	934	0	0
Stage 1	962	962	-	953	953	-	-	-	-	-	-	-
Stage 2	942	959	-	1015	981	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	53	68	116	48	67	124	692	-	-	717	-	-
Stage 1	310	337	-	314	340	-	-	-	-	-	-	-
Stage 2	318	338	-	290	330	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 8	15	-	~ 8	~ 17	242	-	-	287	-	-
Mov Cap-2 Maneuver	-	~ 8	-	-	~ 8	-	-	-	-	-	-	-
Stage 1	111	115	-	104	113	-	-	-	-	-	-	-
Stage 2	-	112	-	~ 13	113	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.5	2.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	242	-	-	-	-	287	-	-
HCM Lane V/C Ratio	0.051	-	-	-	-	0.086	-	-
HCM Control Delay (s)	20.7	0	-	-	-	18.7	0	-
HCM Lane LOS	C	A	-	-	-	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	15	10	65	30	105	25	510	75	90	540	45
Future Volume (vph)	20	15	10	65	30	105	25	510	75	90	540	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.96			1.00	0.66	1.00	1.00	0.68	1.00	0.96	
Flpb, ped/bikes		0.87			0.90	1.00	0.79	1.00	1.00	0.86	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1515			1646	1055	1325	3343	1010	1447	3202	
Flt Permitted		0.85			0.81	1.00	0.41	1.00	1.00	0.44	1.00	
Satd. Flow (perm)		1318			1381	1055	569	3343	1010	677	3202	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	16	11	71	33	114	27	554	82	98	587	49
RTOR Reduction (vph)	0	10	0	0	0	99	0	0	18	0	3	0
Lane Group Flow (vph)	0	39	0	0	104	15	27	554	64	98	633	0
Confl. Peds. (#/hr)	327		108	108		327	223		129	129		223
Confl. Bikes (#/hr)			6			2			10			6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		13.2			13.2	13.2	78.3	78.3	78.3	78.3	78.3	
Effective Green, g (s)		13.2			13.2	13.2	78.3	78.3	78.3	78.3	78.3	
Actuated g/C Ratio		0.13			0.13	0.13	0.78	0.78	0.78	0.78	0.78	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		173			182	139	445	2617	790	530	2507	
v/s Ratio Prot								0.17			c0.20	
v/s Ratio Perm		0.03			c0.08	0.01	0.05		0.06	0.14		
v/c Ratio		0.23			0.57	0.11	0.06	0.21	0.08	0.18	0.25	
Uniform Delay, d1		38.8			40.7	38.2	2.5	2.8	2.5	2.8	2.9	
Progression Factor		0.94			1.00	1.00	0.44	0.42	0.30	0.29	0.25	
Incremental Delay, d2		0.7			4.3	0.3	0.3	0.2	0.2	0.7	0.2	
Delay (s)		37.1			45.0	38.6	1.4	1.4	0.9	1.5	0.9	
Level of Service		D			D	D	A	A	A	A	A	
Approach Delay (s)		37.1			41.6			1.3			1.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	36.8
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	135	15	0	205	275	20	0	5	240	230
Future Vol, veh/h	0	95	135	15	0	205	275	20	0	5	240	230
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	138	15	0	209	281	20	0	5	245	235
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	20	70.7	18.5
HCM LOS	C	F	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	39%	41%	4%
Vol Thru, %	98%	0%	55%	55%	40%
Vol Right, %	0%	100%	6%	4%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	230	245	500	225
LT Vol	5	0	95	205	10
Through Vol	240	0	135	275	90
RT Vol	0	230	15	20	125
Lane Flow Rate	250	235	250	510	230
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.551	0.477	0.542	1.014	0.495
Departure Headway (Hd)	8.091	7.313	7.977	7.157	7.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	448	493	455	510	457
Service Time	5.791	5.057	5.977	5.18	5.937
HCM Lane V/C Ratio	0.558	0.477	0.549	1	0.503
HCM Control Delay	20.3	16.6	20	70.7	18.5
HCM Lane LOS	C	C	C	F	C
HCM 95th-tile Q	3.3	2.5	3.2	14.3	2.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	10	90	125
Future Vol, veh/h	0	10	90	125
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	10	92	128
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	18.5
HCM LOS	C

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	390	0	210	0	0	25	0	0
Future Vol, veh/h	0	0	390	0	210	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	63	69	0	63
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	424	0	228	0	0	27	0	0

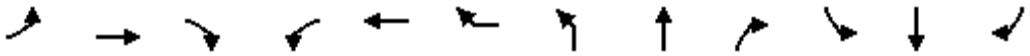
Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	-	0	-	-	0	291	297		
Stage 1	-	-	-	-	-	-	228	-		
Stage 2	-	-	-	-	-	-	63	-		
Critical Hdwy	-	-	-	-	-	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-		
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3		
Pot Cap-1 Maneuver	0	0	-	0	-	0	704	747		
Stage 1	0	0	-	0	-	0	815	-		
Stage 2	0	0	-	0	-	0	-	-		
Platoon blocked, %			-		-					
Mov Cap-1 Maneuver	-	-	-	-	-	-	704	704		
Mov Cap-2 Maneuver	-	-	-	-	-	-	704	-		
Stage 1	-	-	-	-	-	-	815	-		
Stage 2	-	-	-	-	-	-	-	-		

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	704
HCM Lane V/C Ratio	-	-	0.039
HCM Control Delay (s)	-	-	10.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

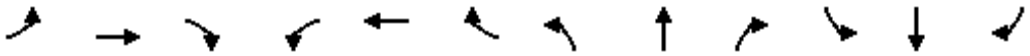
Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	850	290	130	1285	0	0
Future Volume (vph)	0	0	850	290	130	1285	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.95	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1499	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1499	1752	3505		
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	914	312	140	1382	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	914	312	140	1382	0	0
Confl. Peds. (#/hr)	10	9		10	9			
Confl. Bikes (#/hr)				93				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			33.0	33.0	15.9	57.9		
Effective Green, g (s)			33.0	33.0	15.9	57.9		
Actuated g/C Ratio			0.57	0.57	0.27	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2017	854	481	3505		
v/s Ratio Prot			c0.26		0.08	c0.39		
v/s Ratio Perm				0.21				
v/c Ratio			0.45	0.37	0.29	0.39		
Uniform Delay, d1			7.2	6.8	16.6	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.7	1.2	0.1	0.0		
Delay (s)			8.0	8.0	16.7	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		8.0			1.6	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	4.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	270	80	5	210	10	80	135	15	5	40	25
Future Volume (vph)	5	270	80	5	210	10	80	135	15	5	40	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.98			1.00	
Satd. Flow (prot)		3417			3511			1815			1767	
Flt Permitted		0.95			0.95			0.87			0.98	
Satd. Flow (perm)		3252			3327			1605			1740	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	314	93	6	244	12	93	157	17	6	47	29
RTOR Reduction (vph)	0	27	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	386	0	0	262	0	0	265	0	0	82	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		40.5			40.5			50.5			50.5	
Effective Green, g (s)		40.5			40.5			50.5			50.5	
Actuated g/C Ratio		0.40			0.40			0.50			0.50	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1317			1347			810			878	
v/s Ratio Prot												
v/s Ratio Perm		c0.12			0.08			c0.16			0.05	
v/c Ratio		0.29			0.19			0.33			0.09	
Uniform Delay, d1		20.1			19.2			14.7			12.9	
Progression Factor		1.00			1.10			1.00			1.00	
Incremental Delay, d2		0.6			0.3			1.1			0.2	
Delay (s)		20.7			21.4			15.7			13.1	
Level of Service		C			C			B			B	
Approach Delay (s)		20.7			21.4			15.7			13.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



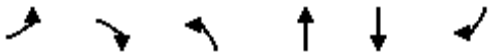
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	240	10	5	145	5	25	95	20	15	75	45
Future Volume (vph)	45	240	10	5	145	5	25	95	20	15	75	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.98			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		3494			3518			1810			1769	
Flt Permitted		0.88			0.95			0.94			0.97	
Satd. Flow (perm)		3115			3337			1716			1721	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	261	11	5	158	5	27	103	22	16	82	49
RTOR Reduction (vph)	0	2	0	0	2	0	0	6	0	0	18	0
Lane Group Flow (vph)	0	319	0	0	166	0	0	146	0	0	129	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)		50.5			50.5			40.5			40.5	
Effective Green, g (s)		50.5			50.5			40.5			40.5	
Actuated g/C Ratio		0.50			0.50			0.40			0.40	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1573			1685			694			697	
v/s Ratio Prot												
v/s Ratio Perm		c0.10			0.05			c0.09			0.08	
v/c Ratio		0.20			0.10			0.21			0.19	
Uniform Delay, d1		13.6			12.9			19.4			19.1	
Progression Factor		0.49			1.43			1.00			0.87	
Incremental Delay, d2		0.3			0.1			0.7			0.6	
Delay (s)		7.0			18.6			20.0			17.3	
Level of Service		A			B			C			B	
Approach Delay (s)		7.0			18.6			20.0			17.3	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	240	10	5	145	5	25	95	20	15	75	45
Future Volume (veh/h)	45	240	10	5	145	5	25	95	20	15	75	45
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	261	11	5	158	5	27	103	22	16	82	49
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	1390	59	63	1692	53	136	498	100	87	414	230
Arrive On Green	0.67	0.67	0.67	0.50	0.50	0.50	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	436	2753	117	50	3350	105	231	1229	247	116	1022	569
Grp Volume(v), veh/h	164	0	157	88	0	80	152	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	1632	0	1674	1828	0	1677	1707	0	0	1707	0	0
Q Serve(g_s), s	0.0	0.0	3.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	3.5	2.5	0.0	2.5	5.4	0.0	0.0	5.4	0.0	0.0
Prop In Lane	0.30		0.07	0.06		0.06	0.18		0.14	0.11		0.33
Lane Grp Cap(c), veh/h	871	0	846	961	0	847	734	0	0	731	0	0
V/C Ratio(X)	0.19	0.00	0.19	0.09	0.00	0.09	0.21	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	871	0	846	961	0	847	734	0	0	731	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.7	0.0	8.7	12.9	0.0	12.9	19.3	0.0	0.0	19.3	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.5	0.2	0.0	0.2	0.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.7	1.3	0.0	1.2	2.8	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	9.1	0.0	9.2	13.0	0.0	13.1	20.0	0.0	0.0	19.9	0.0	0.0
LnGrp LOS	A		A	B		B	B			B		
Approach Vol, veh/h		321			168			152			147	
Approach Delay, s/veh		9.2			13.1			20.0			19.9	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		55.0		45.0		55.0		45.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		25.5		40.5		50.5		40.5
Max Q Clear Time (g_c+I1), s		4.5		7.4		5.5		7.4
Green Ext Time (p_c), s		0.5		0.3		0.5		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	145	120	60	470	515	100
Future Volume (vph)	145	120	60	470	515	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.94	
Flpb, ped/bikes	1.00		0.89	1.00	1.00	
Frt	0.93		1.00	1.00	0.98	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2955		1442	3252	3075	
Flt Permitted	0.97		0.37	1.00	1.00	
Satd. Flow (perm)	2955		556	3252	3075	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	151	125	62	490	536	104
RTOR Reduction (vph)	0	0	0	0	16	0
Lane Group Flow (vph)	276	0	63	490	624	0
Confl. Peds. (#/hr)	4	2	227			227
Confl. Bikes (#/hr)						6
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	38.5		51.0	51.0	51.0	
Effective Green, g (s)	38.5		51.0	51.0	51.0	
Actuated g/C Ratio	0.38		0.51	0.51	0.51	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	1137		283	1658	1568	
v/s Ratio Prot	c0.09			0.15	c0.20	
v/s Ratio Perm			0.11			
v/c Ratio	0.24		0.22	0.30	0.40	
Uniform Delay, d1	20.9		13.5	14.1	15.1	
Progression Factor	0.61		0.48	0.47	0.78	
Incremental Delay, d2	0.5		1.8	0.4	0.7	
Delay (s)	13.3		8.2	7.1	12.5	
Level of Service	B		A	A	B	
Approach Delay (s)	13.3			7.2	12.5	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	60
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	295	240	0	75	260	0	335	180
Future Vol, veh/h	0	295	240	0	75	260	0	335	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	321	261	0	82	283	0	364	196
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	71.6	26.4	69.7
HCM LOS	F	D	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	65%	0%	22%
Vol Thru, %	0%	55%	78%
Vol Right, %	35%	45%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	515	535	335
LT Vol	335	0	75
Through Vol	0	295	260
RT Vol	180	240	0
Lane Flow Rate	560	582	364
Geometry Grp	1	1	1
Degree of Util (X)	1.019	1.029	0.713
Departure Headway (Hd)	6.719	6.571	7.278
Convergence, Y/N	Yes	Yes	Yes
Cap	543	558	499
Service Time	4.719	4.571	5.278
HCM Lane V/C Ratio	1.031	1.043	0.729
HCM Control Delay	69.7	71.6	26.4
HCM Lane LOS	F	F	D
HCM 95th-tile Q	15	15.6	5.7

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	30	30	20	0	35	25	45	0	10	160	25
Future Vol, veh/h	0	30	30	20	0	35	25	45	0	10	160	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	35	35	24	0	41	29	53	0	12	188	29
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.7	8.7	9.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	38%	33%	8%
Vol Thru, %	82%	38%	24%	80%
Vol Right, %	13%	25%	43%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	80	105	125
LT Vol	10	30	35	10
Through Vol	160	30	25	100
RT Vol	25	20	45	15
Lane Flow Rate	229	94	124	147
Geometry Grp	1	1	1	1
Degree of Util (X)	0.296	0.128	0.163	0.191
Departure Headway (Hd)	4.651	4.881	4.746	4.675
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	771	730	752	765
Service Time	2.696	2.936	2.798	2.724
HCM Lane V/C Ratio	0.297	0.129	0.165	0.192
HCM Control Delay	9.7	8.7	8.7	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.4	0.6	0.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	10	100	15
Future Vol, veh/h	0	10	100	15
Peak Hour Factor	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	12	118	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.8
HCM LOS	A

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	45	10	0	30	75	25	0	5	100	15
Future Vol, veh/h	0	20	45	10	0	30	75	25	0	5	100	15
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	52	11	0	34	86	29	0	6	115	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

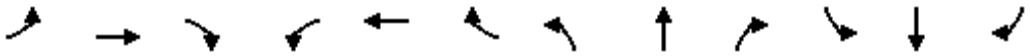
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.3	8.6	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	27%	23%	5%
Vol Thru, %	83%	60%	58%	74%
Vol Right, %	12%	13%	19%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	75	130	95
LT Vol	5	20	30	5
Through Vol	100	45	75	70
RT Vol	15	10	25	20
Lane Flow Rate	138	86	149	109
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.111	0.188	0.136
Departure Headway (Hd)	4.561	4.639	4.54	4.497
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	786	772	790	797
Service Time	2.59	2.67	2.568	2.527
HCM Lane V/C Ratio	0.176	0.111	0.189	0.137
HCM Control Delay	8.6	8.3	8.6	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.7	0.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	70	20
Future Vol, veh/h	0	5	70	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	80	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.2
HCM LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	20	15	105	85	140	10	365	50	80	525	30
Future Volume (vph)	25	20	15	105	85	140	10	365	50	80	525	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.88			1.00	0.63	1.00	0.97		1.00	0.99	
Flpb, ped/bikes		0.90			0.77	1.00	0.93	1.00		0.91	1.00	
Frt		0.97			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1393			1300	924	1548	3168		1506	3249	
Flt Permitted		0.85			0.81	1.00	0.30	1.00		0.41	1.00	
Satd. Flow (perm)		1210			1085	924	488	3168		651	3249	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	21	16	111	89	147	11	384	53	84	553	32
RTOR Reduction (vph)	0	12	0	0	0	107	0	11	0	0	4	0
Lane Group Flow (vph)	0	51	0	0	200	40	11	426	0	84	581	0
Confl. Peds. (#/hr)	490		972	972		490	109		115	115		109
Confl. Bikes (#/hr)			133			54			15			7
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		27.5			27.5	27.5	31.5	31.5		31.5	31.5	
Effective Green, g (s)		27.5			27.5	27.5	31.5	31.5		31.5	31.5	
Actuated g/C Ratio		0.28			0.28	0.28	0.32	0.32		0.32	0.32	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		332			298	254	153	997		205	1023	
v/s Ratio Prot								0.13			c0.18	
v/s Ratio Perm		0.04			c0.18	0.04	0.02			0.13		
v/c Ratio		0.15			0.67	0.16	0.07	0.43		0.41	0.57	
Uniform Delay, d1		27.4			32.2	27.5	24.0	27.1		26.9	28.6	
Progression Factor		1.00			1.00	1.00	1.38	1.31		0.66	0.67	
Incremental Delay, d2		1.0			11.4	1.3	0.8	1.2		5.6	2.2	
Delay (s)		28.4			43.7	28.8	34.0	36.8		23.5	21.2	
Level of Service		C			D	C	C	D		C	C	
Approach Delay (s)		28.4			37.4			36.8			21.5	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	125	0	15	20	0	235	5
Future Vol, veh/h	0	5	125	0	15	20	0	235	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	145	0	17	23	0	273	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.2	8.2	10.5
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	4%	57%
Vol Right, %	2%	96%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	240	130	35
LT Vol	235	0	15
Through Vol	0	5	20
RT Vol	5	125	0
Lane Flow Rate	279	151	41
Geometry Grp	1	1	1
Degree of Util (X)	0.37	0.179	0.055
Departure Headway (Hd)	4.773	4.27	4.865
Convergence, Y/N	Yes	Yes	Yes
Cap	759	842	736
Service Time	2.773	2.291	2.894
HCM Lane V/C Ratio	0.368	0.179	0.056
HCM Control Delay	10.5	8.2	8.2
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.7	0.6	0.2

Intersection	
Intersection Delay, s/veh	24.8
Intersection LOS	C

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	270	380	0	130	425	0	270	45
Future Vol, veh/h	0	270	380	0	130	425	0	270	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	284	400	0	137	447	0	284	47
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	23.4	27.8	22.6
HCM LOS	C	D	C

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	425	270	380	270	45
LT Vol	0	0	270	0	270	0
Through Vol	130	0	0	0	0	45
RT Vol	0	425	0	380	0	0
Lane Flow Rate	137	447	284	400	284	47
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.277	0.818	0.611	0.724	0.644	0.1
Departure Headway (Hd)	7.3	6.58	7.739	6.514	8.152	7.637
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	550	469	556	443	470
Service Time	5.023	4.303	5.458	4.234	5.891	5.376
HCM Lane V/C Ratio	0.277	0.813	0.606	0.719	0.641	0.1
HCM Control Delay	12.8	32.4	21.9	24.5	24.5	11.2
HCM Lane LOS	B	D	C	C	C	B
HCM 95th-tile Q	1.1	8.1	4	6	4.4	0.3

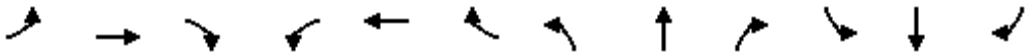
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	500	85	15	490	115	15
Future Volume (vph)	500	85	15	490	115	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		0.99	1.00	1.00	
Frt	0.98		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	1808		1765	1881	1749	
Flt Permitted	1.00		0.31	1.00	0.96	
Satd. Flow (perm)	1808		574	1881	1749	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	538	91	16	527	124	16
RTOR Reduction (vph)	6	0	0	0	5	0
Lane Group Flow (vph)	623	0	16	527	135	0
Confl. Peds. (#/hr)		20	20		16	11
Confl. Bikes (#/hr)		3				10
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	60.0		60.0	60.0	30.0	
Effective Green, g (s)	60.0		60.0	60.0	30.0	
Actuated g/C Ratio	0.60		0.60	0.60	0.30	
Clearance Time (s)	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	0.2		0.2	0.2	2.0	
Lane Grp Cap (vph)	1084		344	1128	524	
v/s Ratio Prot	c0.34			0.28	c0.08	
v/s Ratio Perm			0.03			
v/c Ratio	0.57		0.05	0.47	0.26	
Uniform Delay, d1	12.2		8.2	11.1	26.6	
Progression Factor	1.00		0.58	0.51	1.00	
Incremental Delay, d2	2.2		0.2	1.3	1.2	
Delay (s)	14.4		5.1	7.1	27.7	
Level of Service	B		A	A	C	
Approach Delay (s)	14.4			7.0	27.7	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	575	5	30	375	25	35	105	20	35	40	95
Future Volume (veh/h)	95	575	5	30	375	25	35	105	20	35	40	95
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		0.93	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	104	632	5	33	412	27	38	115	22	38	44	104
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	131	1621	13	54	1392	91	85	425	81	87	134	316
Arrive On Green	0.07	0.46	0.46	0.03	0.41	0.41	0.05	0.29	0.29	0.05	0.29	0.29
Sat Flow, veh/h	1757	3562	28	1792	3390	221	1707	1442	276	1740	453	1070
Grp Volume(v), veh/h	104	311	326	33	216	223	38	0	137	38	0	148
Grp Sat Flow(s),veh/h/ln	1757	1752	1838	1792	1787	1824	1707	0	1718	1740	0	1523
Q Serve(g_s), s	5.8	11.8	11.8	1.8	8.1	8.2	2.2	0.0	6.1	2.1	0.0	7.6
Cycle Q Clear(g_c), s	5.8	11.8	11.8	1.8	8.1	8.2	2.2	0.0	6.1	2.1	0.0	7.6
Prop In Lane	1.00		0.02	1.00		0.12	1.00		0.16	1.00		0.70
Lane Grp Cap(c), veh/h	131	798	836	54	734	749	85	0	507	87	0	449
V/C Ratio(X)	0.79	0.39	0.39	0.61	0.29	0.30	0.45	0.00	0.27	0.44	0.00	0.33
Avail Cap(c_a), veh/h	264	798	836	161	734	749	154	0	507	278	0	449
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)	0.79	0.79	0.79	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.5	18.0	18.0	47.9	19.8	19.8	46.2	0.0	27.0	46.1	0.0	27.5
Incr Delay (d2), s/veh	3.3	1.1	1.1	4.1	1.0	1.0	1.4	0.0	1.3	1.3	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.0	6.2	1.0	4.2	4.4	1.1	0.0	3.1	1.1	0.0	3.4
LnGrp Delay(d),s/veh	48.8	19.2	19.1	52.0	20.8	20.8	47.5	0.0	28.3	47.4	0.0	29.5
LnGrp LOS	D	B	B	D	C	C	D		C	D		C
Approach Vol, veh/h		741			472			175			186	
Approach Delay, s/veh		23.3			23.0			32.5			33.2	
Approach LOS		C			C			C			C	

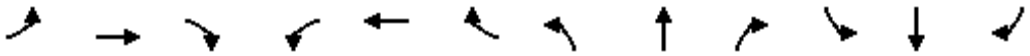
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	45.6	9.0	34.0	7.0	50.0	9.0	34.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	15.0	29.5	16.0	22.5	9.0	35.5	9.0	29.5
Max Q Clear Time (g_c+I1), s	7.8	10.2	4.1	8.1	3.8	13.8	4.2	9.6
Green Ext Time (p_c), s	0.1	4.3	0.0	1.0	0.0	4.4	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	595	0	5	340	40	40	60	70	85	5	30
Future Volume (vph)	35	595	0	5	340	40	40	60	70	85	5	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.93		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.97	
Frt	1.00	1.00		1.00	0.98			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.97	
Satd. Flow (prot)	1787	3574		1752	3309			1844	1507		1676	
Flt Permitted	0.95	1.00		0.95	1.00			0.86	1.00		0.75	
Satd. Flow (perm)	1787	3574		1752	3309			1617	1507		1296	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	36	607	0	5	347	41	41	61	71	87	5	31
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	49	0	12	0
Lane Group Flow (vph)	36	607	0	5	380	0	0	102	22	0	111	0
Confl. Peds. (#/hr)	156		123	123		156	32		56	56		32
Confl. Bikes (#/hr)						4						1
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	4.6	55.4		1.1	51.9			30.5	30.5		30.5	
Effective Green, g (s)	4.6	55.4		1.1	51.9			30.5	30.5		30.5	
Actuated g/C Ratio	0.05	0.55		0.01	0.52			0.30	0.30		0.30	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	82	1979		19	1717			493	459		395	
v/s Ratio Prot	c0.02	c0.17		0.00	0.11							
v/s Ratio Perm								0.06	0.01		c0.09	
v/c Ratio	0.44	0.31		0.26	0.22			0.21	0.05		0.28	
Uniform Delay, d1	46.4	12.0		49.0	13.1			25.8	24.5		26.4	
Progression Factor	1.28	0.45		1.31	0.17			1.00	1.00		1.00	
Incremental Delay, d2	1.3	0.4		2.5	0.3			0.9	0.2		1.8	
Delay (s)	60.7	5.7		66.9	2.5			26.7	24.7		28.2	
Level of Service	E	A		E	A			C	C		C	
Approach Delay (s)		8.8			3.3			25.9			28.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	705	15	45	310	200	15	195	280	445	115	55
Future Volume (vph)	30	705	15	45	310	200	15	195	280	445	115	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.93		0.87		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.91		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.98	
Satd. Flow (prot)	1787	3523		1703	3406	1424		2838		1573	1527	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.98	
Satd. Flow (perm)	1787	3523		1703	3406	1424		2838		1573	1527	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	35	820	17	52	360	233	17	227	326	517	134	64
RTOR Reduction (vph)	0	1	0	0	0	85	0	140	0	0	7	0
Lane Group Flow (vph)	35	836	0	52	360	148	0	430	0	357	351	0
Confl. Peds. (#/hr)	84		258	258		84	118		157	157		118
Confl. Bikes (#/hr)			1			16			22			11
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	4.3	26.9		5.7	28.3	56.1		21.6		27.8	27.8	
Effective Green, g (s)	4.3	26.9		5.7	28.3	56.1		21.6		27.8	27.8	
Actuated g/C Ratio	0.04	0.27		0.06	0.28	0.56		0.22		0.28	0.28	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	76	947		97	963	798		613		437	424	
v/s Ratio Prot	0.02	c0.24		c0.03	0.11	0.05		c0.15		0.23	c0.23	
v/s Ratio Perm						0.05						
v/c Ratio	0.46	0.88		0.54	0.37	0.19		0.70		0.82	0.83	
Uniform Delay, d1	46.7	35.0		45.9	28.7	10.8		36.2		33.7	33.8	
Progression Factor	1.21	0.96		1.00	1.00	1.00		1.00		0.84	0.84	
Incremental Delay, d2	1.6	11.5		2.8	1.1	0.1		3.0		10.6	11.7	
Delay (s)	58.1	45.3		48.7	29.9	10.9		39.2		38.9	40.0	
Level of Service	E	D		D	C	B		D		D	D	
Approach Delay (s)		45.8			24.5			39.2			39.5	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	150	110	55	60	15
Future Vol, veh/h	30	150	110	55	60	15
Conflicting Peds, #/hr	45	0	0	32	32	45
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	33	165	121	60	66	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	226	0	-	0	459	241
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1337	-	-	-	556	793
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1287	-	-	-	501	735
Mov Cap-2 Maneuver	-	-	-	-	501	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	726	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	13
HCM LOS			B

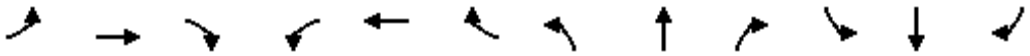
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1287	-	-	-	535
HCM Lane V/C Ratio	0.026	-	-	-	0.154
HCM Control Delay (s)	7.9	0	-	-	13
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	140	70	0	130	330	0	90	35
Future Vol, veh/h	0	140	70	0	130	330	0	90	35
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	156	78	0	144	367	0	100	39
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.6	17.7	9.4
HCM LOS	B	C	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	28%	67%	0%
Vol Thru, %	72%	0%	72%
Vol Right, %	0%	33%	28%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	460	210	125
LT Vol	130	140	0
Through Vol	330	0	90
RT Vol	0	70	35
Lane Flow Rate	511	233	139
Geometry Grp	1	1	1
Degree of Util (X)	0.682	0.359	0.199
Departure Headway (Hd)	4.805	5.541	5.148
Convergence, Y/N	Yes	Yes	Yes
Cap	741	653	700
Service Time	2.896	3.546	3.162
HCM Lane V/C Ratio	0.69	0.357	0.199
HCM Control Delay	17.7	11.6	9.4
HCM Lane LOS	C	B	A
HCM 95th-tile Q	5.4	1.6	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	15	120	10	5	445	5	0	0	5	0	0	10
Future Volume (vph)	15	120	10	5	445	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	126	11	5	468	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	16	137	478	5	11
Volume Left (vph)	16	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.06	0.08	-0.60	-0.60
Departure Headway (s)	5.5	4.9	4.3	4.7	4.7
Degree Utilization, x	0.02	0.19	0.57	0.01	0.01
Capacity (veh/h)	646	716	827	669	668
Control Delay (s)	7.4	7.8	12.8	7.7	7.8
Approach Delay (s)	7.8		12.8	7.7	7.8
Approach LOS	A		B	A	A

Intersection Summary				
Delay	11.5			
Level of Service	B			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	15.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	95	2010	60	65	850
Future Vol, veh/h	60	95	2010	60	65	850
Conflicting Peds, #/hr	0	3	0	0	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	63	100	2116	63	68	895

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2734	1095	0	0	2182	0
Stage 1	2150	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 17	212	-	-	240	-
Stage 1	77	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 7	211	-	-	239	-
Mov Cap-2 Maneuver	68	-	-	-	-	-
Stage 1	77	-	-	-	-	-
Stage 2	228	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	294.9	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	116	239	-
HCM Lane V/C Ratio	-	-	1.407	0.286	-
HCM Control Delay (s)	-	-	294.9	26	-
HCM Lane LOS	-	-	F	D	-
HCM 95th %tile Q(veh)	-	-	11.3	1.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2020	5	0	920
Future Vol, veh/h	5	40	2020	5	0	920
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2126	5	0	968

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2619	1072	0	0	-	-
Stage 1	2132	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	20	216	-	-	0	-
Stage 1	77	-	-	-	0	-
Stage 2	583	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	20	215	-	-	-	-
Mov Cap-2 Maneuver	65	-	-	-	-	-
Stage 1	77	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.9	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	171	-
HCM Lane V/C Ratio	-	-	0.277	-
HCM Control Delay (s)	-	-	33.9	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	1.1	-

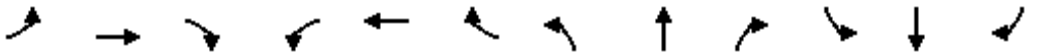
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2030	25	10	910
Future Vol, veh/h	0	5	2030	25	10	910
Conflicting Peds, #/hr	4	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2115	26	10	948

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1078	0	0	2145	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	218	-	-	248	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	217	-	-	247	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

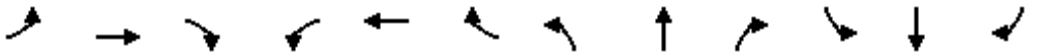
Approach	WB	NB	SB
HCM Control Delay, s	22	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	247	-
HCM Lane V/C Ratio	-	-	0.024	0.042	-
HCM Control Delay (s)	-	-	22	20.2	-
HCM Lane LOS	-	-	C	C	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	335	15	65	125	0	45	0	1615	5	0	825	70
Future Volume (vph)	335	15	65	125	0	45	0	1615	5	0	825	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.89	1.00		0.99		1.00			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.99	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1692	1403	1690		1594		3568			3436	
Flt Permitted	0.95	0.96	1.00	0.43		1.00		1.00			1.00	
Satd. Flow (perm)	1681	1692	1403	764		1594		3568			3436	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	349	16	68	130	0	47	0	1682	5	0	859	73
RTOR Reduction (vph)	0	0	55	0	0	11	0	0	0	0	3	0
Lane Group Flow (vph)	181	184	13	130	0	36	0	1687	0	0	929	0
Confl. Peds. (#/hr)			60	60			29		139	139		29
Confl. Bikes (#/hr)			6			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA			NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)	22.4	22.4	22.4	22.4		22.4		88.6			88.6	
Effective Green, g (s)	22.4	22.4	22.4	22.4		22.4		88.6			88.6	
Actuated g/C Ratio	0.19	0.19	0.19	0.19		0.19		0.74			0.74	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	313	315	261	142		297		2634			2536	
v/s Ratio Prot								c0.47			0.27	
v/s Ratio Perm	0.11	0.11	0.01	c0.17		0.02						
v/c Ratio	0.58	0.58	0.05	0.92		0.12		0.64			0.37	
Uniform Delay, d1	44.5	44.5	40.1	47.9		40.6		7.8			5.6	
Progression Factor	0.93	0.93	1.40	1.00		1.00		0.54			1.00	
Incremental Delay, d2	1.4	1.5	0.0	49.8		0.1		0.8			0.4	
Delay (s)	42.8	43.0	56.1	97.7		40.7		5.0			6.0	
Level of Service	D	D	E	F		D		A			A	
Approach Delay (s)		45.0			82.5			5.0			6.0	
Approach LOS		D			F			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	1025	60	45	435	35	0	0	0	0	0	110
Future Volume (vph)	320	1025	60	45	435	35	0	0	0	0	0	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.73	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.97	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1175	1752	3486							1565
Flt Permitted	0.95	1.00	1.00	0.14	1.00							1.00
Satd. Flow (perm)	1805	3610	1175	258	3486							1565
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	400	1281	75	56	544	44	0	0	0	0	0	138
RTOR Reduction (vph)	0	0	34	0	8	0	0	0	0	0	0	26
Lane Group Flow (vph)	400	1281	41	56	580	0	0	0	0	0	0	113
Confl. Peds. (#/hr)			153	153		318			531	531		
Confl. Bikes (#/hr)			5			6		6				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	17.5	32.5	32.5	32.5	32.5							17.5
Effective Green, g (s)	17.5	32.5	32.5	32.5	32.5							17.5
Actuated g/C Ratio	0.29	0.54	0.54	0.54	0.54							0.29
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	526	1955	636	139	1888							456
v/s Ratio Prot	c0.22	c0.35			0.17							0.07
v/s Ratio Perm			0.03	0.22								
v/c Ratio	0.76	0.66	0.06	0.40	0.31							0.25
Uniform Delay, d1	19.3	9.8	6.5	8.1	7.6							16.2
Progression Factor	1.00	1.00	1.00	1.31	0.82							0.77
Incremental Delay, d2	5.8	1.7	0.2	8.4	0.4							0.1
Delay (s)	25.1	11.5	6.7	19.0	6.6							12.6
Level of Service	C	B	A	B	A							B
Approach Delay (s)		14.4			7.7			0.0			12.6	
Approach LOS		B			A			A			B	

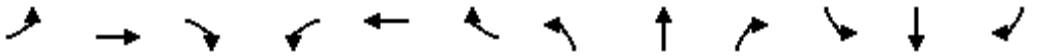
Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1010	15	40	505	65	65
Future Volume (vph)	1010	15	40	505	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.82	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1255	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1255	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1074	16	43	537	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1074	15	43	537	69	5
Confl. Peds. (#/hr)		55	55		31	
Confl. Bikes (#/hr)		5				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	871	194	2674	136	120
v/s Ratio Prot	c0.31		c0.03	0.16	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.45	0.02	0.22	0.20	0.51	0.04
Uniform Delay, d1	8.2	5.7	48.0	2.7	53.3	51.4
Progression Factor	1.79	1.96	0.33	4.72	1.00	1.00
Incremental Delay, d2	0.5	0.0	0.2	0.0	1.1	0.1
Delay (s)	15.0	11.2	15.8	12.6	54.4	51.5
Level of Service	B	B	B	B	D	D
Approach Delay (s)	15.0			12.8	52.9	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1075	0	55	20	465	1600	15	5	975	25
Future Volume (vph)	0	0	1075	0	55	20	465	1600	15	5	975	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.68
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3517		1752	3505	1074
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3517		1752	3505	1074
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1108	0	57	21	479	1649	15	5	1005	26
RTOR Reduction (vph)	0	0	272	0	0	19	0	0	0	0	0	14
Lane Group Flow (vph)	0	0	836	0	57	2	479	1664	0	5	1005	12
Confl. Peds. (#/hr)							181		237	237		181
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			95.5		10.5	10.5	39.3	70.2		2.0	53.2	53.2
Effective Green, g (s)			90.5		10.5	10.5	39.3	63.2		2.0	53.2	53.2
Actuated g/C Ratio			0.75		0.09	0.09	0.33	0.53		0.02	0.44	0.44
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2101		163	138	1124	1852		29	1553	476
v/s Ratio Prot					0.03		c0.14	c0.47		0.00	0.29	
v/s Ratio Perm			c0.30			0.00						0.01
v/c Ratio			0.40		0.35	0.01	0.43	0.90		0.17	0.65	0.02
Uniform Delay, d1			5.2		51.5	50.0	31.5	25.5		58.2	26.1	18.8
Progression Factor			1.00		1.00	1.00	1.10	0.98		1.23	0.94	1.00
Incremental Delay, d2			0.0		0.5	0.0	0.1	6.0		1.0	2.0	0.1
Delay (s)			5.2		52.0	50.0	34.7	30.9		72.7	26.6	18.9
Level of Service			A		D	D	C	C		E	C	B
Approach Delay (s)		5.2			51.5			31.7			26.6	
Approach LOS		A			D			C			C	

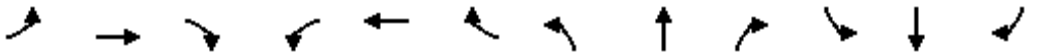
Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	600	1625	0	0	1455
Future Volume (Veh/h)	0	600	1625	0	0	1455
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	625	1693	0	0	1516
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			331			233
pX, platoon unblocked	0.86	0.86			0.86	
vC, conflicting volume	2198	846			1693	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2066	490			1477	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	0			100	
cM capacity (veh/h)	40	450			388	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	625	846	846	505	505	505
Volume Left	0	0	0	0	0	0
Volume Right	625	0	0	0	0	0
cSH	450	1700	1700	1700	1700	1700
Volume to Capacity	1.39	0.50	0.50	0.30	0.30	0.30
Queue Length 95th (ft)	745	0	0	0	0	0
Control Delay (s)	213.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	F					
Approach Delay (s)	213.6	0.0		0.0		
Approach LOS	F					

Intersection Summary				
Average Delay	34.8			
Intersection Capacity Utilization	88.7%	ICU Level of Service		E
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	745	45	85	65	5	305	145	625	5	165	640	650
Future Volume (vph)	745	45	85	65	5	305	145	625	5	165	640	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91		1.00	1.00	1.00	1.00		1.00	1.00	0.68
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1694	1435		1763	1568	1736	3455		1752	3505	1061
Flt Permitted	0.95	0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1694	1435		1763	1568	1736	3455		1752	3505	1061
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	784	47	89	68	5	321	153	658	5	174	674	684
RTOR Reduction (vph)	0	0	65	0	0	72	0	1	0	0	0	462
Lane Group Flow (vph)	416	415	24	0	73	249	153	662	0	174	674	222
Confl. Peds. (#/hr)	2		44	44		2	81		124	124		81
Confl. Bikes (#/hr)						4			5			7
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	31.9	31.9	31.9		8.7	29.1	22.5	45.5		15.9	38.9	38.9
Effective Green, g (s)	31.9	31.9	31.9		8.7	29.1	22.5	45.5		15.9	38.9	38.9
Actuated g/C Ratio	0.27	0.27	0.27		0.07	0.24	0.19	0.38		0.13	0.32	0.32
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0		3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	446	450	381		127	380	325	1310		232	1136	343
v/s Ratio Prot	c0.25	0.24			0.04	c0.16	0.09	c0.19		0.10	0.19	
v/s Ratio Perm			0.02									c0.21
v/c Ratio	0.93	0.92	0.06		0.57	0.66	0.47	0.51		0.75	0.59	0.65
Uniform Delay, d1	43.0	42.8	32.9		53.9	40.9	43.4	28.6		50.1	33.9	34.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.22	1.54	9.51
Incremental Delay, d2	26.2	24.1	0.0		6.2	4.0	0.4	1.4		11.1	2.2	8.8
Delay (s)	69.2	66.9	32.9		60.0	45.0	43.8	30.0		72.3	54.4	338.6
Level of Service	E	E	C		E	D	D	C		E	D	F
Approach Delay (s)		64.7			47.8			32.6			183.3	
Approach LOS		E			D			C			F	

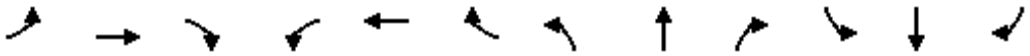
Intersection Summary			
HCM 2000 Control Delay	105.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	105	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	105	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				78	168	179
Adj No. of Lanes	0	2	0	1	2	0				1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1347	562	300	2714	0				250	525	219
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2531	1017	1774	3632	0				1810	3800	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				78	168	179
Grp Sat Flow(s),veh/h/ln	0	1787	1667	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				3.9	4.0	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				3.9	4.0	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	988	921	300	2714	0				250	525	219
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.31	0.32	0.82
Avail Cap(c_a), veh/h	0	988	921	452	2714	0				326	684	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				38.8	38.9	41.9
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.5	0.3	12.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.0	2.1	5.6
LnGrp Delay(d),s/veh	0.0	16.1	16.3	41.6	0.3	0.0				39.3	39.1	53.9
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						425	
Approach Delay, s/veh		16.2			7.7						45.4	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.8		18.8		81.2		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.7		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	505	0	0	830	240	605	230	365	0	0	0
Future Volume (vph)	305	505	0	0	830	240	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.88	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1388	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1388	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	526	0	0	865	250	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	58	0	0	209	0	0	0
Lane Group Flow (vph)	318	526	0	0	865	192	428	442	171	0	0	0
Confl. Peds. (#/hr)	23		21	21		23			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	462	551	567	507			
v/s Ratio Prot	c0.18	0.15			c0.24		0.25	c0.25				
v/s Ratio Perm						0.14			0.11			
v/c Ratio	0.86	0.25			0.73	0.42	0.78	0.78	0.34			
Uniform Delay, d1	38.3	10.1			29.4	25.8	30.5	30.5	25.6			
Progression Factor	0.76	0.78			0.46	0.34	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.7	2.5	10.3	10.2	1.8			
Delay (s)	45.5	8.2			17.3	11.4	40.8	40.7	27.4			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		22.2			16.0			36.7			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	750	30	5	985	5	40	20	30	15	10	15
Future Volume (veh/h)	20	750	30	5	985	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	765	31	5	1005	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	60	1931	77	39	2062	10	246	122	161	221	151	193
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	38	3300	132	4	3525	17	588	370	487	520	457	586
Grp Volume(v), veh/h	421	0	395	531	0	484	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1790	0	1681	1856	0	1691	1444	0	0	1563	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.05		0.08	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1085	0	983	1122	0	989	529	0	0	565	0	0
V/C Ratio(X)	0.39	0.00	0.40	0.47	0.00	0.49	0.17	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1085	0	983	1122	0	989	529	0	0	565	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.0	0.0	23.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.2	1.4	0.0	1.7	0.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.4	0.0	0.5	1.9	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.0	0.0	1.2	1.4	0.0	1.7	24.5	0.0	0.0	23.2	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		816			1015			92			40	
Approach Delay, s/veh		1.1			1.6			24.5			23.2	
Approach LOS		A			A			C			C	

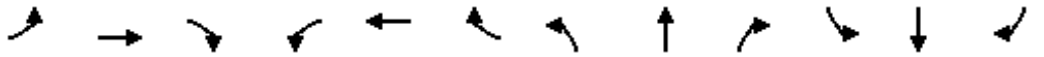
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		63.0		37.0		63.0		37.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		58.5		33.0		58.5		33.0
Max Q Clear Time (g_c+I1), s		2.0		6.2		2.0		3.6
Green Ext Time (p_c), s		2.2		0.1		2.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	2.9
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	730	75	105	870	0	0	0	0	115	655	130
Future Volume (veh/h)	0	730	75	105	870	0	0	0	0	115	655	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	753	77	108	897	0				119	675	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1809	185	0	2004	0				185	1108	513
Arrive On Green	0.00	0.56	0.56	0.00	1.00	0.00				0.35	0.35	0.35
Sat Flow, veh/h	0	3354	333	0	3705	0				522	3120	1446
Grp Volume(v), veh/h	0	413	417	0	897	0				423	371	134
Grp Sat Flow(s),veh/h/ln	0	1787	1806	0	1805	0				1855	1787	1446
Q Serve(g_s), s	0.0	13.4	13.4	0.0	0.0	0.0				19.1	16.9	6.6
Cycle Q Clear(g_c), s	0.0	13.4	13.4	0.0	0.0	0.0				19.1	16.9	6.6
Prop In Lane	0.00		0.18	0.00		0.00				0.28		1.00
Lane Grp Cap(c), veh/h	0	992	1002	0	2004	0				659	634	513
V/C Ratio(X)	0.00	0.42	0.42	0.00	0.45	0.00				0.64	0.58	0.26
Avail Cap(c_a), veh/h	0	992	1002	0	2004	0				659	634	513
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.9	12.9	0.0	0.0	0.0				26.9	26.2	22.9
Incr Delay (d2), s/veh	0.0	1.3	1.3	0.0	0.7	0.0				4.8	3.9	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
%ile BackOfQ(50%),veh/ln	0.0	6.9	7.0	0.0	0.2	0.0				10.6	9.0	2.8
LnGrp Delay(d),s/veh	0.0	14.2	14.2	0.0	0.7	0.0				31.7	30.2	24.2
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		830			897						928	
Approach Delay, s/veh		14.2			0.7						30.0	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		60.0			0.0	60.0		40.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		55.5			12.9	38.1		35.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	15.4		21.1
Green Ext Time (p_c), s		2.4			0.0	2.4		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

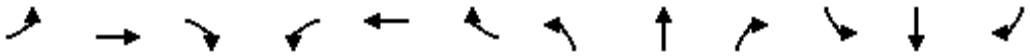


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	615	0	0	750	80	215	725	70	0	0	0
Future Volume (veh/h)	210	615	0	0	750	80	215	725	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	654	0	0	798	85	229	771	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	64	872	0	0	1386	148	276	980	98			
Arrive On Green	0.36	0.36	0.00	0.00	0.86	0.86	0.12	0.12	0.12			
Sat Flow, veh/h	3	1715	0	0	3324	344	735	2612	261			
Grp Volume(v), veh/h	301	576	0	0	441	442	569	0	505			
Grp Sat Flow(s),veh/h/ln	5	1627	0	0	1787	1787	1826	0	1783			
Q Serve(g_s), s	31.5	29.8	0.0	0.0	6.9	6.9	30.4	0.0	27.4			
Cycle Q Clear(g_c), s	31.5	29.8	0.0	0.0	6.9	6.9	30.4	0.0	27.4			
Prop In Lane	0.74		0.00	0.00		0.19	0.40		0.15			
Lane Grp Cap(c), veh/h	0	870	0	0	767	767	685	0	669			
V/C Ratio(X)	0.00	0.66	0.00	0.00	0.58	0.58	0.83	0.00	0.76			
Avail Cap(c_a), veh/h	0	870	0	0	767	767	685	0	669			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	24.5	0.0	0.0	4.5	4.5	40.7	0.0	39.4			
Incr Delay (d2), s/veh	0.0	3.9	0.0	0.0	3.1	3.1	11.2	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	14.3	0.0	0.0	3.9	3.9	17.5	0.0	15.0			
LnGrp Delay(d),s/veh	0.0	28.4	0.0	0.0	7.7	7.7	51.9	0.0	47.2			
LnGrp LOS		C			A	A	D		D			
Approach Vol, veh/h		877			883			1074				
Approach Delay, s/veh		18.7			7.7			49.7				
Approach LOS		B			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		47.4		42.0		58.0		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 43		37.5		53.5		
Max Q Clear Time (g_c+I1), s		8.9		32.4		33.5		
Green Ext Time (p_c), s		1.0		0.9		1.9		

Intersection Summary	
HCM 2010 Ctrl Delay	27.0
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	465	105	25	650	50	30	50	15	10	90	75
Future Volume (vph)	80	465	105	25	650	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.97			0.98			0.97	
Flpb, ped/bikes		0.99			0.99			0.99			1.00	
Frt		0.98			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3107			3357			1770			1689	
Flt Permitted		0.72			0.92			0.89			0.99	
Satd. Flow (perm)		2261			3078			1601			1674	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	484	109	26	677	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	16	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	660	0	0	750	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	114		190	190		114	88		151	151		88
Confl. Bikes (#/hr)			1			3			13			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1073			1462			704			736	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.24			0.06			c0.09	
v/c Ratio		0.62			0.51			0.13			0.21	
Uniform Delay, d1		19.5			18.2			16.6			17.3	
Progression Factor		0.99			0.37			0.99			1.00	
Incremental Delay, d2		1.6			1.2			0.3			0.7	
Delay (s)		20.9			8.0			16.8			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		20.9			8.0			16.8			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	390	45	20	580	20	70	160	30	10	165	70
Future Volume (veh/h)	85	390	45	20	580	20	70	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.93		0.78	0.96		0.78	0.93		0.85	0.91		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	415	48	21	617	21	74	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	226	995	116	62	1479	50	201	439	78	49	499	202
Arrive On Green	0.61	0.61	0.61	0.91	0.91	0.91	0.91	0.91	0.91	0.46	0.46	0.46
Sat Flow, veh/h	390	2187	254	52	3250	109	341	966	171	25	1096	443
Grp Volume(v), veh/h	257	0	296	346	0	313	276	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1264	0	1567	1788	0	1623	1479	0	0	1564	0	0
Q Serve(g_s), s	5.2	0.0	10.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.9	0.0	10.0	2.7	0.0	2.8	2.1	0.0	0.0	10.8	0.0	0.0
Prop In Lane	0.35		0.16	0.06		0.07	0.27		0.12	0.04		0.28
Lane Grp Cap(c), veh/h	624	0	713	852	0	738	718	0	0	749	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.41	0.00	0.42	0.38	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	624	0	713	852	0	738	718	0	0	749	0	0
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	0.0	12.7	2.6	0.0	2.6	2.5	0.0	0.0	17.8	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	1.8	1.4	0.0	1.8	1.6	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	4.6	1.5	0.0	1.4	1.2	0.0	0.0	5.0	0.0	0.0
LnGrp Delay(d),s/veh	14.3	0.0	14.5	4.0	0.0	4.4	4.1	0.0	0.0	19.1	0.0	0.0
LnGrp LOS	B		B	A		A	A			B		
Approach Vol, veh/h		553			659			276			261	
Approach Delay, s/veh		14.4			4.2			4.1			19.1	
Approach LOS		B			A			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		50.0		50.0		50.0		50.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		45.5		45.5		45.5		45.5
Max Q Clear Time (g_c+I1), s		4.8		4.1		12.0		12.8
Green Ext Time (p_c), s		1.7		0.7		1.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	9.6
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	320	40	50	435	25	165	420	40	20	330	20
Future Volume (veh/h)	70	320	40	50	435	25	165	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.74	0.96		0.84	0.99		0.93	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	337	42	53	458	26	174	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	147	689	93	113	949	55	437	1082	104	65	918	54
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	1.00	1.00	1.00	0.56	0.56	0.56
Sat Flow, veh/h	287	1997	268	202	2750	161	672	1915	183	47	1624	95
Grp Volume(v), veh/h	218	0	235	270	0	267	288	0	370	389	0	0
Grp Sat Flow(s),veh/h/ln	1049	0	1504	1465	0	1648	1157	0	1614	1767	0	0
Q Serve(g_s), s	8.9	0.0	12.2	4.5	0.0	12.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.6	0.0	12.2	16.6	0.0	12.7	0.0	0.0	0.0	11.8	0.0	0.0
Prop In Lane	0.34		0.18	0.20		0.10	0.60		0.11	0.05		0.05
Lane Grp Cap(c), veh/h	410	0	519	548	0	568	711	0	912	1036	0	0
V/C Ratio(X)	0.53	0.00	0.45	0.49	0.00	0.47	0.41	0.00	0.41	0.38	0.00	0.00
Avail Cap(c_a), veh/h	410	0	519	548	0	568	711	0	912	1036	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.1	0.0	25.4	26.1	0.0	25.6	0.0	0.0	0.0	12.0	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.0	2.8	3.1	0.0	2.8	1.7	0.0	1.3	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	5.4	6.6	0.0	6.1	0.3	0.0	0.3	6.2	0.0	0.0
LnGrp Delay(d),s/veh	33.9	0.0	28.3	29.2	0.0	28.4	1.7	0.0	1.3	13.1	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		453			537			658			389	
Approach Delay, s/veh		31.0			28.8			1.5			13.1	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		39.0		61.0		39.0		61.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		34.5		56.5		34.5		56.5
Max Q Clear Time (g_c+I1), s		18.6		2.0		23.6		13.8
Green Ext Time (p_c), s		5.9		9.2		4.8		8.9

Intersection Summary	
HCM 2010 Ctrl Delay	17.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	380	95	25	355	10	215	95	25	15	80	20
Future Volume (vph)	25	380	95	25	355	10	215	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3308			1837			1785			1775	
Flt Permitted		0.92			0.95			0.97			0.99	
Satd. Flow (perm)		3051			1742			1785			1775	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	418	104	27	390	11	236	104	27	16	88	22
RTOR Reduction (vph)	0	19	0	0	1	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	530	0	0	427	0	0	364	0	0	119	0
Confl. Peds. (#/hr)	53		79	79		53	83		63	63		83
Confl. Bikes (#/hr)						2			40			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		42.2			42.2			33.7			21.1	
Effective Green, g (s)		42.2			42.2			33.7			21.1	
Actuated g/C Ratio		0.38			0.38			0.30			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1165			665			544			338	
v/s Ratio Prot								c0.20			c0.07	
v/s Ratio Perm		0.17			c0.25							
v/c Ratio		0.46			0.64			0.67			0.35	
Uniform Delay, d1		25.6			28.0			33.5			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			4.7			6.4			2.9	
Delay (s)		26.8			32.7			40.0			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		26.8			32.7			40.0			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	17
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	50	0	5	30	5	0	110	65	5
Future Vol, veh/h	0	315	30	50	0	5	30	5	0	110	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	56	0	6	34	6	0	124	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

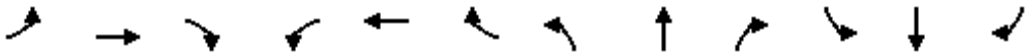
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	21.4	10.1	12.4
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	61%	80%	12%	1%
Vol Thru, %	36%	8%	75%	16%
Vol Right, %	3%	13%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	395	40	340
LT Vol	110	315	5	5
Through Vol	65	30	30	55
RT Vol	5	50	5	280
Lane Flow Rate	202	444	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.344	0.705	0.082	0.563
Departure Headway (Hd)	6.13	5.715	6.542	5.301
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	582	630	551	676
Service Time	4.221	3.779	4.542	3.378
HCM Lane V/C Ratio	0.347	0.705	0.082	0.565
HCM Control Delay	12.4	21.4	10.1	15.1
HCM Lane LOS	B	C	B	C
HCM 95th-tile Q	1.5	5.7	0.3	3.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15.1
HCM LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	815	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	815	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1744			1741						3468	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1744			1329						3468	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	867	37
RTOR Reduction (vph)	0	28	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	116	0	0	175	0	0	0	0	0	937	0
Confl. Peds. (#/hr)	74		108	108		74	109		56	56		109
Confl. Bikes (#/hr)			6			22						10
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		401			305						2011	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.27	
v/c Ratio		0.29			0.57						0.47	
Uniform Delay, d1		15.9			17.1						6.0	
Progression Factor		1.00			0.91						2.06	
Incremental Delay, d2		0.5			2.9						0.6	
Delay (s)		16.4			18.4						13.0	
Level of Service		B			B						B	
Approach Delay (s)		16.4			18.4			0.0			13.0	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

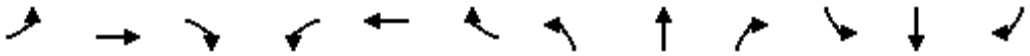
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	850	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	850	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1627			3491				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1627			3491				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	914	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	52	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	184	0	0	1020	0	0	0	0
Confl. Peds. (#/hr)	85		89	89		85	42		46	46		42
Confl. Bikes (#/hr)			13			29			77			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.8			10.8			29.2				
Effective Green, g (s)		10.8			10.8			29.2				
Actuated g/C Ratio		0.22			0.22			0.58				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		410			351			2038				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.29				
v/c Ratio		0.29			0.52			0.50				
Uniform Delay, d1		16.4			17.3			6.1				
Progression Factor		1.14			0.99			0.92				
Incremental Delay, d2		0.1			0.6			0.7				
Delay (s)		18.8			17.8			6.4				
Level of Service		B			B			A				
Approach Delay (s)		18.8			17.8			6.4			0.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	505	40	25	390	35
Future Volume (vph)	75	70	60	25	35	65	115	505	40	25	390	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.96			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			0.99	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1630			1558			3300			1709	
Flt Permitted		0.85			0.92			0.80			0.95	
Satd. Flow (perm)		1404			1445			2677			1624	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	543	43	27	419	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	9	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	701	0	0	478	0
Confl. Peds. (#/hr)	133		139	139		133	167		125	125		167
Confl. Bikes (#/hr)			6			4			23			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		421			433			1418			860	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.26			c0.29	
v/c Ratio		0.45			0.20			0.49			0.56	
Uniform Delay, d1		14.2			13.0			7.5			7.8	
Progression Factor		1.65			1.00			0.84			0.65	
Incremental Delay, d2		3.4			1.0			0.7			2.4	
Delay (s)		26.8			14.1			7.0			7.5	
Level of Service		C			B			A			A	
Approach Delay (s)		26.8			14.1			7.0			7.5	
Approach LOS		C			B			A			A	

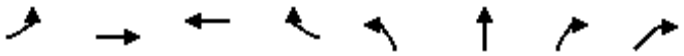
Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	620	250	460	780	0	0	0	0	250	220	220
Future Volume (vph)	0	620	250	460	780	0	0	0	0	250	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3283		3433	3539					1579	2995	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		3283		3433	3539					1579	2995	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	646	260	479	812	0	0	0	0	260	229	229
RTOR Reduction (vph)	0	47	0	0	0	0	0	0	0	0	100	0
Lane Group Flow (vph)	0	859	0	479	813	0	0	0	0	234	384	0
Confl. Peds. (#/hr)	116		125	125		116	32					32
Confl. Bikes (#/hr)			2			7						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		32.3		28.7	65.5					25.0	25.0	
Effective Green, g (s)		32.3		28.7	65.5					25.0	25.0	
Actuated g/C Ratio		0.32		0.29	0.66					0.25	0.25	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1060		985	2318					394	748	
v/s Ratio Prot		c0.26		c0.14	0.23					c0.15	0.13	
v/s Ratio Perm												
v/c Ratio		0.81		0.49	0.35					0.59	0.51	
Uniform Delay, d1		31.0		29.5	7.7					33.0	32.3	
Progression Factor		1.00		1.06	1.30					1.33	1.49	
Incremental Delay, d2		4.8		1.1	0.3					5.8	2.2	
Delay (s)		35.8		32.5	10.3					49.7	50.3	
Level of Service		D		C	B					D	D	
Approach Delay (s)		35.8			18.6			0.0			50.1	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	630	770	325	480	430	505	60
Future Volume (vph)	235	630	770	325	480	430	505	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	2997		3400	1707	1435	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	2997		3400	1707	1435	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	663	811	342	505	453	532	63
RTOR Reduction (vph)	0	0	47	0	0	6	79	0
Lane Group Flow (vph)	247	663	1106	0	505	521	379	63
Confl. Peds. (#/hr)	256			256	83		21	
Confl. Bikes (#/hr)				21				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	16.3	53.9	38.5		31.7	31.7	31.7	56.3
Effective Green, g (s)	16.3	53.9	38.5		31.7	31.7	31.7	56.3
Actuated g/C Ratio	0.16	0.54	0.38		0.32	0.32	0.32	0.56
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	282	1870	1153		1077	541	454	898
v/s Ratio Prot	c0.14	0.19	c0.37		0.15	c0.31		0.00
v/s Ratio Perm							0.26	0.04
v/c Ratio	0.88	0.35	0.96		0.47	0.96	0.84	0.07
Uniform Delay, d1	40.9	13.1	30.0		27.4	33.6	31.7	9.9
Progression Factor	1.19	1.45	1.06		1.00	1.00	1.00	1.00
Incremental Delay, d2	19.5	0.4	17.6		1.5	30.5	16.5	0.0
Delay (s)	68.0	19.4	49.4		28.9	64.1	48.2	10.0
Level of Service	E	B	D		C	E	D	A
Approach Delay (s)		32.6	49.4			47.3		
Approach LOS		C	D			D		

Intersection Summary			
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1070	10	10	1080	5	95
Future Vol, veh/h	1070	10	10	1080	5	95
Conflicting Peds, #/hr	0	195	195	0	195	195
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1151	11	11	1161	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1356	0	2148	971
Stage 1	-	-	-	-	1351	-
Stage 2	-	-	-	-	797	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	498	-	42	256
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	409	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	417	-	29	180
Mov Cap-2 Maneuver	-	-	-	-	117	-
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	334	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	48.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	180	-	-	417	-
HCM Lane V/C Ratio	0.568	-	-	0.026	-
HCM Control Delay (s)	48.4	-	-	13.9	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	3	-	-	0.1	-

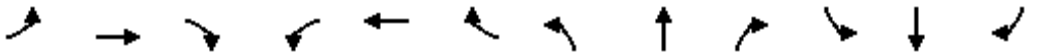
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1075	1065	30	5	25
Future Vol, veh/h	95	1075	1065	30	5	25
Conflicting Peds, #/hr	130	0	0	129	129	130
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1132	1121	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1283	0	-	0	2162	836
Stage 1	-	-	-	-	1267	-
Stage 2	-	-	-	-	895	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	531	-	-	-	41	315
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	364	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	473	-	-	-	26	250
Mov Cap-2 Maneuver	-	-	-	-	116	-
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	256	-

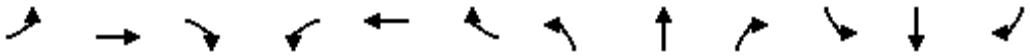
Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	25.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	473	-	-	-	210
HCM Lane V/C Ratio	0.211	-	-	-	0.15
HCM Control Delay (s)	14.6	-	-	-	25.2
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.8	-	-	-	0.5



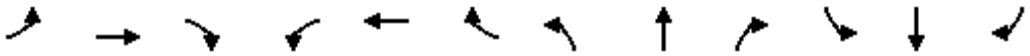
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	875	220	230	955	0	0	0	0	45	770	130
Future Volume (vph)	0	875	220	230	955	0	0	0	0	45	770	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.66
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3190		1736	3471						3507	1053
Flt Permitted		1.00		0.13	1.00						1.00	1.00
Satd. Flow (perm)		3190		240	3471						3507	1053
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	911	229	240	995	0	0	0	0	47	802	135
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	0	48
Lane Group Flow (vph)	0	1120	0	240	995	0	0	0	0	0	849	87
Confl. Peds. (#/hr)	234		202	202		234	259		78	78		259
Confl. Bikes (#/hr)			2			15						30
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.8		59.6	64.1						26.9	26.9
Effective Green, g (s)		46.8		59.6	64.1						26.9	26.9
Actuated g/C Ratio		0.47		0.60	0.64						0.27	0.27
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1492		334	2224						943	283
v/s Ratio Prot		c0.35		c0.09	0.29							
v/s Ratio Perm				0.34							0.24	0.08
v/c Ratio		0.75		0.72	0.45						0.90	0.31
Uniform Delay, d1		21.8		28.7	9.0						35.3	29.1
Progression Factor		0.87		0.84	0.59						1.48	2.01
Incremental Delay, d2		3.1		5.2	0.0						10.6	0.2
Delay (s)		22.0		29.2	5.4						62.9	58.8
Level of Service		C		C	A						E	E
Approach Delay (s)		22.0			10.0			0.0			62.4	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



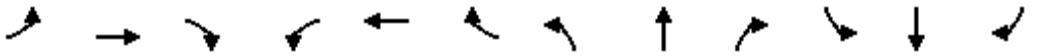
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	840	0	0	835	30	330	865	150	0	0	0
Future Volume (vph)	5	840	0	0	835	30	330	865	150	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.80			
Flpb, ped/bikes		1.00			1.00		0.92	1.00	1.00			
Frt		1.00			0.99		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3503			3414		1644	3574	1277			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3331			3414		1644	3574	1277			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	894	0	0	888	32	351	920	160	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	28	0	0	0
Lane Group Flow (vph)	0	899	0	0	917	0	351	920	132	0	0	0
Confl. Peds. (#/hr)	211		113	113		211	48		97	97		48
Confl. Bikes (#/hr)						14			81			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		48.5			48.5		42.5	42.5	42.5			
Effective Green, g (s)		48.5			48.5		42.5	42.5	42.5			
Actuated g/C Ratio		0.48			0.48		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1615			1655		698	1518	542			
v/s Ratio Prot					0.27			c0.26				
v/s Ratio Perm		c0.27					0.21		0.10			
v/c Ratio		0.56			0.55		0.50	0.61	0.24			
Uniform Delay, d1		18.2			18.1		21.0	22.3	18.4			
Progression Factor		0.16			0.57		0.83	0.82	0.81			
Incremental Delay, d2		0.9			1.2		1.8	1.2	0.7			
Delay (s)		3.8			11.6		19.2	19.4	15.7			
Level of Service		A			B		B	B	B			
Approach Delay (s)		3.8			11.6			19.0			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	870	50	45	795	15	40	60	40	20	45	35
Future Volume (vph)	85	870	50	45	795	15	40	60	40	20	45	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99			0.95			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3326		1703	3360			1627			1582	
Flt Permitted	0.95	1.00		0.95	1.00			0.89			0.93	
Satd. Flow (perm)	1736	3326		1703	3360			1463			1481	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	926	53	48	846	16	43	64	43	21	48	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	16	0	0	22	0
Lane Group Flow (vph)	90	976	0	48	861	0	0	134	0	0	84	0
Confl. Peds. (#/hr)	186		263	263		186	63		85	85		63
Confl. Bikes (#/hr)			2			8			26			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	66.1		4.3	59.7			16.6			16.6	
Effective Green, g (s)	10.2	66.1		4.3	59.7			16.6			16.6	
Actuated g/C Ratio	0.10	0.66		0.04	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2198		73	2005			242			245	
v/s Ratio Prot	c0.05	c0.29		0.03	0.26							
v/s Ratio Perm								c0.09			0.06	
v/c Ratio	0.51	0.44		0.66	0.43			0.55			0.34	
Uniform Delay, d1	42.5	8.1		47.1	10.9			38.3			36.9	
Progression Factor	0.67	0.25		0.70	0.91			1.00			1.00	
Incremental Delay, d2	0.7	0.6		12.5	0.5			1.6			0.3	
Delay (s)	29.2	2.6		45.3	10.5			39.9			37.2	
Level of Service	C	A		D	B			D			D	
Approach Delay (s)		4.9			12.3			39.9			37.2	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	865	5	85	760	30	35	50	10	60	25	130
Future Volume (vph)	100	865	5	85	760	30	35	50	10	60	25	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00			0.98			1.00	0.71		1.00	0.77
Flpb, ped/bikes	1.00	1.00			0.98			0.92	1.00		0.83	1.00
Frt	1.00	1.00			0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.98	1.00		0.97	1.00
Satd. Flow (prot)	1736	3452			3267			1713	1143		1501	1231
Flt Permitted	0.95	1.00			0.75			0.85	1.00		0.74	1.00
Satd. Flow (perm)	1736	3452			2458			1483	1143		1144	1231
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	920	5	90	809	32	37	53	11	64	27	138
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	925	0	0	929	0	0	90	2	0	91	22
Confl. Peds. (#/hr)	293		603	603		293	132		168	168		132
Confl. Bikes (#/hr)			8			10			8			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	11.0	75.2			60.2			15.8	15.8		15.8	15.8
Effective Green, g (s)	11.0	75.2			60.2			15.8	15.8		15.8	15.8
Actuated g/C Ratio	0.11	0.75			0.60			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	190	2595			1479			234	180		180	194
v/s Ratio Prot	c0.06	0.27										
v/s Ratio Perm					c0.38			0.06	0.00		c0.08	0.02
v/c Ratio	0.56	0.36			0.63			0.38	0.01		0.51	0.11
Uniform Delay, d1	42.2	4.2			12.7			37.7	35.5		38.5	36.1
Progression Factor	0.91	0.31			0.35			1.00	1.00		0.73	0.85
Incremental Delay, d2	1.9	0.4			1.9			0.4	0.0		0.7	0.1
Delay (s)	40.4	1.7			6.3			38.1	35.5		29.0	30.9
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.6			6.3			37.8			30.1	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	780	100	0	785	50	5	185	110	5	235	60
Future Volume (vph)	5	780	100	0	785	50	5	185	110	5	235	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.96			0.84			0.91	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3098			3387			1415			1591	
Flt Permitted		0.95			1.00			0.99			0.99	
Satd. Flow (perm)		2948			3387			1408			1584	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	830	106	0	835	53	5	197	117	5	250	64
RTOR Reduction (vph)	0	1	0	0	4	0	0	6	0	0	10	0
Lane Group Flow (vph)	0	940	0	0	884	0	0	313	0	0	309	0
Confl. Peds. (#/hr)	429		529	529		429	656		519	519		656
Confl. Bikes (#/hr)			1			6			62			17
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2						4			4		
Actuated Green, G (s)		64.3			64.3			26.7			26.7	
Effective Green, g (s)		64.3			64.3			26.7			26.7	
Actuated g/C Ratio		0.64			0.64			0.27			0.27	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1895			2177			375			422	
v/s Ratio Prot					0.26							
v/s Ratio Perm		c0.32						c0.22			0.20	
v/c Ratio		0.50			0.41			0.84			0.73	
Uniform Delay, d1		9.4			8.6			34.6			33.4	
Progression Factor		0.75			0.95			1.09			1.33	
Incremental Delay, d2		0.9			0.5			13.5			5.4	
Delay (s)		7.9			8.7			51.3			50.0	
Level of Service		A			A			D			D	
Approach Delay (s)		7.9			8.7			51.3			50.0	
Approach LOS		A			A			D			D	

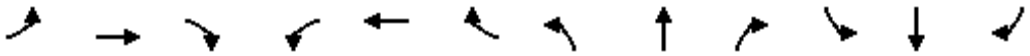
Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	740	90	140	755	70	45	525	175	100	395	40
Future Volume (veh/h)	70	740	90	140	755	70	45	525	175	100	395	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.81	1.00		0.83	1.00		0.78	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	771	94	146	786	73	47	547	182	104	411	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	149	1064	130	248	1263	117	62	605	199	128	940	95
Arrive On Green	0.17	0.69	0.69	0.29	0.81	0.81	0.01	0.09	0.09	0.15	0.61	0.61
Sat Flow, veh/h	1774	3084	376	1723	3119	290	1691	2311	761	1723	3085	312
Grp Volume(v), veh/h	73	442	423	146	433	426	47	398	331	104	227	226
Grp Sat Flow(s),veh/h/ln	1774	1770	1691	1723	1719	1689	1691	1687	1386	1723	1719	1678
Q Serve(g_s), s	3.7	15.5	15.5	7.3	9.6	9.7	2.8	23.4	23.7	5.8	7.0	7.2
Cycle Q Clear(g_c), s	3.7	15.5	15.5	7.3	9.6	9.7	2.8	23.4	23.7	5.8	7.0	7.2
Prop In Lane	1.00		0.22	1.00		0.17	1.00		0.55	1.00		0.19
Lane Grp Cap(c), veh/h	149	611	583	248	696	684	62	442	363	128	524	511
V/C Ratio(X)	0.49	0.72	0.72	0.59	0.62	0.62	0.76	0.90	0.91	0.81	0.43	0.44
Avail Cap(c_a), veh/h	149	611	583	248	696	684	118	464	381	155	524	511
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.86	0.86	0.86	0.85	0.85	0.85	0.88	0.88	0.88	0.81	0.81	0.81
Uniform Delay (d), s/veh	39.7	12.6	12.6	33.1	6.6	6.6	49.0	44.4	44.5	41.9	14.9	15.0
Incr Delay (d2), s/veh	0.8	6.3	6.6	2.1	3.6	3.6	6.2	17.3	22.2	16.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.2	8.1	3.5	5.0	4.9	1.4	13.1	11.4	3.4	3.3	3.3
LnGrp Delay(d),s/veh	40.5	18.9	19.2	35.2	10.1	10.2	55.2	61.6	66.7	58.1	15.1	15.2
LnGrp LOS	D	B	B	D	B	B	E	E	E	E	B	B
Approach Vol, veh/h		938			1005			776			557	
Approach Delay, s/veh		20.7			13.8			63.4			23.2	
Approach LOS		C			B			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	45.0	11.9	30.7	18.4	39.0	7.6	35.0
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	40.5	9.0	* 28	12.0	34.5	7.0	29.5
Max Q Clear Time (g_c+I1), s	5.7	11.7	7.8	25.7	9.3	17.5	4.8	9.2
Green Ext Time (p_c), s	0.0	2.1	0.0	0.5	0.0	2.0	0.0	0.9

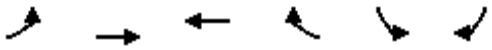
Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Notes



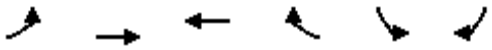
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	805	250	50	850	50	85	205	45	45	60	25
Future Volume (vph)	20	805	250	50	850	50	85	205	45	45	60	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.94		1.00	0.97		1.00	1.00	0.57		0.93	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1752	3190		1770	3410		1770	1863	902		1679	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1752	3190		1770	3410		1770	1863	902		1679	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	866	269	54	914	54	91	220	48	48	65	27
RTOR Reduction (vph)	0	26	0	0	4	0	0	0	41	0	9	0
Lane Group Flow (vph)	22	1109	0	54	964	0	91	220	7	0	132	0
Confl. Peds. (#/hr)	190		161	161		190	286		380	380		286
Confl. Bikes (#/hr)			2			3			65			9
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	49.1		4.8	51.9		14.6	14.6	14.6		15.0	
Effective Green, g (s)	2.0	49.1		4.8	51.9		14.6	14.6	14.6		15.0	
Actuated g/C Ratio	0.02	0.49		0.05	0.52		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1566		84	1769		258	271	131		251	
v/s Ratio Prot	0.01	c0.35		c0.03	c0.28		0.05	c0.12			c0.08	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.71		0.64	0.55		0.35	0.81	0.05		0.52	
Uniform Delay, d1	48.6	19.9		46.8	16.1		38.4	41.4	36.8		39.2	
Progression Factor	1.19	0.34		1.15	0.80		1.00	1.00	1.00		1.00	
Incremental Delay, d2	17.9	2.1		11.3	1.1		0.3	15.9	0.1		0.9	
Delay (s)	75.7	8.8		65.3	14.1		38.7	57.2	36.8		40.1	
Level of Service	E	A		E	B		D	E	D		D	
Approach Delay (s)		10.0			16.8			49.8			40.1	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



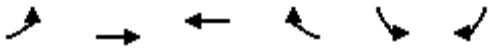
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	885	920	0	15	25
Future Volume (vph)	0	885	920	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.88	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1500	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1500	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	962	1000	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	962	1000	0	21	0
Confl. Peds. (#/hr)	182			182	107	105
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		255	
v/s Ratio Prot		0.27	c0.28		c0.01	
v/s Ratio Perm						
v/c Ratio		0.36	0.38		0.08	
Uniform Delay, d1		4.4	4.5		34.9	
Progression Factor		0.16	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.0	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	865	925	35	0	0
Future Volume (vph)	25	865	925	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	0.99			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3452			
Flt Permitted	0.14	1.00	1.00			
Satd. Flow (perm)	257	1881	3452			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	940	1005	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	940	1041	0	0	0
Confl. Peds. (#/hr)	125			125	265	109
Confl. Bikes (#/hr)				7		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	41.8			
Effective Green, g (s)	71.5	74.5	41.8			
Actuated g/C Ratio	0.72	0.74	0.42			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	638	1401	1442			
v/s Ratio Prot	0.01	c0.50	c0.30			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.67	0.72			
Uniform Delay, d1	6.5	6.5	24.3			
Progression Factor	1.35	1.58	0.26			
Incremental Delay, d2	0.0	1.2	2.4			
Delay (s)	8.8	11.5	8.6			
Level of Service	A	B	A			
Approach Delay (s)		11.4	8.6		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	815	935	110	30	30
Future Volume (vph)	40	815	935	110	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.93	
Flt Protected	0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1787	1881	3476		1698	
Flt Permitted	0.14	1.00	1.00		0.98	
Satd. Flow (perm)	263	1881	3476		1698	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	876	1005	118	32	32
RTOR Reduction (vph)	0	0	0	0	27	0
Lane Group Flow (vph)	43	876	1123	0	37	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	47.3		17.0	
Effective Green, g (s)	71.5	74.5	47.3		17.0	
Actuated g/C Ratio	0.72	0.74	0.47		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	556	1401	1644		288	
v/s Ratio Prot	0.02	c0.47	c0.32		c0.02	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.63	0.68		0.13	
Uniform Delay, d1	6.6	6.1	20.5		35.2	
Progression Factor	0.00	0.00	1.00		1.00	
Incremental Delay, d2	0.0	0.5	2.3		0.1	
Delay (s)	0.0	0.5	22.8		35.3	
Level of Service	A	A	C		D	
Approach Delay (s)		0.5	22.8		35.3	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	530	5	535	885	145	1480
Future Volume (vph)	530	5	535	885	145	1480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.90	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1440	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1440	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	564	5	569	941	154	1574
RTOR Reduction (vph)	0	1	0	0	0	4
Lane Group Flow (vph)	564	4	569	941	154	1570
Confl. Peds. (#/hr)		40	40			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	25.6	25.6	83.5	83.5	17.4	105.4
Effective Green, g (s)	25.6	25.6	83.5	83.5	17.4	105.4
Actuated g/C Ratio	0.18	0.18	0.60	0.60	0.12	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	653	263	2027	1100	219	2098
v/s Ratio Prot	c0.16		0.17	c0.51	0.09	c0.56
v/s Ratio Perm		0.00				
v/c Ratio	0.86	0.02	0.28	0.86	0.70	0.75
Uniform Delay, d1	55.5	46.9	13.7	23.3	58.8	9.8
Progression Factor	1.00	1.00	0.44	0.59	0.97	1.06
Incremental Delay, d2	11.7	0.0	0.3	6.5	8.9	1.4
Delay (s)	67.2	46.9	6.2	20.3	66.2	11.7
Level of Service	E	D	A	C	E	B
Approach Delay (s)	67.0			15.0	16.6	
Approach LOS	E			B	B	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1165	220	25	815	190	25	165	105	30	30
Future Volume (vph)	35	280	1165	220	25	815	190	25	165	105	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.93	1.00	0.98		0.95	1.00	1.00	0.93	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1452	1736	4498		1266	1698	1766	1479	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	193	3505	1452	223	4498		1266	1698	1766	1479	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1201	227	26	840	196	26	170	108	31	31
RTOR Reduction (vph)	0	0	0	85	0	0	0	18	0	0	52	0
Lane Group Flow (vph)	36	289	1201	142	26	1039	0	5	136	142	10	0
Confl. Peds. (#/hr)	18	18		15	15		18	18	34		18	17
Confl. Bikes (#/hr)				3				1				4
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	14.1	61.4	52.3	52.3	32.7	32.7		32.7	21.9	21.9	21.9	
Effective Green, g (s)	14.1	61.4	52.3	52.3	32.7	32.7		32.7	21.9	21.9	21.9	
Actuated g/C Ratio	0.10	0.44	0.37	0.37	0.23	0.23		0.23	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	176	342	1309	542	52	1050		295	265	276	231	
v/s Ratio Prot	0.02	c0.14	c0.34			0.23			0.08	c0.08		
v/s Ratio Perm		0.23		0.10	0.12			0.00			0.01	
v/c Ratio	0.20	0.85	0.92	0.26	0.50	0.99		0.02	0.51	0.51	0.04	
Uniform Delay, d1	57.8	39.1	41.8	30.4	46.6	53.5		41.3	54.2	54.2	50.1	
Progression Factor	0.91	0.87	0.84	0.70	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	11.1	7.8	0.7	30.5	25.4		0.1	0.7	0.7	0.0	
Delay (s)	52.6	45.3	42.9	22.0	77.0	78.9		41.4	54.9	54.8	50.2	
Level of Service	D	D	D	C	E	E		D	D	D	D	
Approach Delay (s)			40.8			78.0				54.0		
Approach LOS			D			E				D		

Intersection Summary			
HCM 2000 Control Delay	56.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1688			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1688			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	128	0
Lane Group Flow (vph)	0	218	210	0	0	62	93	0
Confl. Peds. (#/hr)	17	18		34	17	15	34	18
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.2	19.3	
Effective Green, g (s)		24.5	24.5			6.2	19.3	
Actuated g/C Ratio		0.18	0.18			0.04	0.14	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	295			79	387	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.78	0.24	
Uniform Delay, d1		54.7	54.4			66.2	53.8	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.6			37.6	0.2	
Delay (s)		62.5	61.0			103.8	54.1	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.0		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	6.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	45	1270
Future Vol, veh/h	120	0	0	0	45	1270
Conflicting Peds, #/hr	65	133	0	65	133	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	49	1396

Major/Minor	Minor1		Major2	
Conflicting Flow All	995	-	133	0
Stage 1	133	-	-	-
Stage 2	862	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	235	0	1457	-
Stage 1	-	0	-	-
Stage 2	364	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	178	-	1457	-
Mov Cap-2 Maneuver	178	-	-	-
Stage 1	-	-	-	-
Stage 2	309	-	-	-

Approach	WB	SB
HCM Control Delay, s	67.6	0.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	178	1457	-
HCM Lane V/C Ratio	0.741	0.034	-
HCM Control Delay (s)	67.6	7.6	0.5
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	4.7	0.1	-

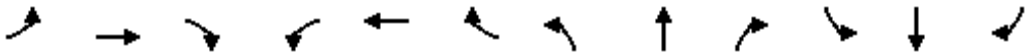
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	65	0	0	1350	40
Future Vol, veh/h	0	65	0	0	1350	40
Conflicting Peds, #/hr	241	131	131	0	0	241
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	71	0	0	1467	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1127	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	199	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	159	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	44.6	0
HCM LOS	E	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	159	-	-
HCM Lane V/C Ratio	0.444	-	-
HCM Control Delay (s)	44.6	-	-
HCM Lane LOS	E	-	-
HCM 95th %tile Q(veh)	2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	35	0	0	90	110	20	1045	60	0	0	0
Future Volume (vph)	45	35	0	0	90	110	20	1045	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1779			1549			3469				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1466			1549			3469				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	38	0	0	98	120	22	1136	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	87	0	0	208	0	0	1215	0	0	0	0
Confl. Peds. (#/hr)	102		69	69		102	48		53	53		48
Confl. Bikes (#/hr)			6			9			69			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			650			1422				
v/s Ratio Prot					c0.13							
v/s Ratio Perm		0.06						0.35				
v/c Ratio		0.14			0.32			0.85				
Uniform Delay, d1		8.9			9.7			13.4				
Progression Factor		0.82			0.88			0.72				
Incremental Delay, d2		0.5			1.3			6.1				
Delay (s)		7.8			9.8			15.7				
Level of Service		A			A			B				
Approach Delay (s)		7.8			9.8			15.7			0.0	
Approach LOS		A			A			B			A	

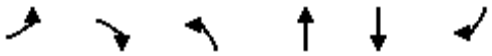
Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	5	70	5	65	10	175	80	75	230	30
Future Volume (vph)	60	15	5	70	5	65	10	175	80	75	230	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.86			0.82			0.94	
Flpb, ped/bikes		0.84			0.79			0.99			0.92	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1456			1190			1358			1517	
Flt Permitted		0.74			0.83			0.99			0.88	
Satd. Flow (perm)		1119			1009			1340			1343	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	5	75	5	70	11	188	86	81	247	32
RTOR Reduction (vph)	0	4	0	0	35	0	0	31	0	0	7	0
Lane Group Flow (vph)	0	83	0	0	115	0	0	254	0	0	353	0
Confl. Peds. (#/hr)	156		259	259		156	600		514	514		600
Confl. Bikes (#/hr)			2			3			55			22
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		335			302			710			711	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.11			0.19			c0.26	
v/c Ratio		0.25			0.38			0.36			0.50	
Uniform Delay, d1		13.2			13.8			6.8			7.5	
Progression Factor		0.79			0.53			1.02			0.94	
Incremental Delay, d2		1.4			3.5			1.4			2.2	
Delay (s)		11.8			10.8			8.3			9.2	
Level of Service		B			B			A			A	
Approach Delay (s)		11.8			10.8			8.3			9.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

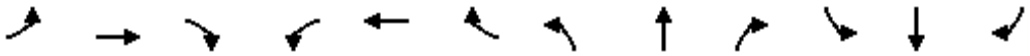
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	620	560	85
Future Volume (vph)	110	75	55	620	560	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.88			1.00	1.00	0.68
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1502			3325	3343	1018
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1502			2909	3343	1018
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	653	589	89
RTOR Reduction (vph)	49	0	0	0	0	45
Lane Group Flow (vph)	146	0	0	711	589	44
Confl. Peds. (#/hr)	228	314	158			158
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	495			1425	1638	498
v/s Ratio Prot	c0.10				0.18	
v/s Ratio Perm				c0.24		0.04
v/c Ratio	0.30			0.50	0.36	0.09
Uniform Delay, d1	12.4			8.6	7.9	6.8
Progression Factor	1.05			1.39	1.01	1.03
Incremental Delay, d2	1.4			1.2	0.5	0.3
Delay (s)	14.5			13.2	8.5	7.3
Level of Service	B			B	A	A
Approach Delay (s)	14.5			13.2	8.4	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	70	10	5	10	20	210	0	55	15	230	65	75
Future Volume (vph)	70	10	5	10	20	210	0	55	15	230	65	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	11	5	11	22	228	0	60	16	250	71	82

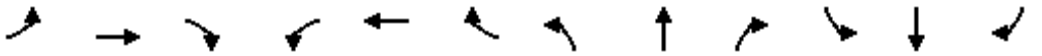
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	92	261	30	46	286	118
Volume Left (vph)	76	11	0	0	250	0
Volume Right (vph)	5	228	0	16	0	82
Hadj (s)	0.13	-0.52	0.44	0.20	0.52	-0.40
Departure Headway (s)	5.7	4.8	6.4	6.2	6.1	5.1
Degree Utilization, x	0.14	0.35	0.05	0.08	0.48	0.17
Capacity (veh/h)	581	704	515	534	570	670
Control Delay (s)	9.6	10.3	8.6	8.5	13.4	8.0
Approach Delay (s)	9.6	10.3	8.6		11.8	
Approach LOS	A	B	A		B	

Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	63.7%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	90	60	5	50	205	70	775	5	60	550	110
Future Volume (veh/h)	140	90	60	5	50	205	70	775	5	60	550	110
Number	3	8	18	7	4	14	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		0.91	0.96		0.86	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	147	95	63	5	53	216	74	816	5	63	579	116
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	210	585	343	44	322	232	346	2075	13	81	1237	247
Arrive On Green	0.08	0.29	0.29	0.19	0.19	0.19	0.19	0.56	0.56	0.05	0.42	0.42
Sat Flow, veh/h	1707	1985	1163	85	1692	1222	1810	3678	23	1792	2960	591
Grp Volume(v), veh/h	147	80	78	58	0	216	74	400	421	63	349	346
Grp Sat Flow(s),veh/h/ln	1707	1703	1446	1777	0	1222	1810	1805	1895	1792	1787	1765
Q Serve(g_s), s	9.4	4.9	5.7	0.0	0.0	24.3	4.8	17.4	17.4	4.9	19.8	19.9
Cycle Q Clear(g_c), s	9.4	4.9	5.7	3.7	0.0	24.3	4.8	17.4	17.4	4.9	19.8	19.9
Prop In Lane	1.00		0.80	0.09		1.00	1.00		0.01	1.00		0.34
Lane Grp Cap(c), veh/h	210	501	426	551	0	232	346	1018	1069	81	747	737
V/C Ratio(X)	0.70	0.16	0.18	0.11	0.00	0.93	0.21	0.39	0.39	0.78	0.47	0.47
Avail Cap(c_a), veh/h	313	614	522	562	0	240	346	1018	1069	198	747	737
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	0.99	0.00	0.99	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	36.6	36.8	47.4	0.0	55.8	47.7	17.1	17.1	66.2	29.5	29.5
Incr Delay (d2), s/veh	4.2	0.1	0.2	0.0	0.0	37.6	0.1	1.0	0.9	6.0	2.1	2.1
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	4.7	2.3	2.3	1.6	0.0	10.6	2.4	9.0	9.4	2.5	10.2	10.2
LnGrp Delay(d),s/veh	45.9	36.7	37.1	47.4	0.0	93.4	47.8	18.1	18.0	72.1	31.6	31.7
LnGrp LOS	D	D	D	D		F	D	B	B	E	C	C
Approach Vol, veh/h		305			274			895			758	
Approach Delay, s/veh		41.2			83.6			20.5			35.0	
Approach LOS		D			F			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.8	83.5	14.6	31.1	31.3	63.0		45.7
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	60.5	20.0	27.5	17.5	58.5		50.5
Max Q Clear Time (g_c+I1), s	6.9	19.4	11.4	26.3	6.8	21.9		7.7
Green Ext Time (p_c), s	0.0	5.4	0.2	0.3	2.2	0.7		2.5

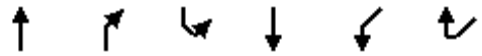
Intersection Summary	
HCM 2010 Ctrl Delay	36.0
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	15	0	5	20	45	0	1395	35	0	465	255
Future Volume (vph)	125	15	0	5	20	45	0	1395	35	0	465	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	0.96			0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1638			3342	1509		3559			3539	1541
Flt Permitted	0.74	0.75			0.91	1.00		1.00			1.00	1.00
Satd. Flow (perm)	1259	1283			3070	1509		3559			3539	1541
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	16	0	5	21	48	0	1484	37	0	495	271
RTOR Reduction (vph)	0	0	0	0	0	44	0	1	0	0	0	42
Lane Group Flow (vph)	74	75	0	0	26	4	0	1520	0	0	495	229
Confl. Peds. (#/hr)							6		2	2		6
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA			NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2						1
Actuated Green, G (s)	12.7	12.7			12.7	12.7		118.3			118.3	118.3
Effective Green, g (s)	12.7	12.7			12.7	12.7		118.3			118.3	118.3
Actuated g/C Ratio	0.09	0.09			0.09	0.09		0.84			0.84	0.84
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	114	116			278	136		3007			2990	1302
v/s Ratio Prot								c0.43			0.14	
v/s Ratio Perm	c0.06	0.06			0.01	0.00						0.15
v/c Ratio	0.65	0.65			0.09	0.03		0.51			0.17	0.18
Uniform Delay, d1	61.5	61.5			58.4	58.0		2.9			2.0	2.0
Progression Factor	0.48	0.48			1.00	1.00		1.04			0.36	0.00
Incremental Delay, d2	9.1	8.8			0.1	0.0		0.5			0.1	0.3
Delay (s)	38.7	38.4			58.4	58.1		3.6			0.8	0.3
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		38.5			58.2			3.6			0.6	
Approach LOS		D			E			A			A	

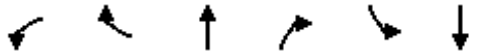
Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	825	1370	0	610	510	0
Future Volume (vph)	825	1370	0	610	510	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	851	1412	0	629	526	0
RTOR Reduction (vph)	0	752	0	0	0	0
Lane Group Flow (vph)	851	660	0	629	526	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	65.4	65.4		65.4	65.6	
Effective Green, g (s)	65.4	65.4		65.4	65.6	
Actuated g/C Ratio	0.47	0.47		0.47	0.47	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1669	1314		1686	1608	
v/s Ratio Prot	c0.24			0.17	c0.15	
v/s Ratio Perm		0.23				
v/c Ratio	0.51	0.50		0.37	0.33	
Uniform Delay, d1	26.1	26.0		24.1	23.3	
Progression Factor	1.00	1.00		0.47	0.39	
Incremental Delay, d2	0.1	0.1		0.0	0.5	
Delay (s)	26.2	26.1		11.4	9.5	
Level of Service	C	C		B	A	
Approach Delay (s)	26.1			11.4	9.5	
Approach LOS	C			B	A	

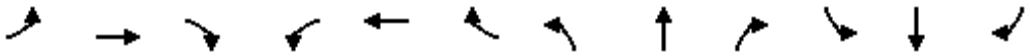
Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	125	1340
Future Volume (veh/h)	100	0	0	0	125	1340
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			136	1457
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			292	2986
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				262	3212
Grp Volume(v), veh/h	0.0				845	748
Grp Sat Flow(s),veh/h/ln					1779	1610
Q Serve(g_s), s					30.6	37.6
Cycle Q Clear(g_c), s					38.3	37.6
Prop In Lane					0.16	
Lane Grp Cap(c), veh/h					1741	1538
V/C Ratio(X)					0.49	0.49
Avail Cap(c_a), veh/h					1741	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					14.5	14.4
Incr Delay (d2), s/veh					1.0	1.1
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					19.4	17.2
LnGrp Delay(d),s/veh					15.5	15.5
LnGrp LOS					B	B
Approach Vol, veh/h						1593
Approach Delay, s/veh						15.5
Approach LOS						B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		40.3						
Green Ext Time (p_c), s		2.0						

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B



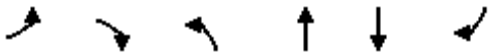
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	70	0	0	70	100	25	945	90	0	0	0
Future Volume (vph)	60	70	0	0	70	100	25	945	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.89			0.98				
Flpb, ped/bikes		0.94			1.00			1.00				
Frt		1.00			0.92			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1752			1537			3433				
Flt Permitted		0.75			1.00			1.00				
Satd. Flow (perm)		1336			1537			3433				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	77	0	0	77	110	27	1038	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	41	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	143	0	0	146	0	0	1154	0	0	0	0
Confl. Peds. (#/hr)	174		114	114		174	24		63	63		24
Confl. Bikes (#/hr)			8			23			83			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		9.8			9.8			31.7				
Effective Green, g (s)		9.8			9.8			31.7				
Actuated g/C Ratio		0.20			0.20			0.63				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		261			301			2176				
v/s Ratio Prot					0.09							
v/s Ratio Perm		c0.11						0.34				
v/c Ratio		0.55			0.49			0.53				
Uniform Delay, d1		18.1			17.9			5.0				
Progression Factor		0.98			1.25			1.00				
Incremental Delay, d2		1.0			0.4			0.9				
Delay (s)		18.8			22.8			6.0				
Level of Service		B			C			A				
Approach Delay (s)		18.8			22.8			6.0			0.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	115	15	10	60	25	10	190	15	15	210	40
Future Volume (vph)	35	115	15	10	60	25	10	190	15	15	210	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.85			0.96			0.90	
Flpb, ped/bikes		0.90			0.96			0.98			0.98	
Frt		0.99			0.96			0.99			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1590			1489			1650			1558	
Flt Permitted		0.93			0.97			0.98			0.98	
Satd. Flow (perm)		1500			1452			1627			1532	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	122	16	11	64	27	11	202	16	16	223	43
RTOR Reduction (vph)	0	7	0	0	17	0	0	5	0	0	13	0
Lane Group Flow (vph)	0	168	0	0	85	0	0	224	0	0	269	0
Confl. Peds. (#/hr)	397		435	435		397	602		454	454		602
Confl. Bikes (#/hr)			17			22			53			19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		18.0			18.0			23.5			23.5	
Effective Green, g (s)		18.0			18.0			23.5			23.5	
Actuated g/C Ratio		0.36			0.36			0.47			0.47	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		540			522			764			720	
v/s Ratio Prot												
v/s Ratio Perm		c0.11			0.06			0.14			c0.18	
v/c Ratio		0.31			0.16			0.29			0.37	
Uniform Delay, d1		11.5			10.9			8.1			8.5	
Progression Factor		1.27			0.51			0.83			1.16	
Incremental Delay, d2		1.4			0.6			1.0			1.3	
Delay (s)		16.0			6.2			7.7			11.2	
Level of Service		B			A			A			B	
Approach Delay (s)		16.0			6.2			7.7			11.2	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	85	40	580	590	45
Future Volume (vph)	95	85	40	580	590	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.85		1.00	1.00	0.97	
Flpb, ped/bikes	1.00		0.87	1.00	1.00	
Frt	0.94		1.00	1.00	0.99	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1479		1454	3343	3185	
Flt Permitted	0.97		0.35	1.00	1.00	
Satd. Flow (perm)	1479		531	3343	3185	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	92	43	630	641	49
RTOR Reduction (vph)	31	0	0	0	11	0
Lane Group Flow (vph)	164	0	43	630	679	0
Confl. Peds. (#/hr)	481	341	195			195
Confl. Bikes (#/hr)		4				11
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	19.0		22.5	22.5	22.5	
Effective Green, g (s)	19.0		22.5	22.5	22.5	
Actuated g/C Ratio	0.38		0.45	0.45	0.45	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	562		238	1504	1433	
v/s Ratio Prot	c0.11			0.19	c0.21	
v/s Ratio Perm			0.08			
v/c Ratio	0.29		0.18	0.42	0.47	
Uniform Delay, d1	10.8		8.2	9.3	9.6	
Progression Factor	0.70		1.01	1.12	1.09	
Incremental Delay, d2	1.3		1.6	0.8	1.1	
Delay (s)	8.8		9.9	11.3	11.6	
Level of Service	A		A	B	B	
Approach Delay (s)	8.8			11.2	11.6	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

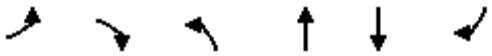
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	125	115	0	65	105	0	65	85
Future Vol, veh/h	0	125	115	0	65	105	0	65	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	142	131	0	74	119	0	74	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	10.3	9.1	9.9
HCM LOS	B	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	52%	43%
Vol Thru, %	38%	0%	57%
Vol Right, %	62%	48%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	170	240	150
LT Vol	0	125	65
Through Vol	65	0	85
RT Vol	105	115	0
Lane Flow Rate	193	273	170
Geometry Grp	1	1	1
Degree of Util (X)	0.244	0.355	0.245
Departure Headway (Hd)	4.553	4.686	5.166
Convergence, Y/N	Yes	Yes	Yes
Cap	784	764	692
Service Time	2.604	2.732	3.219
HCM Lane V/C Ratio	0.246	0.357	0.246
HCM Control Delay	9.1	10.3	9.9
HCM Lane LOS	A	B	A
HCM 95th-tile Q	1	1.6	1

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	115	15	85	5	255	125	325	120	180
Future Volume (vph)	115	15	85	5	255	125	325	120	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1531		1750	1776		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1531		1750	1776		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	126	16	93	5	280	137	357	132	198
RTOR Reduction (vph)	0	76	0	0	19	0	0	57	0
Lane Group Flow (vph)	126	33	0	5	398	0	357	273	0
Confl. Peds. (#/hr)			47	11					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	13.8	13.8		24.0	24.0		21.9	21.9	
Effective Green, g (s)	13.8	13.8		24.0	24.0		21.9	21.9	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.29	0.29	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	326	282		562	570		508	455	
v/s Ratio Prot	c0.07	0.02			c0.22		c0.21		
v/s Ratio Perm				0.00				0.18	
v/c Ratio	0.39	0.12		0.01	0.70		0.70	0.60	
Uniform Delay, d1	26.7	25.4		17.3	22.2		23.5	22.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.2		0.0	4.7		5.5	3.2	
Delay (s)	27.5	25.6		17.3	26.9		29.0	25.8	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		26.6			26.8		27.5		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	74.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	250	0	0	1335	160
Future Volume (vph)	0	250	0	0	1335	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.77
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1215
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1215
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	260	0	0	1391	167
RTOR Reduction (vph)	0	27	0	0	0	24
Lane Group Flow (vph)	0	233	0	0	1391	143
Confl. Peds. (#/hr)	155		102			102
Confl. Bikes (#/hr)		2				33
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		19.1			71.4	71.4
Effective Green, g (s)		19.1			71.4	71.4
Actuated g/C Ratio		0.19			0.71	0.71
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		301			2526	867
v/s Ratio Prot		c0.15			c0.39	
v/s Ratio Perm						0.12
v/c Ratio		0.78			0.55	0.16
Uniform Delay, d1		38.4			6.7	4.6
Progression Factor		1.00			0.41	0.29
Incremental Delay, d2		10.8			0.7	0.3
Delay (s)		49.2			3.5	1.7
Level of Service		D			A	A
Approach Delay (s)	49.2			0.0	3.3	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	31.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	155	1435
Future Vol, veh/h	115	0	0	0	155	1435
Conflicting Peds, #/hr	10	20	0	10	20	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	163	1511

Major/Minor	Minor1		Major2	
Conflicting Flow All	1112	-	20	0
Stage 1	20	-	-	-
Stage 2	1092	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	206	0	1595	-
Stage 1	-	0	-	-
Stage 2	287	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 74	-	1595	-
Mov Cap-2 Maneuver	~ 74	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 105	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 433.9	2.5
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	74	1595	-
HCM Lane V/C Ratio	1.636	0.102	-
HCM Control Delay (s)	$ 433.9	7.5	2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	10.3	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	33.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	15	15	20	75	25	15	25	5	20	80	20
Future Vol, veh/h	5	15	15	20	75	25	15	25	5	20	80	20
Conflicting Peds, #/hr	272	0	294	277	0	255	294	0	277	255	0	272
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	6	18	18	24	89	30	18	30	6	24	95	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	849	797	695	812	806	582	413	0	0	313	0	0
Stage 1	449	449	-	345	345	-	-	-	-	-	-	-
Stage 2	400	348	-	467	461	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	279	317	439	288	307	498	1157	-	-	1259	-	-
Stage 1	585	569	-	654	622	-	-	-	-	-	-	-
Stage 2	622	631	-	561	552	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	83	176	250	138	170	296	874	-	-	974	-	-
Mov Cap-2 Maneuver	83	176	-	138	170	-	-	-	-	-	-	-
Stage 1	432	418	-	492	468	-	-	-	-	-	-	-
Stage 2	343	475	-	367	406	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.9	76	3.1	1.5
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	874	-	-	170	179	974	-	-
HCM Lane V/C Ratio	0.02	-	-	0.245	0.798	0.024	-	-
HCM Control Delay (s)	9.2	0	-	32.9	76	8.8	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	5.4	0.1	-	-

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	20	20	0	35	55	25	0	60	165	15
Future Vol, veh/h	0	5	20	20	0	35	55	25	0	60	165	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	22	22	0	39	62	28	0	67	185	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.3	9	10.1
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	11%	30%	16%
Vol Thru, %	69%	44%	48%	72%
Vol Right, %	6%	44%	22%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	240	45	115	125
LT Vol	60	5	35	20
Through Vol	165	20	55	90
RT Vol	15	20	25	15
Lane Flow Rate	270	51	129	140
Geometry Grp	1	1	1	1
Degree of Util (X)	0.345	0.068	0.175	0.189
Departure Headway (Hd)	4.608	4.85	4.879	4.851
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	735	733	737
Service Time	2.646	2.903	2.925	2.895
HCM Lane V/C Ratio	0.347	0.069	0.176	0.19
HCM Control Delay	10.1	8.3	9	9
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.5	0.2	0.6	0.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	90	15
Future Vol, veh/h	0	20	90	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	101	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9
HCM LOS	A

Intersection	
Int Delay, s/veh	1.2

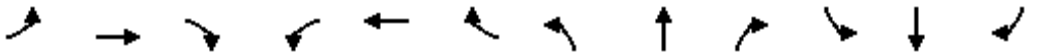
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	20	20	30	55	30	10	180	10	20	210	35
Future Vol, veh/h	10	20	20	30	55	30	10	180	10	20	210	35
Conflicting Peds, #/hr	755	0	821	858	0	792	821	0	858	792	0	755
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	22	22	34	62	34	11	202	11	22	236	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2192	2216	1935	2269	2229	1858	1096	0	0	1071	0	0
Stage 1	1122	1122	-	1088	1088	-	-	-	-	-	-	-
Stage 2	1070	1094	-	1181	1141	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	33	44	83	~ 29	~ 43	93	597	-	-	636	-	-
Stage 1	252	284	-	264	294	-	-	-	-	-	-	-
Stage 2	270	292	-	234	278	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 3	~ 7	-	~ 3	~ 9	170	-	-	216	-	-
Mov Cap-2 Maneuver	-	~ 3	-	-	~ 3	-	-	-	-	-	-	-
Stage 1	74	79	-	70	78	-	-	-	-	-	-	-
Stage 2	-	77	-	-	77	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.4	1.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	170	-	-	-	-	216	-	-
HCM Lane V/C Ratio	0.066	-	-	-	-	0.104	-	-
HCM Control Delay (s)	27.7	0	-	-	-	23.6	0	-
HCM Lane LOS	D	A	-	-	-	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	15	10	70	35	105	30	495	90	90	530	55
Future Volume (vph)	25	15	10	70	35	105	30	495	90	90	530	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.96			1.00	0.65	1.00	1.00	0.64	1.00	0.95	
Flpb, ped/bikes		0.86			0.90	1.00	0.79	1.00	1.00	0.84	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1490			1636	1041	1328	3343	964	1420	3160	
Flt Permitted		0.84			0.81	1.00	0.40	1.00	1.00	0.45	1.00	
Satd. Flow (perm)		1286			1365	1041	561	3343	964	670	3160	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	16	11	76	38	114	33	538	98	98	576	60
RTOR Reduction (vph)	0	9	0	0	0	93	0	0	26	0	5	0
Lane Group Flow (vph)	0	45	0	0	114	21	33	538	72	98	631	0
Confl. Peds. (#/hr)	360		119	119		360	245		142	142		245
Confl. Bikes (#/hr)			7			2			11			7
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.4			18.4	18.4	73.1	73.1	73.1	73.1	73.1	
Effective Green, g (s)		18.4			18.4	18.4	73.1	73.1	73.1	73.1	73.1	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		236			251	191	410	2443	704	489	2309	
v/s Ratio Prot								0.16			c0.20	
v/s Ratio Perm		0.04			c0.08	0.02	0.06		0.07	0.15		
v/c Ratio		0.19			0.45	0.11	0.08	0.22	0.10	0.20	0.27	
Uniform Delay, d1		34.5			36.3	34.0	3.8	4.3	3.9	4.2	4.5	
Progression Factor		1.01			1.00	1.00	0.61	0.57	0.57	0.56	0.54	
Incremental Delay, d2		0.4			1.3	0.3	0.4	0.2	0.3	0.8	0.3	
Delay (s)		35.3			37.6	34.2	2.7	2.7	2.5	3.2	2.7	
Level of Service		D			D	C	A	A	A	A	A	
Approach Delay (s)		35.3			35.9			2.7			2.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	77.1
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	230	330	25	0	5	240	265
Future Vol, veh/h	0	95	185	15	0	230	330	25	0	5	240	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	235	337	26	0	5	245	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	29.9	171.7	22.9
HCM LOS	D	F	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	7%
Vol Thru, %	98%	0%	63%	56%	45%
Vol Right, %	0%	100%	5%	4%	47%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	265	295	585	275
LT Vol	5	0	95	230	20
Through Vol	240	0	185	330	125
RT Vol	0	265	15	25	130
Lane Flow Rate	250	270	301	597	281
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.581	0.575	0.69	1.294	0.639
Departure Headway (Hd)	9.188	8.448	9.053	7.802	9.143
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	395	430	403	466	398
Service Time	6.888	6.148	7.053	5.887	7.143
HCM Lane V/C Ratio	0.633	0.628	0.747	1.281	0.706
HCM Control Delay	23.9	22	29.9	171.7	27
HCM Lane LOS	C	C	D	F	D
HCM 95th-tile Q	3.5	3.5	5	25.5	4.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	125	130
Future Vol, veh/h	0	20	125	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	128	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	27
HCM LOS	D

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	290	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	290	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	69	76	0	69
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	315	0	0	27	0	0

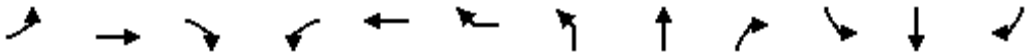
Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	-	0	-	-	0	384	391		
Stage 1	-	-	-	-	-	-	315	-		
Stage 2	-	-	-	-	-	-	69	-		
Critical Hdwy	-	-	-	-	-	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-		
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3		
Pot Cap-1 Maneuver	0	0	-	0	-	0	623	662		
Stage 1	0	0	-	0	-	0	744	-		
Stage 2	0	0	-	0	-	0	-	-		
Platoon blocked, %			-		-					
Mov Cap-1 Maneuver	-	-	-	-	-	-	623	620		
Mov Cap-2 Maneuver	-	-	-	-	-	-	623	-		
Stage 1	-	-	-	-	-	-	744	-		
Stage 2	-	-	-	-	-	-	-	-		

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	620
HCM Lane V/C Ratio	-	-	0.044
HCM Control Delay (s)	-	-	11.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	855	390	65	1455	0	0
Future Volume (vph)	0	0	855	390	65	1455	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.95	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1501	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1501	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	910	415	69	1548	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	910	415	69	1548	0	0
Confl. Peds. (#/hr)	11	10		11	10			
Confl. Bikes (#/hr)				102				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.5	36.5	11.5	57.0		
Effective Green, g (s)			36.5	36.5	11.5	57.0		
Actuated g/C Ratio			0.64	0.64	0.20	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2266	961	353	3505		
v/s Ratio Prot			0.26		0.04	c0.44		
v/s Ratio Perm				0.28				
v/c Ratio			0.40	0.43	0.20	0.44		
Uniform Delay, d1			5.0	5.1	18.9	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.1	0.1	0.0		
Delay (s)			5.0	5.2	19.0	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.1			0.8	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	2.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	57.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



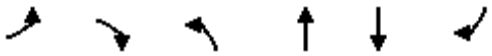
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	330	135	10	285	15	75	175	20	10	60	75
Future Volume (vph)	50	330	135	10	285	15	75	175	20	10	60	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.96			0.99			0.99			0.93	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3384			3509			1819			1727	
Flt Permitted		0.88			0.93			0.87			0.98	
Satd. Flow (perm)		2984			3282			1612			1692	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	363	148	11	313	16	82	192	22	11	66	82
RTOR Reduction (vph)	0	36	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	530	0	0	340	0	0	293	0	0	159	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1119			1230			862			905	
v/s Ratio Prot												
v/s Ratio Perm		c0.18			0.10			c0.18			0.09	
v/c Ratio		0.47			0.28			0.34			0.18	
Uniform Delay, d1		23.8			21.8			13.2			11.9	
Progression Factor		1.00			0.95			1.00			1.00	
Incremental Delay, d2		1.4			0.6			1.1			0.4	
Delay (s)		25.2			21.3			14.3			12.4	
Level of Service		C			C			B			B	
Approach Delay (s)		25.2			21.3			14.3			12.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	270	10	5	190	10	25	125	25	20	150	85
Future Volume (veh/h)	80	270	10	5	190	10	25	125	25	20	150	85
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	87	293	11	5	207	11	27	136	27	22	163	92
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	1175	45	52	1601	84	114	549	103	70	458	243
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	613	2422	93	31	3301	173	172	1292	242	74	1077	572
Grp Volume(v), veh/h	192	0	199	117	0	106	190	0	0	277	0	0
Grp Sat Flow(s),veh/h/ln	1449	0	1679	1840	0	1665	1706	0	0	1723	0	0
Q Serve(g_s), s	2.7	0.0	5.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	5.0	3.5	0.0	3.5	6.7	0.0	0.0	3.4	0.0	0.0
Prop In Lane	0.45		0.06	0.04		0.10	0.14		0.14	0.08		0.33
Lane Grp Cap(c), veh/h	755	0	814	930	0	807	766	0	0	771	0	0
V/C Ratio(X)	0.25	0.00	0.24	0.13	0.00	0.13	0.25	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	755	0	814	930	0	807	766	0	0	771	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.1	0.0	10.0	14.2	0.0	14.2	18.5	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.7	0.3	0.0	0.3	0.8	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	2.4	1.8	0.0	1.7	3.5	0.0	0.0	1.8	0.0	0.0
LnGrp Delay(d),s/veh	11.0	0.0	10.7	14.4	0.0	14.5	19.2	0.0	0.0	5.9	0.0	0.0
LnGrp LOS	B		B	B		B	B			A		
Approach Vol, veh/h		391			223			190			277	
Approach Delay, s/veh		10.8			14.5			19.2			5.9	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.5		8.7		8.2		5.4
Green Ext Time (p_c), s		0.7		0.5		0.7		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	11.8
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	65	455	480	135
Future Volume (vph)	160	150	65	455	480	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.88	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2943		1427	3252	2975	
Flt Permitted	0.97		0.38	1.00	1.00	
Satd. Flow (perm)	2943		568	3252	2975	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	68	474	500	141
RTOR Reduction (vph)	0	0	0	0	26	0
Lane Group Flow (vph)	323	0	68	474	615	0
Confl. Peds. (#/hr)	4	2	250			250
Confl. Bikes (#/hr)						7
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	33.5		56.0	56.0	56.0	
Effective Green, g (s)	33.5		56.0	56.0	56.0	
Actuated g/C Ratio	0.34		0.56	0.56	0.56	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	985		318	1821	1666	
v/s Ratio Prot	c0.11			0.15	c0.21	
v/s Ratio Perm			0.12			
v/c Ratio	0.33		0.21	0.26	0.37	
Uniform Delay, d1	24.8		11.0	11.3	12.2	
Progression Factor	0.71		0.35	0.38	0.45	
Incremental Delay, d2	0.9		1.4	0.3	0.6	
Delay (s)	18.6		5.2	4.6	6.1	
Level of Service	B		A	A	A	
Approach Delay (s)	18.6			4.7	6.1	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	112.9
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	285	0	85	315	0	405	180
Future Vol, veh/h	0	330	285	0	85	315	0	405	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	310	0	92	342	0	440	196
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	140.7	43.3	131.3
HCM LOS	F	E	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	69%	0%	21%
Vol Thru, %	0%	54%	79%
Vol Right, %	31%	46%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	585	615	400
LT Vol	405	0	85
Through Vol	0	330	315
RT Vol	180	285	0
Lane Flow Rate	636	668	435
Geometry Grp	1	1	1
Degree of Util (X)	1.198	1.223	0.86
Departure Headway (Hd)	7.201	7.166	7.968
Convergence, Y/N	Yes	Yes	Yes
Cap	509	515	457
Service Time	5.201	5.166	5.968
HCM Lane V/C Ratio	1.25	1.297	0.952
HCM Control Delay	131.3	140.7	43.3
HCM Lane LOS	F	F	E
HCM 95th-tile Q	22.4	23.7	8.7

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	35	30	20	0	50	25	50	0	10	185	25
Future Vol, veh/h	0	35	30	20	0	50	25	50	0	10	185	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	39	34	22	0	56	28	56	0	11	208	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.1	9.3	10.3
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	41%	40%	5%
Vol Thru, %	84%	35%	20%	88%
Vol Right, %	11%	24%	40%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	220	85	125	200
LT Vol	10	35	50	10
Through Vol	185	30	25	175
RT Vol	25	20	50	15
Lane Flow Rate	247	96	140	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.332	0.137	0.196	0.299
Departure Headway (Hd)	4.828	5.173	5.024	4.797
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	739	686	706	744
Service Time	2.895	3.262	3.106	2.866
HCM Lane V/C Ratio	0.334	0.14	0.198	0.302
HCM Control Delay	10.3	9.1	9.3	9.9
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.5	0.5	0.7	1.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	10	175	15
Future Vol, veh/h	0	10	175	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	197	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.9
HCM LOS	A

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	45	10	0	30	95	25	0	5	135	10
Future Vol, veh/h	0	20	45	10	0	30	95	25	0	5	135	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	52	11	0	34	109	29	0	6	155	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

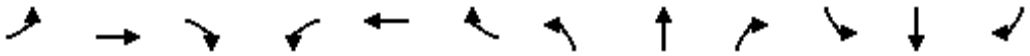
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.7	9.4	9.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	27%	20%	3%
Vol Thru, %	90%	60%	63%	85%
Vol Right, %	7%	13%	17%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	75	150	170
LT Vol	5	20	30	5
Through Vol	135	45	95	145
RT Vol	10	10	25	20
Lane Flow Rate	172	86	172	195
Geometry Grp	1	1	1	1
Degree of Util (X)	0.229	0.119	0.233	0.254
Departure Headway (Hd)	4.79	4.987	4.855	4.684
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	745	714	736	762
Service Time	2.846	3.053	2.911	2.737
HCM Lane V/C Ratio	0.231	0.12	0.234	0.256
HCM Control Delay	9.3	8.7	9.4	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.4	0.9	1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	145	20
Future Vol, veh/h	0	5	145	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	167	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.3
HCM LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	20	15	105	100	140	15	355	50	80	515	30
Future Volume (vph)	25	20	15	105	100	140	15	355	50	80	515	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.88			1.00	0.64	1.00	0.97		1.00	0.99	
Flpb, ped/bikes		0.91			0.80	1.00	0.92	1.00		0.89	1.00	
Frt		0.97			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1406			1346	934	1526	3147		1472	3241	
Flt Permitted		0.86			0.82	1.00	0.28	1.00		0.40	1.00	
Satd. Flow (perm)		1237			1133	934	457	3147		624	3241	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	21	16	111	105	147	16	374	53	84	542	32
RTOR Reduction (vph)	0	11	0	0	0	100	0	11	0	0	4	0
Lane Group Flow (vph)	0	52	0	0	216	47	16	416	0	84	570	0
Confl. Peds. (#/hr)	539		1069	1069		539	120		127	127		120
Confl. Bikes (#/hr)			146			59			17			8
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		32.0			32.0	32.0	28.5	28.5		28.5	28.5	
Effective Green, g (s)		32.0			32.0	32.0	28.5	28.5		28.5	28.5	
Actuated g/C Ratio		0.32			0.32	0.32	0.28	0.28		0.28	0.28	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		395			362	298	130	896		177	923	
v/s Ratio Prot								0.13			c0.18	
v/s Ratio Perm		0.04			c0.19	0.05	0.04			0.13		
v/c Ratio		0.13			0.60	0.16	0.12	0.46		0.47	0.62	
Uniform Delay, d1		24.1			28.6	24.3	26.5	29.5		29.6	31.0	
Progression Factor		1.00			1.00	1.00	1.40	1.36		0.73	0.72	
Incremental Delay, d2		0.7			7.1	1.1	1.8	1.6		8.4	2.9	
Delay (s)		24.8			35.7	25.5	38.8	41.8		30.0	25.3	
Level of Service		C			D	C	D	D		C	C	
Approach Delay (s)		24.8			31.5			41.6			25.9	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	125	0	15	20	0	235	5
Future Vol, veh/h	0	5	125	0	15	20	0	235	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	145	0	17	23	0	273	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.2	8.2	10.5
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	4%	57%
Vol Right, %	2%	96%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	240	130	35
LT Vol	235	0	15
Through Vol	0	5	20
RT Vol	5	125	0
Lane Flow Rate	279	151	41
Geometry Grp	1	1	1
Degree of Util (X)	0.37	0.179	0.055
Departure Headway (Hd)	4.773	4.27	4.865
Convergence, Y/N	Yes	Yes	Yes
Cap	759	842	736
Service Time	2.773	2.291	2.894
HCM Lane V/C Ratio	0.368	0.179	0.056
HCM Control Delay	10.5	8.2	8.2
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.7	0.6	0.2

Intersection	
Intersection Delay, s/veh	46.1
Intersection LOS	E

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	365	450	0	135	475	0	315	55
Future Vol, veh/h	0	365	450	0	135	475	0	315	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	384	474	0	142	500	0	332	58
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	45.9	53	35.2
HCM LOS	E	F	E

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	475	365	450	315	55
LT Vol	0	0	365	0	315	0
Through Vol	135	0	0	0	0	55
RT Vol	0	475	0	450	0	0
Lane Flow Rate	142	500	384	474	332	58
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.31	0.99	0.869	0.91	0.806	0.132
Departure Headway (Hd)	7.851	7.128	8.146	6.915	8.748	8.23
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	459	510	446	526	414	437
Service Time	5.58	4.856	5.878	4.647	6.483	5.965
HCM Lane V/C Ratio	0.309	0.98	0.861	0.901	0.802	0.133
HCM Control Delay	14.1	64.1	45.2	46.4	39.2	12.2
HCM Lane LOS	B	F	E	E	E	B
HCM 95th-tile Q	1.3	13.4	8.9	10.7	7.2	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	620	85	15	685	115	15
Future Volume (vph)	620	85	15	685	115	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		0.99	1.00	1.00	
Frt	0.98		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	1816		1766	1881	1748	
Flt Permitted	1.00		0.30	1.00	0.96	
Satd. Flow (perm)	1816		558	1881	1748	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	667	91	16	737	124	16
RTOR Reduction (vph)	4	0	0	0	5	0
Lane Group Flow (vph)	754	0	16	737	135	0
Confl. Peds. (#/hr)		22	22		18	12
Confl. Bikes (#/hr)		3				11
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	72.6		72.6	72.6	17.4	
Effective Green, g (s)	72.6		72.6	72.6	17.4	
Actuated g/C Ratio	0.73		0.73	0.73	0.17	
Clearance Time (s)	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	0.2		0.2	0.2	2.0	
Lane Grp Cap (vph)	1318		405	1365	304	
v/s Ratio Prot	c0.42			0.39	c0.08	
v/s Ratio Perm			0.03			
v/c Ratio	0.57		0.04	0.54	0.44	
Uniform Delay, d1	6.4		3.9	6.2	37.0	
Progression Factor	1.00		0.23	0.49	1.00	
Incremental Delay, d2	1.8		0.2	1.5	0.4	
Delay (s)	8.2		1.1	4.5	37.3	
Level of Service	A		A	A	D	
Approach Delay (s)	8.2			4.4	37.3	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

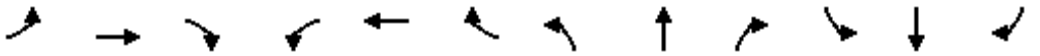
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	715	5	35	510	75	45	105	30	75	40	145
Future Volume (veh/h)	70	715	5	35	510	75	45	105	30	75	40	145
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.92	1.00		0.85	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	76	777	5	38	554	82	49	114	33	82	43	158
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	424	1445	9	360	1127	166	85	181	52	143	53	194
Arrive On Green	0.24	0.41	0.41	0.40	0.73	0.73	0.05	0.14	0.14	0.08	0.17	0.17
Sat Flow, veh/h	1757	3568	23	1792	3088	455	1707	1280	371	1740	303	1113
Grp Volume(v), veh/h	76	382	400	38	320	316	49	0	147	82	0	201
Grp Sat Flow(s),veh/h/ln	1757	1752	1839	1792	1787	1756	1707	0	1651	1740	0	1415
Q Serve(g_s), s	3.4	16.6	16.6	1.3	7.5	7.6	2.8	0.0	8.4	4.5	0.0	13.7
Cycle Q Clear(g_c), s	3.4	16.6	16.6	1.3	7.5	7.6	2.8	0.0	8.4	4.5	0.0	13.7
Prop In Lane	1.00		0.01	1.00		0.26	1.00		0.22	1.00		0.79
Lane Grp Cap(c), veh/h	424	710	745	360	652	641	85	0	234	143	0	246
V/C Ratio(X)	0.18	0.54	0.54	0.11	0.49	0.49	0.57	0.00	0.63	0.57	0.00	0.82
Avail Cap(c_a), veh/h	424	710	745	360	652	641	154	0	371	209	0	361
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	22.6	22.6	24.3	9.6	9.6	46.5	0.0	40.4	44.2	0.0	39.8
Incr Delay (d2), s/veh	0.1	2.3	2.2	0.0	2.5	2.6	2.3	0.0	1.0	1.3	0.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	8.4	8.8	0.7	4.0	4.0	1.4	0.0	3.9	2.2	0.0	5.7
LnGrp Delay(d),s/veh	30.2	24.9	24.8	24.3	12.1	12.2	48.7	0.0	41.5	45.5	0.0	45.4
LnGrp LOS	C	C	C	C	B	B	D		D	D		D
Approach Vol, veh/h		858			674			196			283	
Approach Delay, s/veh		25.4			12.8			43.3			45.4	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.1	41.0	12.2	18.7	24.1	45.0	9.0	21.9
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	12.0	36.5	12.0	22.5	8.0	40.5	9.0	25.5
Max Q Clear Time (g_c+I1), s	5.4	9.6	6.5	10.4	3.3	18.6	4.8	15.7
Green Ext Time (p_c), s	0.1	2.7	0.1	0.4	0.1	3.2	0.1	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	760	0	5	550	40	40	60	70	150	5	30
Future Volume (vph)	60	760	0	5	550	40	40	60	70	150	5	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.97			1.00	0.93		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.96	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3369			1845	1497		1678	
Flt Permitted	0.95	1.00		0.95	1.00			0.85	1.00		0.70	
Satd. Flow (perm)	1787	3574		1752	3369			1600	1497		1220	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	776	0	5	561	41	41	61	71	153	5	31
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	52	0	8	0
Lane Group Flow (vph)	61	776	0	5	598	0	0	102	19	0	181	0
Confl. Peds. (#/hr)	172		135	135		172	35		62	62		35
Confl. Bikes (#/hr)						4						1
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	9.2	59.7		1.0	51.5			26.3	26.3		26.3	
Effective Green, g (s)	9.2	59.7		1.0	51.5			26.3	26.3		26.3	
Actuated g/C Ratio	0.09	0.60		0.01	0.52			0.26	0.26		0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	164	2133		17	1735			420	393		320	
v/s Ratio Prot	c0.03	c0.22		0.00	0.18							
v/s Ratio Perm								0.06	0.01		c0.15	
v/c Ratio	0.37	0.36		0.29	0.34			0.24	0.05		0.57	
Uniform Delay, d1	42.7	10.4		49.1	14.3			29.0	27.5		31.9	
Progression Factor	0.61	0.48		0.81	0.16			1.00	1.00		1.00	
Incremental Delay, d2	0.5	0.5		3.1	0.5			0.3	0.1		2.3	
Delay (s)	26.5	5.4		43.1	2.8			29.3	27.6		34.2	
Level of Service	C	A		D	A			C	C		C	
Approach Delay (s)		7.0			3.2			28.6			34.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	950	15	45	510	200	15	200	280	430	130	70
Future Volume (vph)	15	950	15	45	510	200	15	200	280	430	130	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.91		0.86		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.92		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.98	
Satd. Flow (prot)	1787	3534		1703	3406	1394		2806		1573	1505	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.98	
Satd. Flow (perm)	1787	3534		1703	3406	1394		2806		1573	1505	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	1011	16	48	543	213	16	213	298	457	138	74
RTOR Reduction (vph)	0	1	0	0	0	67	0	109	0	0	10	0
Lane Group Flow (vph)	16	1026	0	48	543	146	0	418	0	334	325	0
Confl. Peds. (#/hr)	92		284	284		92	130		173	173		130
Confl. Bikes (#/hr)			1			18			24			12
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	2.0	33.8		4.1	35.9	59.1		20.9		23.2	23.2	
Effective Green, g (s)	2.0	33.8		4.1	35.9	59.1		20.9		23.2	23.2	
Actuated g/C Ratio	0.02	0.34		0.04	0.36	0.59		0.21		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	35	1194		69	1222	886		586		364	349	
v/s Ratio Prot	0.01	c0.29		c0.03	0.16	0.04		c0.15		0.21	c0.22	
v/s Ratio Perm						0.07						
v/c Ratio	0.46	0.86		0.70	0.44	0.17		0.71		0.92	0.93	
Uniform Delay, d1	48.5	30.9		47.3	24.4	9.3		36.8		37.5	37.6	
Progression Factor	0.80	0.76		1.00	1.00	1.00		1.00		0.90	0.91	
Incremental Delay, d2	3.3	7.9		21.7	1.2	0.1		3.4		23.2	26.6	
Delay (s)	41.9	31.3		69.1	25.6	9.4		40.2		57.1	60.9	
Level of Service	D	C		E	C	A		D		E	E	
Approach Delay (s)		31.5			23.9			40.2			59.0	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	150	110	60	65	15
Future Vol, veh/h	30	150	110	60	65	15
Conflicting Peds, #/hr	50	0	0	35	35	50
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	33	165	121	66	71	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	237	0	-	0	470	254
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	266	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1324	-	-	-	548	780
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1269	-	-	-	489	716
Mov Cap-2 Maneuver	-	-	-	-	489	-
Stage 1	-	-	-	-	791	-
Stage 2	-	-	-	-	720	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	13.3
HCM LOS			B

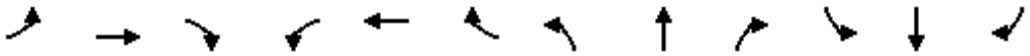
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1269	-	-	-	520
HCM Lane V/C Ratio	0.026	-	-	-	0.169
HCM Control Delay (s)	7.9	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	145	70	0	130	330	0	105	40
Future Vol, veh/h	0	145	70	0	130	330	0	105	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	161	78	0	144	367	0	117	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.9	18.8	9.8
HCM LOS	B	C	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	28%	67%	0%
Vol Thru, %	72%	0%	72%
Vol Right, %	0%	33%	28%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	460	215	145
LT Vol	130	145	0
Through Vol	330	0	105
RT Vol	0	70	40
Lane Flow Rate	511	239	161
Geometry Grp	1	1	1
Degree of Util (X)	0.703	0.372	0.232
Departure Headway (Hd)	4.955	5.607	5.185
Convergence, Y/N	Yes	Yes	Yes
Cap	736	643	693
Service Time	2.955	3.64	3.214
HCM Lane V/C Ratio	0.694	0.372	0.232
HCM Control Delay	18.8	11.9	9.8
HCM Lane LOS	C	B	A
HCM 95th-tile Q	5.8	1.7	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	120	10	5	445	5	0	0	5	0	0	10
Future Volume (vph)	10	120	10	5	445	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	126	11	5	468	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	137	478	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.06	0.08	-0.60	-0.60
Departure Headway (s)	5.5	4.9	4.3	4.7	4.7
Degree Utilization, x	0.02	0.19	0.57	0.01	0.01
Capacity (veh/h)	646	716	828	671	670
Control Delay (s)	7.4	7.8	12.8	7.7	7.7
Approach Delay (s)	7.8		12.8	7.7	7.7
Approach LOS	A		B	A	A

Intersection Summary				
Delay	11.5			
Level of Service	B			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	22.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	95	2150	60	60	920
Future Vol, veh/h	65	95	2150	60	60	920
Conflicting Peds, #/hr	0	3	0	0	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	68	100	2263	63	63	968

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2909	1169	0	0	2329	0
Stage 1	2298	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 13	189	-	-	210	-
Stage 1	~ 63	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 5	188	-	-	209	-
Mov Cap-2 Maneuver	~ 55	-	-	-	-	-
Stage 1	~ 63	-	-	-	-	-
Stage 2	177	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 462.7	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	95	209	-
HCM Lane V/C Ratio	-	-	1.773	0.302	-
HCM Control Delay (s)	-	-	$ 462.7	29.5	-
HCM Lane LOS	-	-	F	D	-
HCM 95th %tile Q(veh)	-	-	13.8	1.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2145	20	0	990
Future Vol, veh/h	5	40	2145	20	0	990
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2258	21	0	1042

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2795	1145	0	0	-	-
Stage 1	2271	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	15	193	-	-	0	-
Stage 1	64	-	-	-	0	-
Stage 2	559	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	15	192	-	-	-	-
Mov Cap-2 Maneuver	60	-	-	-	-	-
Stage 1	64	-	-	-	-	-
Stage 2	558	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	38.4	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	154	-
HCM Lane V/C Ratio	-	-	0.308	-
HCM Control Delay (s)	-	-	38.4	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	1.2	-

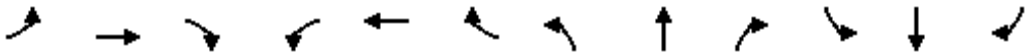
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2170	25	10	980
Future Vol, veh/h	0	5	2170	25	10	980
Conflicting Peds, #/hr	4	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2260	26	10	1021

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1151	0	0	2290	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	194	-	-	217	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	193	-	-	216	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

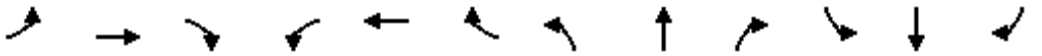
Approach	WB	NB	SB
HCM Control Delay, s	24.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	193	216	-
HCM Lane V/C Ratio	-	-	0.027	0.048	-
HCM Control Delay (s)	-	-	24.2	22.5	-
HCM Lane LOS	-	-	C	C	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	20	80	150	0	45	0	1685	5	0	895	85
Future Volume (vph)	405	20	80	150	0	45	0	1685	5	0	895	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.88	1.00		0.99		1.00			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.99	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1693	1388	1693		1594		3568			3426	
Flt Permitted	0.95	0.96	1.00	0.39		1.00		1.00			1.00	
Satd. Flow (perm)	1681	1693	1388	700		1594		3568			3426	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	422	21	83	156	0	47	0	1755	5	0	932	89
RTOR Reduction (vph)	0	0	65	0	0	11	0	0	0	0	4	0
Lane Group Flow (vph)	219	224	18	156	0	36	0	1760	0	0	1017	0
Confl. Peds. (#/hr)			66	66			32		153	153		32
Confl. Bikes (#/hr)			7			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA			NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)	26.7	26.7	26.7	26.7		26.7		84.3			84.3	
Effective Green, g (s)	26.7	26.7	26.7	26.7		26.7		84.3			84.3	
Actuated g/C Ratio	0.22	0.22	0.22	0.22		0.22		0.70			0.70	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	374	376	308	155		354		2506			2406	
v/s Ratio Prot								c0.49			0.30	
v/s Ratio Perm	0.13	0.13	0.01	c0.22		0.02						
v/c Ratio	0.59	0.60	0.06	1.01		0.10		0.70			0.42	
Uniform Delay, d1	41.7	41.8	36.8	46.6		37.1		10.5			7.6	
Progression Factor	0.73	0.73	1.50	1.00		1.00		0.68			1.00	
Incremental Delay, d2	1.2	1.4	0.0	74.0		0.0		1.0			0.5	
Delay (s)	31.7	31.9	55.0	120.6		37.2		8.1			8.1	
Level of Service	C	C	E	F		D		A			A	
Approach Delay (s)		35.5			101.3			8.1			8.1	
Approach LOS		D			F			A			A	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	1195	60	45	615	40	0	0	0	0	0	140
Future Volume (vph)	390	1195	60	45	615	40	0	0	0	0	0	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.70	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.97	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1135	1747	3508							1565
Flt Permitted	0.95	1.00	1.00	0.14	1.00							1.00
Satd. Flow (perm)	1805	3610	1135	260	3508							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	419	1285	65	48	661	43	0	0	0	0	0	151
RTOR Reduction (vph)	0	0	29	0	7	0	0	0	0	0	0	26
Lane Group Flow (vph)	419	1285	36	48	697	0	0	0	0	0	0	125
Confl. Peds. (#/hr)			168	168		350			584	584		
Confl. Bikes (#/hr)			6			7		7				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	17.1	32.9	32.9	32.9	32.9							17.1
Effective Green, g (s)	17.1	32.9	32.9	32.9	32.9							17.1
Actuated g/C Ratio	0.29	0.55	0.55	0.55	0.55							0.29
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	514	1979	622	142	1923							446
v/s Ratio Prot	c0.23	c0.36			0.20							0.08
v/s Ratio Perm			0.03	0.18								
v/c Ratio	0.82	0.65	0.06	0.34	0.36							0.28
Uniform Delay, d1	20.0	9.5	6.3	7.5	7.6							16.7
Progression Factor	1.00	1.00	1.00	1.25	1.09							1.07
Incremental Delay, d2	9.2	1.7	0.2	6.2	0.5							0.1
Delay (s)	29.1	11.2	6.5	15.5	8.8							17.9
Level of Service	C	B	A	B	A							B
Approach Delay (s)		15.3			9.2			0.0			17.9	
Approach LOS		B			A			A			B	

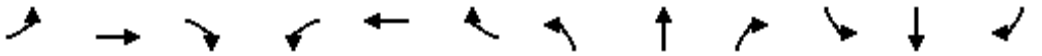
Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1180	15	40	695	65	65
Future Volume (vph)	1180	15	40	695	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.80	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1227	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1227	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1255	16	43	739	69	69
RTOR Reduction (vph)	0	2	0	0	0	64
Lane Group Flow (vph)	1255	14	43	739	69	5
Confl. Peds. (#/hr)		61	61		34	
Confl. Bikes (#/hr)		6				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.4	83.4	14.1	96.9	9.0	9.0
Effective Green, g (s)	83.4	83.4	14.1	96.9	9.0	9.0
Actuated g/C Ratio	0.70	0.70	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2389	852	194	2674	135	119
v/s Ratio Prot	c0.37		c0.03	0.22	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.53	0.02	0.22	0.28	0.51	0.04
Uniform Delay, d1	8.8	5.6	48.0	2.9	53.4	51.5
Progression Factor	1.24	1.59	0.74	3.85	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.2	0.0	1.4	0.1
Delay (s)	11.5	9.0	35.6	11.0	54.7	51.6
Level of Service	B	A	D	B	D	D
Approach Delay (s)	11.5			12.4	53.2	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1245	0	55	20	655	1670	15	5	1090	20
Future Volume (vph)	0	0	1245	0	55	20	655	1670	15	5	1090	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	0.68
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3517		1752	3505	1063
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3517		1752	3505	1063
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1284	0	57	21	675	1722	15	5	1124	21
RTOR Reduction (vph)	0	0	257	0	0	19	0	0	0	0	0	12
Lane Group Flow (vph)	0	0	1027	0	57	2	675	1737	0	5	1124	9
Confl. Peds. (#/hr)							199		261	261		199
Confl. Bikes (#/hr)												3
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			101.0		13.1	13.1	28.7	68.2		1.0	54.2	54.2
Effective Green, g (s)			96.0		13.1	13.1	28.7	61.2		1.0	54.2	54.2
Actuated g/C Ratio			0.80		0.11	0.11	0.24	0.51		0.01	0.45	0.45
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2229		203	172	821	1793		14	1583	480
v/s Ratio Prot					0.03		c0.20	c0.49		0.00	0.32	
v/s Ratio Perm			c0.37			0.00						0.01
v/c Ratio			0.46		0.28	0.01	0.82	0.97		0.36	0.71	0.02
Uniform Delay, d1			3.8		49.1	47.7	43.2	28.5		59.2	26.6	18.2
Progression Factor			1.00		1.00	1.00	0.81	1.32		0.94	0.87	1.00
Incremental Delay, d2			0.0		0.3	0.0	5.5	12.9		5.1	2.5	0.1
Delay (s)			3.8		49.4	47.7	40.5	50.4		61.0	25.6	18.3
Level of Service			A		D	D	D	D		E	C	B
Approach Delay (s)		3.8			48.9			47.6			25.7	
Approach LOS		A			D			D			C	

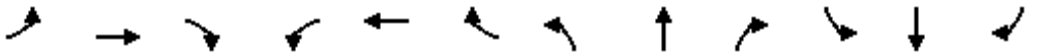
Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	790	200	1745	30	30	1735	545	30
Future Volume (vph)	790	200	1745	30	30	1735	545	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4897		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4897		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	823	217	1818	33	33	1807	592	33
RTOR Reduction (vph)	253	0	0	15	0	36	0	0
Lane Group Flow (vph)	570	217	1818	18	33	2363	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	33.7	13.2	64.2	64.2	15.7	84.7		5.6
Effective Green, g (s)	33.7	13.2	64.2	64.2	15.7	84.7		5.6
Actuated g/C Ratio	0.28	0.11	0.54	0.54	0.13	0.71		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	782	377	1893	846	231	3456		75
v/s Ratio Prot	c0.20	0.06	c0.51		0.02	c0.38		c0.02
v/s Ratio Perm				0.01		0.10		
v/c Ratio	0.73	0.58	0.96	0.02	0.14	0.68		0.44
Uniform Delay, d1	39.0	50.7	26.7	13.1	46.2	10.0		55.7
Progression Factor	1.00	1.00	1.01	1.00	0.91	2.61		1.00
Incremental Delay, d2	3.4	1.6	10.9	0.0	0.3	0.5		4.1
Delay (s)	42.4	52.2	38.0	13.2	42.4	26.7		59.8
Level of Service	D	D	D	B	D	C		E
Approach Delay (s)			39.0			26.9		
Approach LOS			D			C		

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	590	25	60	115	5	425	90	725	5	165	845	725
Future Volume (vph)	590	25	60	115	5	425	90	725	5	165	845	725
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.92	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.92
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1463	1752	1845	1568	3367	3463		1752	3505	1438
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1463	1752	1845	1568	3367	3463		1752	3505	1438
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	621	26	63	121	5	447	95	763	5	174	889	763
RTOR Reduction (vph)	0	0	49	0	0	62	0	1	0	0	0	464
Lane Group Flow (vph)	323	324	14	121	5	385	95	767	0	174	889	299
Confl. Peds. (#/hr)	2		48	48		2	89		136	136		89
Confl. Bikes (#/hr)						4			6			8
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.4	26.4	26.4	22.2	22.2	41.5	6.4	38.6		14.8	47.0	47.0
Effective Green, g (s)	26.4	26.4	26.4	22.2	22.2	41.5	6.4	38.6		14.8	47.0	47.0
Actuated g/C Ratio	0.22	0.22	0.22	0.18	0.18	0.35	0.05	0.32		0.12	0.39	0.39
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	369	372	321	324	341	542	179	1113		216	1372	563
v/s Ratio Prot	c0.19	0.19		0.07	0.00	c0.25	0.03	c0.22		0.10	0.25	
v/s Ratio Perm			0.01									0.21
v/c Ratio	0.88	0.87	0.04	0.37	0.01	0.71	0.53	0.69		0.81	0.65	0.53
Uniform Delay, d1	45.2	45.2	36.9	42.8	40.0	34.0	55.3	35.5		51.2	29.8	28.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.94	0.92	2.88
Incremental Delay, d2	19.5	18.9	0.0	0.7	0.0	4.4	1.5	3.5		14.2	1.8	2.7
Delay (s)	64.7	64.0	36.9	43.5	40.0	38.4	56.9	39.0		62.2	29.2	83.5
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		61.9			39.5			40.9			55.0	
Approach LOS		E			D			D			E	

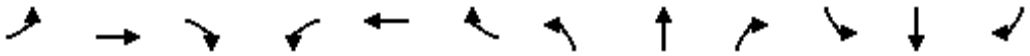
Intersection Summary			
HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	174	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	174	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				178	128	179
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1345	562	300	2713	0				501	263	220
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2530	1017	1774	3632	0				3619	1900	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				178	128	179
Grp Sat Flow(s),veh/h/ln	0	1787	1666	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				4.5	6.2	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				4.5	6.2	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	987	920	300	2713	0				501	263	220
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.36	0.49	0.81
Avail Cap(c_a), veh/h	0	987	920	452	2713	0				651	342	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				39.0	39.8	41.8
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.3	1.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.2	3.3	5.5
LnGrp Delay(d),s/veh	0.0	16.2	16.3	41.6	0.3	0.0				39.3	40.8	53.6
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						485	
Approach Delay, s/veh		16.2			7.7						45.0	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.7		18.8		81.2		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.8		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	574	0	0	830	339	605	230	365	0	0	0
Future Volume (vph)	305	574	0	0	830	339	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.87	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1381	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1381	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	598	0	0	865	353	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	81	0	0	176	0	0	0
Lane Group Flow (vph)	318	598	0	0	865	272	428	442	204	0	0	0
Confl. Peds. (#/hr)	24		22	22		24			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	459	551	567	507			
v/s Ratio Prot	c0.18	0.17			c0.24		0.25	c0.25				
v/s Ratio Perm						0.20			0.13			
v/c Ratio	0.86	0.29			0.73	0.59	0.78	0.78	0.40			
Uniform Delay, d1	38.3	10.3			29.4	27.7	30.5	30.5	26.2			
Progression Factor	0.83	0.69			0.54	0.44	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.6	4.8	10.3	10.2	2.4			
Delay (s)	48.1	7.5			19.4	17.1	40.8	40.7	28.6			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		21.6			18.7			37.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	819	30	5	1084	5	40	20	30	15	10	15
Future Volume (veh/h)	20	819	30	5	1084	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.96		0.94	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	836	31	5	1106	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	59	2005	73	38	2134	10	233	115	150	209	143	182
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	35	3314	121	4	3528	16	583	372	485	515	461	586
Grp Volume(v), veh/h	457	0	430	584	0	532	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1684	1856	0	1691	1440	0	0	1562	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.04		0.07	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.50	0.00	0.52	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.3	1.6	0.0	1.9	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.5	0.0	0.5	2.0	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.3	1.6	0.0	1.9	26.1	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		887			1116			92			40	
Approach Delay, s/veh		1.2			1.7			26.1			24.6	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		35.0		65.0		35.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		60.5		31.0		60.5		31.0
Max Q Clear Time (g_c+I1), s		2.0		6.3		2.0		3.6
Green Ext Time (p_c), s		2.5		0.1		2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	3.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	789	85	105	969	0	0	0	0	124	685	130
Future Volume (veh/h)	0	789	85	105	969	0	0	0	0	124	685	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	813	88	108	999	0				128	706	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1764	191	0	1967	0				195	1134	526
Arrive On Green	0.00	0.55	0.55	0.00	1.00	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	3331	350	0	3705	0				534	3107	1442
Grp Volume(v), veh/h	0	449	452	0	999	0				444	390	134
Grp Sat Flow(s),veh/h/ln	0	1787	1801	0	1805	0				1854	1787	1442
Q Serve(g_s), s	0.0	15.3	15.3	0.0	0.0	0.0				20.0	17.7	6.5
Cycle Q Clear(g_c), s	0.0	15.3	15.3	0.0	0.0	0.0				20.0	17.7	6.5
Prop In Lane	0.00		0.19	0.00		0.00				0.29		1.00
Lane Grp Cap(c), veh/h	0	974	981	0	1967	0				677	652	526
V/C Ratio(X)	0.00	0.46	0.46	0.00	0.51	0.00				0.66	0.60	0.25
Avail Cap(c_a), veh/h	0	974	981	0	1967	0				677	652	526
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	0.0	0.0	0.0				26.5	25.8	22.2
Incr Delay (d2), s/veh	0.0	1.6	1.6	0.0	0.9	0.0				4.9	4.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.9	8.0	0.0	0.3	0.0				11.2	9.4	2.7
LnGrp Delay(d),s/veh	0.0	15.4	15.4	0.0	0.9	0.0				31.4	29.8	23.4
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		901			999						968	
Approach Delay, s/veh		15.4			0.9						29.7	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.0			0.0	59.0		41.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			13.7	36.3		36.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	17.3		22.0
Green Ext Time (p_c), s		2.8			0.0	2.7		0.9

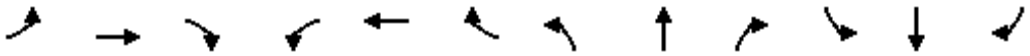
Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	683	0	0	827	93	237	770	70	0	0	0
Future Volume (veh/h)	210	683	0	0	827	93	237	770	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	727	0	0	880	99	252	819	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	63	863	0	0	1360	153	289	991	93			
Arrive On Green	0.36	0.36	0.00	0.00	0.85	0.85	0.13	0.13	0.13			
Sat Flow, veh/h	2	1714	0	0	3301	361	760	2607	245			
Grp Volume(v), veh/h	316	634	0	0	490	489	605	0	540			
Grp Sat Flow(s),veh/h/ln	5	1627	0	0	1787	1780	1825	0	1786			
Q Serve(g_s), s	39.4	34.0	0.0	0.0	9.2	9.2	32.6	0.0	29.3			
Cycle Q Clear(g_c), s	39.4	34.0	0.0	0.0	9.2	9.2	32.6	0.0	29.3			
Prop In Lane	0.71		0.00	0.00		0.20	0.42		0.14			
Lane Grp Cap(c), veh/h	0	862	0	0	758	755	693	0	679			
V/C Ratio(X)	0.00	0.74	0.00	0.00	0.65	0.65	0.87	0.00	0.79			
Avail Cap(c_a), veh/h	0	862	0	0	758	755	693	0	679			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	26.1	0.0	0.0	5.1	5.1	41.4	0.0	39.9			
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	4.2	4.3	14.3	0.0	9.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	16.6	0.0	0.0	5.0	5.0	19.2	0.0	16.3			
LnGrp Delay(d),s/veh	0.0	31.7	0.0	0.0	9.3	9.3	55.6	0.0	49.3			
LnGrp LOS		C			A	A	E		D			
Approach Vol, veh/h		950			979			1145				
Approach Delay, s/veh		21.1			9.3			52.6				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		46.9		42.5		57.5		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 42		38.0		53.0		
Max Q Clear Time (g_c+I1), s		11.2		34.6		41.4		
Green Ext Time (p_c), s		1.1		0.8		2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	513	118	25	740	50	30	50	15	10	90	75
Future Volume (vph)	80	513	118	25	740	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.98			0.98			0.97	
Flpb, ped/bikes		0.99			1.00			0.99			0.99	
Frt		0.98			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3102			3371			1767			1686	
Flt Permitted		0.70			0.92			0.89			0.99	
Satd. Flow (perm)		2180			3092			1599			1671	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	534	123	26	771	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	17	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	723	0	0	844	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	120		200	200		120	92		159	159		92
Confl. Bikes (#/hr)			1			3			14			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1035			1468			703			735	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.27			0.06			c0.09	
v/c Ratio		0.70			0.58			0.13			0.21	
Uniform Delay, d1		20.6			19.0			16.6			17.3	
Progression Factor		1.07			0.37			0.92			1.00	
Incremental Delay, d2		1.9			1.5			0.3			0.7	
Delay (s)		24.0			8.4			15.6			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		24.0			8.4			15.6			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	430	53	20	663	20	77	160	30	10	165	70
Future Volume (veh/h)	85	430	53	20	663	20	77	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.79	0.92		0.78	0.92		0.84	0.90		0.85
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	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	457	56	21	705	21	82	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	215	1040	127	60	1555	46	203	401	71	48	474	192
Arrive On Green	0.95	0.95	0.95	0.95	0.95	0.95	0.87	0.87	0.87	0.44	0.44	0.44
Sat Flow, veh/h	353	2190	268	46	3274	96	361	921	163	25	1090	441
Grp Volume(v), veh/h	277	0	326	391	0	356	284	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1249	0	1563	1785	0	1631	1444	0	0	1556	0	0
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	1.8	1.8	0.0	1.9	3.2	0.0	0.0	11.2	0.0	0.0
Prop In Lane	0.33		0.17	0.05		0.06	0.29		0.11	0.04		0.28
Lane Grp Cap(c), veh/h	641	0	742	886	0	775	675	0	0	714	0	0
V/C Ratio(X)	0.43	0.00	0.44	0.44	0.00	0.46	0.42	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	641	0	742	886	0	775	675	0	0	714	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.3	0.0	1.4	1.4	0.0	1.4	3.9	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	1.9	1.6	0.0	2.0	1.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.9	1.0	0.0	1.0	1.8	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	3.5	0.0	3.2	3.0	0.0	3.3	5.8	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	A		A	A		A	A			C		
Approach Vol, veh/h		603			747			284			261	
Approach Delay, s/veh		3.3			3.1			5.8			20.6	
Approach LOS		A			A			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.0		48.0		52.0		48.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.5		43.5		47.5		43.5
Max Q Clear Time (g_c+I1), s		3.9		5.2		3.8		13.2
Green Ext Time (p_c), s		1.9		0.8		1.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	345	55	50	472	25	211	420	40	20	330	20
Future Volume (veh/h)	70	345	55	50	472	25	211	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.75	0.97		0.85	0.99		0.92	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	363	58	53	497	26	222	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	143	714	123	110	1015	55	482	923	89	63	886	52
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	1.00	1.00	1.00	0.55	0.55	0.55
Sat Flow, veh/h	262	1955	337	186	2782	150	768	1694	163	46	1626	95
Grp Volume(v), veh/h	242	0	253	290	0	286	290	0	416	389	0	0
Grp Sat Flow(s),veh/h/ln	1084	0	1470	1464	0	1653	1008	0	1618	1767	0	0
Q Serve(g_s), s	9.3	0.0	13.2	4.5	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.6	0.0	13.2	17.7	0.0	13.3	0.0	0.0	0.0	12.4	0.0	0.0
Prop In Lane	0.31		0.23	0.18		0.09	0.77		0.10	0.05		0.05
Lane Grp Cap(c), veh/h	443	0	537	577	0	604	613	0	882	1001	0	0
V/C Ratio(X)	0.55	0.00	0.47	0.50	0.00	0.47	0.47	0.00	0.47	0.39	0.00	0.00
Avail Cap(c_a), veh/h	443	0	537	577	0	604	613	0	882	1001	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.7	0.0	24.4	24.9	0.0	24.4	0.0	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.0	3.0	3.1	0.0	2.7	2.6	0.0	1.8	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	5.8	6.9	0.0	6.5	0.4	0.0	0.4	6.5	0.0	0.0
LnGrp Delay(d),s/veh	32.5	0.0	27.3	28.0	0.0	27.1	2.6	0.0	1.8	14.3	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		495			576			706			389	
Approach Delay, s/veh		29.8			27.5			2.1			14.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.0		59.0		41.0		59.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		36.5		54.5		36.5		54.5
Max Q Clear Time (g_c+I1), s		19.7		2.0		24.6		14.4
Green Ext Time (p_c), s		6.6		9.9		5.5		9.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	389	111	25	370	10	237	95	25	15	80	20
Future Volume (vph)	25	389	111	25	370	10	237	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3277			1838			1785			1773	
Flt Permitted		0.92			0.94			0.97			0.99	
Satd. Flow (perm)		3024			1742			1785			1773	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	427	122	27	407	11	260	104	27	16	88	22
RTOR Reduction (vph)	0	22	0	0	1	0	0	2	0	0	7	0
Lane Group Flow (vph)	0	554	0	0	444	0	0	389	0	0	119	0
Confl. Peds. (#/hr)	56		83	83		56	87		66	66		87
Confl. Bikes (#/hr)						2			42			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		42.4			42.4			33.5			21.1	
Effective Green, g (s)		42.4			42.4			33.5			21.1	
Actuated g/C Ratio		0.38			0.38			0.30			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1160			668			541			338	
v/s Ratio Prot								c0.22			c0.07	
v/s Ratio Perm		0.18			c0.26							
v/c Ratio		0.48			0.67			0.72			0.35	
Uniform Delay, d1		25.7			28.2			34.3			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.4			5.2			8.0			2.9	
Delay (s)		27.1			33.4			42.3			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		27.1			33.4			42.3			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	59	0	5	30	5	0	125	65	5
Future Vol, veh/h	0	315	30	59	0	5	30	5	0	125	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	66	0	6	34	6	0	140	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

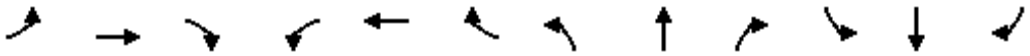
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	22.8	10.3	13
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	64%	78%	12%	1%
Vol Thru, %	33%	7%	75%	16%
Vol Right, %	3%	15%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	404	40	340
LT Vol	125	315	5	5
Through Vol	65	30	30	55
RT Vol	5	59	5	280
Lane Flow Rate	219	454	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.377	0.727	0.083	0.571
Departure Headway (Hd)	6.191	5.764	6.667	5.381
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	576	622	541	665
Service Time	4.289	3.834	4.667	3.467
HCM Lane V/C Ratio	0.38	0.73	0.083	0.574
HCM Control Delay	13	22.8	10.3	15.5
HCM Lane LOS	B	C	B	C
HCM 95th-tile Q	1.7	6.2	0.3	3.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

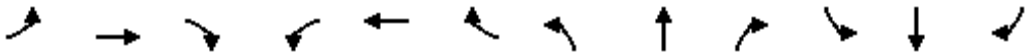
Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15.5
HCM LOS	C



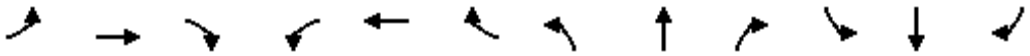
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	855	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	855	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1742			1737						3469	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1742			1326						3469	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	910	37
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	121	0	0	175	0	0	0	0	0	980	0
Confl. Peds. (#/hr)	78		113	113		78	114		59	59		114
Confl. Bikes (#/hr)			6			23						11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		400			304						2012	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.28	
v/c Ratio		0.30			0.58						0.49	
Uniform Delay, d1		15.9			17.1						6.1	
Progression Factor		1.00			0.89						2.22	
Incremental Delay, d2		0.6			2.8						0.6	
Delay (s)		16.5			18.0						14.2	
Level of Service		B			B						B	
Approach Delay (s)		16.5			18.0			0.0			14.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	917	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	917	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.93			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1622			3495				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1622			3495				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	986	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	54	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	182	0	0	1092	0	0	0	0
Confl. Peds. (#/hr)	89		93	93		89	44		48	48		44
Confl. Bikes (#/hr)			14			30			81			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.5			10.5			29.5				
Effective Green, g (s)		10.5			10.5			29.5				
Actuated g/C Ratio		0.21			0.21			0.59				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		399			340			2062				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.31				
v/c Ratio		0.30			0.54			0.53				
Uniform Delay, d1		16.6			17.6			6.1				
Progression Factor		1.18			0.93			1.03				
Incremental Delay, d2		0.1			0.8			0.8				
Delay (s)		19.7			17.0			7.1				
Level of Service		B			B			A				
Approach Delay (s)		19.7			17.0			7.1			0.0	
Approach LOS		B			B			A			A	

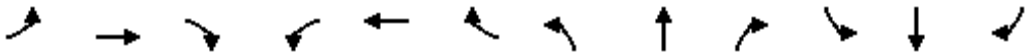
Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	551	40	25	405	35
Future Volume (vph)	75	70	60	25	35	65	115	551	40	25	405	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.95			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			1.00	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1623			1551			3310			1710	
Flt Permitted		0.85			0.92			0.81			0.95	
Satd. Flow (perm)		1398			1438			2691			1621	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	592	43	27	435	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	9	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	750	0	0	494	0
Confl. Peds. (#/hr)	140		146	146		140	175		131	131		175
Confl. Bikes (#/hr)			6			4			24			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		419			431			1426			859	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.28			c0.30	
v/c Ratio		0.46			0.20			0.53			0.57	
Uniform Delay, d1		14.2			13.0			7.7			7.9	
Progression Factor		1.54			1.00			1.02			0.58	
Incremental Delay, d2		3.5			1.0			0.7			2.6	
Delay (s)		25.3			14.1			8.5			7.2	
Level of Service		C			B			A			A	
Approach Delay (s)		25.3			14.1			8.5			7.2	
Approach LOS		C			B			A			A	

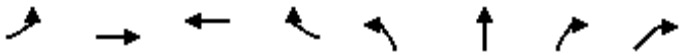
Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	701	250	541	894	0	0	0	0	299	220	220
Future Volume (vph)	0	701	250	541	894	0	0	0	0	299	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3296		3433	3539					1579	2997	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		3296		3433	3539					1579	2997	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	730	260	564	931	0	0	0	0	311	229	229
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	952	0	564	931	0	0	0	0	261	430	0
Confl. Peds. (#/hr)	128		138	138		128	35					35
Confl. Bikes (#/hr)			2			8						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		33.8		28.2	66.5					24.0	24.0	
Effective Green, g (s)		33.8		28.2	66.5					24.0	24.0	
Actuated g/C Ratio		0.34		0.28	0.66					0.24	0.24	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1114		968	2353					378	719	
v/s Ratio Prot		c0.29		c0.16	0.26					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.85		0.58	0.40					0.69	0.60	
Uniform Delay, d1		30.8		30.8	7.6					34.6	33.7	
Progression Factor		1.00		1.07	1.35					1.29	1.38	
Incremental Delay, d2		6.6		1.2	0.2					9.0	3.3	
Delay (s)		37.4		34.0	10.5					53.5	49.9	
Level of Service		D		C	B					D	D	
Approach Delay (s)		37.4			19.4			0.0			51.1	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	760	952	390	493	440	523	60
Future Volume (vph)	235	760	952	390	493	440	523	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	2996		3400	1705	1430	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	2996		3400	1705	1430	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	800	1002	411	519	463	551	63
RTOR Reduction (vph)	0	0	45	0	0	6	82	0
Lane Group Flow (vph)	247	800	1368	0	519	534	392	63
Confl. Peds. (#/hr)	294			294	95		24	
Confl. Bikes (#/hr)				24				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	15.1	56.5	42.3		29.1	29.1	29.1	58.9
Effective Green, g (s)	15.1	56.5	42.3		29.1	29.1	29.1	58.9
Actuated g/C Ratio	0.15	0.56	0.42		0.29	0.29	0.29	0.59
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	262	1961	1267		989	496	416	940
v/s Ratio Prot	c0.14	0.23	c0.46		0.15	c0.31		0.00
v/s Ratio Perm							0.27	0.04
v/c Ratio	0.94	0.41	1.08		0.52	1.08	0.94	0.07
Uniform Delay, d1	42.0	12.3	28.9		29.7	35.5	34.6	8.8
Progression Factor	1.19	1.53	1.08		1.00	1.00	1.00	1.00
Incremental Delay, d2	29.9	0.4	48.3		2.0	62.8	32.0	0.0
Delay (s)	79.8	19.2	79.5		31.7	98.2	66.6	8.8
Level of Service	E	B	E		C	F	E	A
Approach Delay (s)		33.5	79.5			65.9		
Approach LOS		C	E			E		

Intersection Summary			
HCM 2000 Control Delay	61.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1209	10	10	1327	5	95
Future Vol, veh/h	1209	10	10	1327	5	95
Conflicting Peds, #/hr	0	224	224	0	224	224
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1300	11	11	1427	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1535	0	2488	1103
Stage 1	-	-	-	-	1529	-
Stage 2	-	-	-	-	959	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	425	-	25	209
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	337	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	346	-	16	138
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	265	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	82.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	346	-
HCM Lane V/C Ratio	0.74	-	-	0.031	-
HCM Control Delay (s)	82.7	-	-	15.7	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

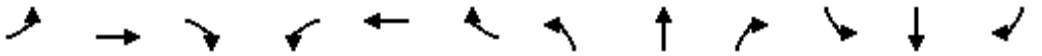
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1214	1312	30	5	25
Future Vol, veh/h	95	1214	1312	30	5	25
Conflicting Peds, #/hr	150	0	0	148	148	150
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1278	1381	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1563	0	-	0	2534	1006
Stage 1	-	-	-	-	1547	-
Stage 2	-	-	-	-	987	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	414	-	-	-	23	243
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	326	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	362	-	-	-	13	186
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	206	-

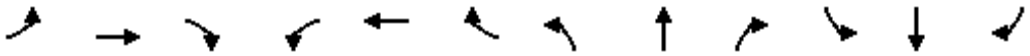
Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	34.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	362	-	-	-	154
HCM Lane V/C Ratio	0.276	-	-	-	0.205
HCM Control Delay (s)	18.7	-	-	-	34.3
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	0.7



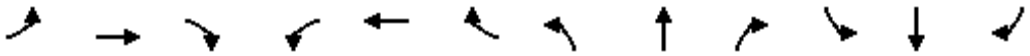
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	999	235	232	1202	0	0	0	0	45	810	130
Future Volume (vph)	0	999	235	232	1202	0	0	0	0	45	810	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.65
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3200		1736	3471						3505	1033
Flt Permitted		1.00		0.09	1.00						1.00	1.00
Satd. Flow (perm)		3200		159	3471						3505	1033
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1041	245	242	1252	0	0	0	0	47	844	135
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1266	0	242	1252	0	0	0	0	0	891	88
Confl. Peds. (#/hr)	269		232	232		269	298		90	90		298
Confl. Bikes (#/hr)			2			17						35
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.5		59.1	63.6						27.4	27.4
Effective Green, g (s)		46.5		59.1	63.6						27.4	27.4
Actuated g/C Ratio		0.46		0.59	0.64						0.27	0.27
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1488		292	2207						960	283
v/s Ratio Prot		c0.40		c0.10	0.36							
v/s Ratio Perm				0.39							0.25	0.09
v/c Ratio		0.85		0.83	0.57						0.93	0.31
Uniform Delay, d1		23.7		32.7	10.4						35.3	28.8
Progression Factor		0.87		0.91	0.65						1.39	1.96
Incremental Delay, d2		5.3		13.0	0.2						13.4	0.2
Delay (s)		26.0		42.7	6.9						62.6	56.7
Level of Service		C		D	A						E	E
Approach Delay (s)		26.0			12.7			0.0			61.9	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



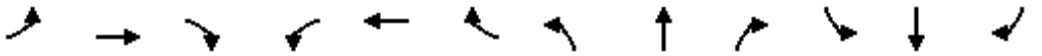
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	964	0	0	993	30	421	932	151	0	0	0
Future Volume (vph)	5	964	0	0	993	30	421	932	151	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.77			
Flpb, ped/bikes		1.00			1.00		0.91	1.00	1.00			
Frt		1.00			1.00		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3504			3421		1623	3574	1234			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3331			3421		1623	3574	1234			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1026	0	0	1056	32	448	991	161	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	1031	0	0	1086	0	448	991	144	0	0	0
Confl. Peds. (#/hr)	243		130	130		243	55		112	112		55
Confl. Bikes (#/hr)						16			93			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		48.5			48.5		42.5	42.5	42.5			
Effective Green, g (s)		48.5			48.5		42.5	42.5	42.5			
Actuated g/C Ratio		0.48			0.48		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1615			1659		689	1518	524			
v/s Ratio Prot					c0.32			c0.28				
v/s Ratio Perm		0.31					0.28		0.12			
v/c Ratio		0.64			0.65		0.65	0.65	0.27			
Uniform Delay, d1		19.2			19.4		22.8	22.9	18.7			
Progression Factor		0.23			0.60		0.83	0.83	0.84			
Incremental Delay, d2		1.0			1.8		2.5	1.2	0.7			
Delay (s)		5.4			13.5		21.5	20.2	16.4			
Level of Service		A			B		C	C	B			
Approach Delay (s)		5.4			13.5			20.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	985	60	48	953	15	40	60	45	20	52	35
Future Volume (vph)	85	985	60	48	953	15	40	60	45	20	52	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3311		1703	3367			1601			1582	
Flt Permitted	0.95	1.00		0.95	1.00			0.88			0.93	
Satd. Flow (perm)	1736	3311		1703	3367			1431			1482	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	1048	64	51	1014	16	43	64	48	21	55	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	90	1109	0	51	1029	0	0	138	0	0	94	0
Confl. Peds. (#/hr)	214		302	302		214	72		98	98		72
Confl. Bikes (#/hr)			2			9			30			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Effective Green, g (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Actuated g/C Ratio	0.10	0.65		0.05	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2158		86	2006			238			247	
v/s Ratio Prot	c0.05	c0.33		0.03	0.31							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.51	0.51		0.59	0.51			0.58			0.38	
Uniform Delay, d1	42.5	9.1		46.4	11.8			38.4			37.0	
Progression Factor	0.71	0.26		0.81	0.67			1.00			1.00	
Incremental Delay, d2	0.7	0.7		5.4	0.7			2.1			0.4	
Delay (s)	31.0	3.1		42.8	8.6			40.5			37.4	
Level of Service	C	A		D	A			D			D	
Approach Delay (s)		5.2			10.2			40.5			37.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	953	37	85	873	30	83	50	10	60	38	130
Future Volume (vph)	100	953	37	85	873	30	83	50	10	60	38	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.97			0.98			1.00	0.68		1.00	0.74
Flpb, ped/bikes	1.00	1.00			0.99			0.87	1.00		0.86	1.00
Frt	1.00	0.99			1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1736	3336			3294			1595	1104		1564	1179
Flt Permitted	0.95	1.00			0.74			0.72	1.00		0.63	1.00
Satd. Flow (perm)	1736	3336			2441			1184	1104		1009	1179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1014	39	90	929	32	88	53	11	64	40	138
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	1050	0	0	1049	0	0	141	2	0	104	22
Confl. Peds. (#/hr)	337		693	693		337	152		193	193		152
Confl. Bikes (#/hr)			9			12			9			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	9.0	74.8			61.8			16.2	16.2		16.2	16.2
Effective Green, g (s)	9.0	74.8			61.8			16.2	16.2		16.2	16.2
Actuated g/C Ratio	0.09	0.75			0.62			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	156	2495			1508			191	178		163	190
v/s Ratio Prot	c0.06	0.31										
v/s Ratio Perm					c0.43			c0.12	0.00		0.10	0.02
v/c Ratio	0.68	0.42			0.70			0.74	0.01		0.64	0.12
Uniform Delay, d1	44.1	4.6			12.8			39.9	35.2		39.2	35.8
Progression Factor	0.87	0.19			0.40			1.00	1.00		0.72	0.89
Incremental Delay, d2	8.0	0.5			2.4			12.1	0.0		5.2	0.1
Delay (s)	46.5	1.4			7.5			51.9	35.2		33.3	31.9
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.5			7.5			50.7			32.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	844	124	5	872	50	31	192	117	5	243	60
Future Volume (vph)	5	844	124	5	872	50	31	192	117	5	243	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.89			0.96			0.84			0.90	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3024			3393			1396			1586	
Flt Permitted		0.95			0.95			0.94			0.99	
Satd. Flow (perm)		2877			3227			1323			1579	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	898	132	5	928	53	33	204	124	5	259	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	1034	0	0	983	0	0	359	0	0	324	0
Confl. Peds. (#/hr)	493		608	608		493	754		597	597		754
Confl. Bikes (#/hr)			1			7			71			20
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		59.9			59.9			31.1			31.1	
Effective Green, g (s)		59.9			59.9			31.1			31.1	
Actuated g/C Ratio		0.60			0.60			0.31			0.31	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1723			1932			411			491	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.30			c0.27			0.21	
v/c Ratio		0.60			0.51			0.87			0.66	
Uniform Delay, d1		12.6			11.6			32.6			29.9	
Progression Factor		0.83			0.83			1.18			1.36	
Incremental Delay, d2		1.4			0.8			16.6			2.4	
Delay (s)		11.8			10.4			55.0			42.8	
Level of Service		B			B			D			D	
Approach Delay (s)		11.8			10.4			55.0			42.8	
Approach LOS		B			B			D			D	

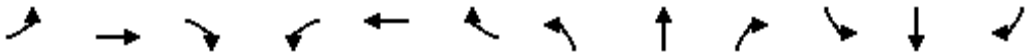
Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	795	106	173	825	70	67	571	212	100	410	40
Future Volume (veh/h)	70	795	106	173	825	70	67	571	212	100	410	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.83	1.00		0.79	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	828	110	180	859	73	70	595	221	104	427	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	137	1080	143	237	1306	111	89	636	235	121	952	93
Arrive On Green	0.15	0.71	0.71	0.27	0.83	0.83	0.02	0.09	0.09	0.14	0.61	0.61
Sat Flow, veh/h	1774	3041	404	1723	3148	268	1691	2230	825	1723	3097	301
Grp Volume(v), veh/h	73	482	456	180	469	463	70	449	367	104	235	234
Grp Sat Flow(s),veh/h/ln	1774	1770	1675	1723	1719	1696	1691	1687	1368	1723	1719	1680
Q Serve(g_s), s	3.8	17.3	17.3	9.6	10.2	10.2	4.1	26.5	26.6	5.9	7.2	7.4
Cycle Q Clear(g_c), s	3.8	17.3	17.3	9.6	10.2	10.2	4.1	26.5	26.6	5.9	7.2	7.4
Prop In Lane	1.00		0.24	1.00		0.16	1.00		0.60	1.00		0.18
Lane Grp Cap(c), veh/h	137	628	595	237	713	704	89	481	390	121	529	516
V/C Ratio(X)	0.53	0.77	0.77	0.76	0.66	0.66	0.79	0.93	0.94	0.86	0.44	0.45
Avail Cap(c_a), veh/h	137	628	595	237	713	704	169	481	390	121	529	516
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.77	0.77	0.77	0.81	0.81	0.81	0.83	0.83	0.83	0.79	0.79	0.79
Uniform Delay (d), s/veh	40.6	11.9	11.9	34.7	5.8	5.8	48.6	44.4	44.5	42.5	14.7	14.8
Incr Delay (d2), s/veh	1.6	6.8	7.2	10.0	3.8	3.9	4.8	22.3	26.9	35.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.2	8.8	5.2	5.2	5.1	2.1	15.3	13.0	4.0	3.4	3.4
LnGrp Delay(d),s/veh	42.1	18.7	19.0	44.7	9.7	9.7	53.4	66.7	71.4	77.7	14.9	14.9
LnGrp LOS	D	B	B	D	A	A	D	E	E	E	B	B
Approach Vol, veh/h		1011			1112			886			573	
Approach Delay, s/veh		20.5			15.4			67.6			26.3	
Approach LOS		C			B			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	46.0	11.5	33.0	17.7	40.0	9.3	35.2
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	41.5	7.0	* 29	12.0	35.5	10.0	25.5
Max Q Clear Time (g_c+I1), s	5.8	12.2	7.9	28.6	11.6	19.3	6.1	9.4
Green Ext Time (p_c), s	0.0	2.3	0.0	0.0	0.0	2.2	0.0	0.9

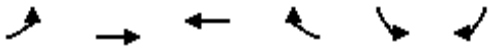
Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Notes



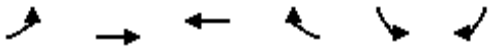
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	868	279	55	910	50	128	227	51	45	76	25
Future Volume (vph)	20	868	279	55	910	50	128	227	51	45	76	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.97		1.00	1.00	0.55		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1752	3154		1770	3415		1770	1863	867		1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1752	3154		1770	3415		1770	1863	867		1696	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	933	300	59	978	54	138	244	55	48	82	27
RTOR Reduction (vph)	0	28	0	0	3	0	0	0	47	0	8	0
Lane Group Flow (vph)	22	1205	0	59	1029	0	138	244	8	0	149	0
Confl. Peds. (#/hr)	218		185	185		218	329		437	437		329
Confl. Bikes (#/hr)			2			3			75			10
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Effective Green, g (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Actuated g/C Ratio	0.02	0.48		0.05	0.51		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1526		84	1748		269	283	131		256	
v/s Ratio Prot	0.01	c0.38		c0.03	c0.30		0.08	c0.13			c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.79		0.70	0.59		0.51	0.86	0.06		0.58	
Uniform Delay, d1	48.6	21.5		46.9	17.0		39.0	41.4	36.3		39.5	
Progression Factor	1.19	0.39		1.13	0.92		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.6	2.8		18.3	1.4		0.7	22.0	0.1		2.2	
Delay (s)	73.2	11.2		71.4	17.1		39.7	63.4	36.4		41.7	
Level of Service	E	B		E	B		D	E	D		D	
Approach Delay (s)		12.3			20.0			52.5			41.7	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



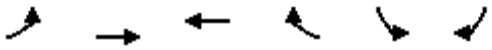
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	954	985	0	15	25
Future Volume (vph)	0	954	985	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.86	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1470	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1037	1071	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	1037	1071	0	21	0
Confl. Peds. (#/hr)	209			209	123	121
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		249	
v/s Ratio Prot		0.29	c0.30		c0.01	
v/s Ratio Perm						
v/c Ratio		0.39	0.41		0.08	
Uniform Delay, d1		4.6	4.7		34.9	
Progression Factor		0.15	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.1	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	934	990	35	0	0
Future Volume (vph)	25	934	990	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	0.99			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3456			
Flt Permitted	0.11	1.00	1.00			
Satd. Flow (perm)	201	1881	3456			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1015	1076	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	1015	1112	0	0	0
Confl. Peds. (#/hr)	144			144	305	125
Confl. Bikes (#/hr)				8		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	41.1			
Effective Green, g (s)	71.5	74.5	41.1			
Actuated g/C Ratio	0.72	0.74	0.41			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	625	1401	1420			
v/s Ratio Prot	0.01	c0.54	c0.32			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.72	0.78			
Uniform Delay, d1	7.2	7.1	25.6			
Progression Factor	1.33	1.70	0.27			
Incremental Delay, d2	0.0	1.8	2.9			
Delay (s)	9.5	13.8	9.9			
Level of Service	A	B	A			
Approach Delay (s)		13.7	9.9		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	884	1000	125	39	30
Future Volume (vph)	40	884	1000	125	39	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.94	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3472		1711	
Flt Permitted	0.11	1.00	1.00		0.97	
Satd. Flow (perm)	202	1881	3472		1711	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	951	1075	134	42	32
RTOR Reduction (vph)	0	0	0	0	27	0
Lane Group Flow (vph)	43	951	1209	0	47	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	46.2		17.0	
Effective Green, g (s)	71.5	74.5	46.2		17.0	
Actuated g/C Ratio	0.72	0.74	0.46		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	545	1401	1604		290	
v/s Ratio Prot	0.02	c0.51	c0.35		c0.03	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.68	0.75		0.16	
Uniform Delay, d1	7.6	6.6	22.2		35.4	
Progression Factor	0.02	0.00	1.00		1.00	
Incremental Delay, d2	0.0	0.7	3.3		0.1	
Delay (s)	0.2	0.7	25.5		35.5	
Level of Service	A	A	C		D	
Approach Delay (s)		0.7	25.5		35.5	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	573	40	586	914	196	1551
Future Volume (vph)	573	40	586	914	196	1551
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.89	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1419	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1419	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	610	43	623	972	209	1650
RTOR Reduction (vph)	0	6	0	0	0	3
Lane Group Flow (vph)	610	37	623	972	209	1647
Confl. Peds. (#/hr)		46	46			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	26.3	26.3	80.5	80.5	19.7	104.7
Effective Green, g (s)	26.3	26.3	80.5	80.5	19.7	104.7
Actuated g/C Ratio	0.19	0.19	0.58	0.58	0.14	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	671	266	1955	1060	249	2084
v/s Ratio Prot	c0.17		0.18	c0.53	0.12	c0.59
v/s Ratio Perm		0.03				
v/c Ratio	0.91	0.14	0.32	0.92	0.84	0.79
Uniform Delay, d1	55.7	47.4	15.5	26.7	58.6	10.9
Progression Factor	1.00	1.00	0.44	0.55	0.98	1.03
Incremental Delay, d2	16.5	0.3	0.3	10.3	19.0	1.9
Delay (s)	72.1	47.7	7.1	24.9	76.3	13.1
Level of Service	E	D	A	C	E	B
Approach Delay (s)	70.5			18.0	20.2	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1279	220	26	895	190	25	165	105	30	32
Future Volume (vph)	35	280	1279	220	26	895	190	25	165	105	30	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.92	1.00	0.98		0.94	1.00	1.00	0.92	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1441	1736	4507		1260	1698	1766	1467	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	187	3505	1441	215	4507		1260	1698	1766	1467	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1319	227	27	923	196	26	170	108	31	33
RTOR Reduction (vph)	0	0	0	86	0	0	0	17	0	0	54	0
Lane Group Flow (vph)	36	289	1319	141	27	1122	0	6	136	142	10	0
Confl. Peds. (#/hr)	20	20		17	17		20	20	38		20	19
Confl. Bikes (#/hr)				3				1				5
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Effective Green, g (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Actuated g/C Ratio	0.08	0.44	0.36	0.36	0.24	0.24		0.24	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	143	329	1276	524	52	1094		306	265	276	229	
v/s Ratio Prot	0.02	c0.14	c0.38			0.25			0.08	c0.08		
v/s Ratio Perm		0.25		0.10	0.13			0.00			0.01	
v/c Ratio	0.25	0.88	1.03	0.27	0.52	1.03		0.02	0.51	0.51	0.04	
Uniform Delay, d1	60.2	40.3	44.5	31.4	45.9	53.0		40.3	54.2	54.2	50.2	
Progression Factor	0.94	0.89	0.86	0.79	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	13.5	27.9	0.7	32.5	33.9		0.1	0.7	0.7	0.0	
Delay (s)	57.2	49.3	66.3	25.5	78.4	86.9		40.4	54.9	54.8	50.2	
Level of Service	E	D	E	C	E	F		D	D	D	D	
Approach Delay (s)			58.6			85.8				54.0		
Approach LOS			E			F				D		

Intersection Summary			
HCM 2000 Control Delay	66.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1686			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1686			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	126	0
Lane Group Flow (vph)	0	218	210	0	0	62	95	0
Confl. Peds. (#/hr)	19	20		38	19	17	38	20
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.0	20.6	
Effective Green, g (s)		24.5	24.5			6.0	20.6	
Actuated g/C Ratio		0.18	0.18			0.04	0.15	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	295			76	414	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.82	0.23	
Uniform Delay, d1		54.7	54.4			66.5	52.7	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.6			45.8	0.2	
Delay (s)		62.5	61.0			112.3	52.9	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.9		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	47	1325
Future Vol, veh/h	120	0	0	0	47	1325
Conflicting Peds, #/hr	75	153	0	75	153	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	52	1456

Major/Minor	Minor1		Major2	
Conflicting Flow All	1059	-	153	0
Stage 1	153	-	-	-
Stage 2	906	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	213	0	1433	-
Stage 1	-	0	-	-
Stage 2	345	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	151	-	1433	-
Mov Cap-2 Maneuver	151	-	-	-
Stage 1	-	-	-	-
Stage 2	279	-	-	-

Approach	WB	SB
HCM Control Delay, s	101.2	0.9
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	151	1433	-
HCM Lane V/C Ratio	0.873	0.036	-
HCM Control Delay (s)	101.2	7.6	0.7
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	5.9	0.1	-

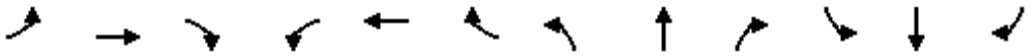
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	0	1405	40
Future Vol, veh/h	0	69	0	0	1405	40
Conflicting Peds, #/hr	277	151	151	0	0	277
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	75	0	0	1527	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1213	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	174	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	134	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	61.6	0
HCM LOS	F	

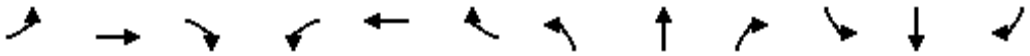
Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	134	-	-
HCM Lane V/C Ratio	0.56	-	-
HCM Control Delay (s)	61.6	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	2.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	37	0	0	90	110	20	1204	60	0	0	0
Future Volume (vph)	45	37	0	0	90	110	20	1204	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1771			1537			3474				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1465			1537			3474				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	40	0	0	98	120	22	1309	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	89	0	0	213	0	0	1389	0	0	0	0
Confl. Peds. (#/hr)	117		79	79		117	55		61	61		55
Confl. Bikes (#/hr)			7			10			79			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			645			1424				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.06						0.40				
v/c Ratio		0.14			0.33			0.98				
Uniform Delay, d1		9.0			9.8			14.5				
Progression Factor		0.82			0.87			0.74				
Incremental Delay, d2		0.5			1.4			16.2				
Delay (s)		7.8			9.9			27.0				
Level of Service		A			A			C				
Approach Delay (s)		7.8			9.9			27.0			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

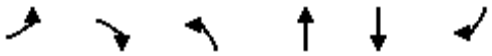
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	7	70	5	65	10	215	80	75	267	30
Future Volume (vph)	60	15	7	70	5	65	10	215	80	75	267	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.84			0.83			0.95	
Flpb, ped/bikes		0.82			0.78			0.99			0.93	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1392			1137			1396			1546	
Flt Permitted		0.75			0.83			0.99			0.88	
Satd. Flow (perm)		1084			967			1379			1367	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	8	75	5	70	11	231	86	81	287	32
RTOR Reduction (vph)	0	5	0	0	17	0	0	25	0	0	6	0
Lane Group Flow (vph)	0	84	0	0	133	0	0	303	0	0	394	0
Confl. Peds. (#/hr)	179		298	298		179	690		591	591		690
Confl. Bikes (#/hr)			2			3			63			25
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		16.0			16.0			25.5			25.5	
Effective Green, g (s)		16.0			16.0			25.5			25.5	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		346			309			703			697	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.14			0.22			c0.29	
v/c Ratio		0.24			0.43			0.43			0.56	
Uniform Delay, d1		12.5			13.4			7.7			8.4	
Progression Factor		0.76			0.52			0.98			1.12	
Incremental Delay, d2		1.2			4.2			1.8			2.8	
Delay (s)		10.7			11.2			9.3			12.3	
Level of Service		B			B			A			B	
Approach Delay (s)		10.7			11.2			9.3			12.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

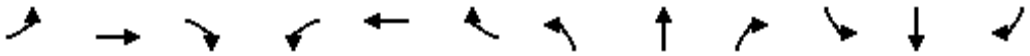
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	725	624	85
Future Volume (vph)	110	75	55	725	624	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.87			1.00	1.00	0.64
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1493			3331	3343	950
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1493			2916	3343	950
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	763	657	89
RTOR Reduction (vph)	46	0	0	0	0	45
Lane Group Flow (vph)	149	0	0	821	657	44
Confl. Peds. (#/hr)	262	361	182			182
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	492			1428	1638	465
v/s Ratio Prot	c0.10				0.20	
v/s Ratio Perm				c0.28		0.05
v/c Ratio	0.30			0.57	0.40	0.09
Uniform Delay, d1	12.5			9.1	8.1	6.8
Progression Factor	1.13			1.34	1.01	1.22
Incremental Delay, d2	1.4			1.5	0.6	0.3
Delay (s)	15.5			13.7	8.8	8.6
Level of Service	B			B	A	A
Approach Delay (s)	15.5			13.7	8.8	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Future Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	118	13	5	11	23	263	0	60	16	274	71	112

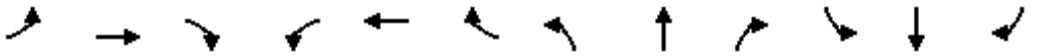
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	136	297	30	46	310	148
Volume Left (vph)	118	11	0	0	274	0
Volume Right (vph)	5	263	0	16	0	112
Hadj (s)	0.15	-0.52	0.44	0.20	0.53	-0.45
Departure Headway (s)	5.9	5.0	6.9	6.6	6.4	5.4
Degree Utilization, x	0.22	0.41	0.06	0.08	0.55	0.22
Capacity (veh/h)	558	673	465	490	545	642
Control Delay (s)	10.6	11.5	9.1	9.0	15.6	8.7
Approach Delay (s)	10.6	11.5	9.0		13.4	
Approach LOS	B	B	A		B	

Intersection Summary				
Delay	12.1			
Level of Service	B			
Intersection Capacity Utilization	68.4%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	111	98	5	65	210	95	846	5	65	599	137
Future Volume (veh/h)	177	111	98	5	65	210	95	846	5	65	599	137
Number	3	8	18	7	4	14	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		0.90	0.96		0.83	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	186	117	103	5	68	221	100	891	5	68	631	144
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	227	523	398	38	302	206	338	2046	11	87	1204	274
Arrive On Green	0.10	0.30	0.30	0.17	0.17	0.17	0.19	0.56	0.56	0.05	0.42	0.42
Sat Flow, veh/h	1707	1748	1330	60	1728	1179	1810	3680	21	1792	2881	656
Grp Volume(v), veh/h	186	113	107	73	0	221	100	437	459	68	391	384
Grp Sat Flow(s),veh/h/ln	1707	1703	1375	1787	0	1179	1810	1805	1896	1792	1787	1750
Q Serve(g_s), s	12.1	7.0	8.2	0.0	0.0	24.5	6.7	19.9	19.9	5.3	22.8	22.9
Cycle Q Clear(g_c), s	12.1	7.0	8.2	4.7	0.0	24.5	6.7	19.9	19.9	5.3	22.8	22.9
Prop In Lane	1.00		0.97	0.07		1.00	1.00		0.01	1.00		0.38
Lane Grp Cap(c), veh/h	227	509	411	562	0	206	338	1004	1054	87	747	731
V/C Ratio(X)	0.82	0.22	0.26	0.13	0.00	1.07	0.30	0.44	0.44	0.78	0.52	0.53
Avail Cap(c_a), veh/h	307	590	476	562	0	206	338	1004	1054	198	747	731
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	0.99	0.00	0.99	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	36.8	37.3	49.6	0.0	57.8	49.0	18.2	18.2	65.9	30.4	30.4
Incr Delay (d2), s/veh	12.0	0.2	0.3	0.0	0.0	82.4	0.2	1.2	1.1	5.7	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.3	3.2	2.0	0.0	12.7	3.3	10.2	10.7	2.7	11.8	11.6
LnGrp Delay(d),s/veh	53.9	37.1	37.6	49.6	0.0	140.2	49.2	19.4	19.3	71.6	33.0	33.1
LnGrp LOS	D	D	D	D		F	D	B	B	E	C	C
Approach Vol, veh/h		406			294			996			843	
Approach Delay, s/veh		44.9			117.7			22.3			36.1	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.3	82.3	17.4	29.0	30.6	63.0		46.4
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	62.5	21.0	24.5	19.5	58.5		48.5
Max Q Clear Time (g_c+I1), s	7.3	21.9	14.1	26.5	8.7	24.9		10.2
Green Ext Time (p_c), s	0.0	6.0	0.3	0.0	2.5	0.8		3.1

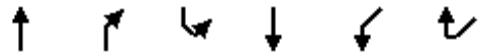
Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	18	0	23	23	57	0	1482	48	8	526	272
Future Volume (vph)	148	18	0	23	23	57	0	1482	48	8	526	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	0.96			0.98	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1639			3292	1509		3554			3536	1537
Flt Permitted	0.72	0.74			0.79	1.00		1.00			0.92	1.00
Satd. Flow (perm)	1233	1258			2664	1509		3554			3250	1537
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	157	19	0	24	24	61	0	1577	51	9	560	289
RTOR Reduction (vph)	0	0	0	0	0	55	0	1	0	0	0	48
Lane Group Flow (vph)	88	88	0	0	48	6	0	1627	0	0	569	241
Confl. Peds. (#/hr)							7		2	2		7
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2				1		1
Actuated Green, G (s)	14.4	14.4			14.4	14.4		116.6			116.6	116.6
Effective Green, g (s)	14.4	14.4			14.4	14.4		116.6			116.6	116.6
Actuated g/C Ratio	0.10	0.10			0.10	0.10		0.83			0.83	0.83
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	126	129			274	155		2959			2706	1280
v/s Ratio Prot								c0.46				
v/s Ratio Perm	c0.07	0.07			0.02	0.00					0.18	0.16
v/c Ratio	0.70	0.68			0.18	0.04		0.55			0.21	0.19
Uniform Delay, d1	60.7	60.6			57.4	56.6		3.6			2.4	2.3
Progression Factor	0.52	0.52			1.00	1.00		1.04			0.43	0.17
Incremental Delay, d2	12.5	11.0			0.1	0.0		0.6			0.2	0.3
Delay (s)	44.1	42.5			57.5	56.6		4.4			1.2	0.7
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		43.3			57.0			4.4			1.0	
Approach LOS		D			E			A			A	

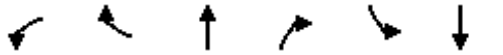
Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	921	1470	0	697	589	0
Future Volume (vph)	921	1470	0	697	589	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	949	1515	0	719	607	0
RTOR Reduction (vph)	0	725	0	0	0	0
Lane Group Flow (vph)	949	790	0	719	607	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	73.0	73.0		73.0	58.0	
Effective Green, g (s)	73.0	73.0		73.0	58.0	
Actuated g/C Ratio	0.52	0.52		0.52	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1863	1467		1882	1422	
v/s Ratio Prot	0.27			0.20	c0.18	
v/s Ratio Perm		c0.28				
v/c Ratio	0.51	0.54		0.38	0.43	
Uniform Delay, d1	21.8	22.3		20.0	29.2	
Progression Factor	1.00	1.00		0.38	0.52	
Incremental Delay, d2	0.1	0.2		0.0	0.9	
Delay (s)	21.9	22.5		7.6	16.0	
Level of Service	C	C		A	B	
Approach Delay (s)	22.3			7.6	16.0	
Approach LOS	C			A	B	

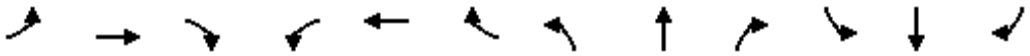
Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	165	1359
Future Volume (veh/h)	100	0	0	0	165	1359
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			179	1477
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			370	2886
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				342	3106
Grp Volume(v), veh/h	0.0				877	779
Grp Sat Flow(s),veh/h/ln					1753	1610
Q Serve(g_s), s					37.0	39.4
Cycle Q Clear(g_c), s					40.9	39.4
Prop In Lane					0.20	
Lane Grp Cap(c), veh/h					1718	1538
V/C Ratio(X)					0.51	0.51
Avail Cap(c_a), veh/h					1718	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					15.4	15.0
Incr Delay (d2), s/veh					1.1	1.2
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					20.5	18.1
LnGrp Delay(d),s/veh					16.5	16.2
LnGrp LOS					B	B
Approach Vol, veh/h						1656
Approach Delay, s/veh						16.4
Approach LOS						B

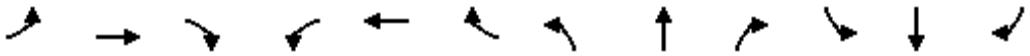
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		42.9						
Green Ext Time (p_c), s		2.1						

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	110	0	0	70	199	25	1005	90	0	0	0
Future Volume (vph)	60	110	0	0	70	199	25	1005	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.84			0.98				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.90			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1793			1429			3430				
Flt Permitted		0.71			1.00			1.00				
Satd. Flow (perm)		1299			1429			3430				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	121	0	0	77	219	27	1104	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	26	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	187	0	0	270	0	0	1219	0	0	0	0
Confl. Peds. (#/hr)	200		131	131		200	28		72	72		28
Confl. Bikes (#/hr)			9			26			95			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		13.1			13.1			28.4				
Effective Green, g (s)		13.1			13.1			28.4				
Actuated g/C Ratio		0.26			0.26			0.57				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		340			374			1948				
v/s Ratio Prot					c0.19							
v/s Ratio Perm		0.14						0.36				
v/c Ratio		0.55			0.72			0.63				
Uniform Delay, d1		15.9			16.8			7.2				
Progression Factor		1.01			1.20			1.00				
Incremental Delay, d2		0.9			5.7			1.5				
Delay (s)		17.0			25.9			8.8				
Level of Service		B			C			A				
Approach Delay (s)		17.0			25.9			8.8			0.0	
Approach LOS		B			C			A			A	

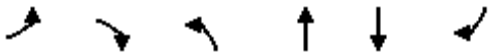
Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	130	23	10	81	25	30	230	15	15	249	40
Future Volume (vph)	35	130	23	10	81	25	30	230	15	15	249	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.86			0.96			0.90	
Flpb, ped/bikes		0.91			0.96			0.95			0.98	
Frt		0.98			0.97			0.99			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1554			1528			1610			1563	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1468			1493			1531			1537	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	138	24	11	86	27	32	245	16	16	265	43
RTOR Reduction (vph)	0	2	0	0	8	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	197	0	0	116	0	0	291	0	0	321	0
Confl. Peds. (#/hr)	596		653	653		596	903		681	681		903
Confl. Bikes (#/hr)			26			33			80			29
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		499			507			750			753	
v/s Ratio Prot												
v/s Ratio Perm		c0.13			0.08			0.19			c0.21	
v/c Ratio		0.39			0.23			0.39			0.43	
Uniform Delay, d1		12.6			11.8			8.0			8.2	
Progression Factor		1.41			0.46			0.82			1.22	
Incremental Delay, d2		2.0			1.0			1.5			1.5	
Delay (s)		19.8			6.4			8.0			11.5	
Level of Service		B			A			A			B	
Approach Delay (s)		19.8			6.4			8.0			11.5	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	100	61	685	654	45
Future Volume (vph)	95	100	61	685	654	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.82		1.00	1.00	0.97	
Flpb, ped/bikes	1.00		0.84	1.00	1.00	
Frt	0.93		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1422		1408	3343	3168	
Flt Permitted	0.98		0.32	1.00	1.00	
Satd. Flow (perm)	1422		468	3343	3168	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	109	66	745	711	49
RTOR Reduction (vph)	17	0	0	0	10	0
Lane Group Flow (vph)	195	0	66	745	750	0
Confl. Peds. (#/hr)	722	512	293			293
Confl. Bikes (#/hr)		6				17
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	18.0		23.5	23.5	23.5	
Effective Green, g (s)	18.0		23.5	23.5	23.5	
Actuated g/C Ratio	0.36		0.47	0.47	0.47	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	511		219	1571	1488	
v/s Ratio Prot	c0.14			0.22	c0.24	
v/s Ratio Perm			0.14			
v/c Ratio	0.38		0.30	0.47	0.50	
Uniform Delay, d1	11.9		8.2	9.0	9.2	
Progression Factor	0.70		1.01	1.08	1.20	
Incremental Delay, d2	2.1		3.4	1.0	1.1	
Delay (s)	10.4		11.7	10.8	12.2	
Level of Service	B		B	B	B	
Approach Delay (s)	10.4			10.8	12.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

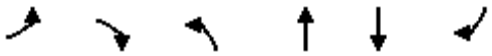
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	147	148	0	65	133	0	89	85
Future Vol, veh/h	0	147	148	0	65	133	0	89	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	167	168	0	74	151	0	101	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	11.8	9.8	10.8
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	50%	51%
Vol Thru, %	33%	0%	49%
Vol Right, %	67%	50%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	198	295	174
LT Vol	0	147	89
Through Vol	65	0	85
RT Vol	133	148	0
Lane Flow Rate	225	335	198
Geometry Grp	1	1	1
Degree of Util (X)	0.296	0.45	0.297
Departure Headway (Hd)	4.741	4.828	5.401
Convergence, Y/N	Yes	Yes	Yes
Cap	749	741	658
Service Time	2.822	2.898	3.487
HCM Lane V/C Ratio	0.3	0.452	0.301
HCM Control Delay	9.8	11.8	10.8
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.2	2.3	1.2

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	128	15	85	5	278	128	332	129	222
Future Volume (vph)	128	15	85	5	278	128	332	129	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1517		1742	1780		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1517		1742	1780		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	141	16	93	5	305	141	365	142	244
RTOR Reduction (vph)	0	76	0	0	18	0	0	66	0
Lane Group Flow (vph)	141	33	0	5	428	0	365	320	0
Confl. Peds. (#/hr)			54	13					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	14.1	14.1		24.9	24.9		22.9	22.9	
Effective Green, g (s)	14.1	14.1		24.9	24.9		22.9	22.9	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	324	278		564	576		516	462	
v/s Ratio Prot	c0.08	0.02			c0.24		c0.21		
v/s Ratio Perm				0.00				0.21	
v/c Ratio	0.44	0.12		0.01	0.74		0.71	0.69	
Uniform Delay, d1	27.9	26.2		17.6	23.2		24.0	23.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.0	6.2		5.5	5.6	
Delay (s)	28.8	26.4		17.6	29.4		29.5	29.5	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		27.8			29.2		29.5		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	262	0	0	1349	165
Future Volume (vph)	0	262	0	0	1349	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.74
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1164
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1164
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	273	0	0	1405	172
RTOR Reduction (vph)	0	22	0	0	0	25
Lane Group Flow (vph)	0	251	0	0	1405	147
Confl. Peds. (#/hr)	178		117			117
Confl. Bikes (#/hr)		2				38
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		20.2			70.3	70.3
Effective Green, g (s)		20.2			70.3	70.3
Actuated g/C Ratio		0.20			0.70	0.70
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		319			2487	818
v/s Ratio Prot		c0.16			c0.40	
v/s Ratio Perm						0.13
v/c Ratio		0.79			0.56	0.18
Uniform Delay, d1		37.8			7.3	5.0
Progression Factor		1.00			0.46	0.41
Incremental Delay, d2		11.1			0.7	0.4
Delay (s)		49.0			4.1	2.5
Level of Service		D			A	A
Approach Delay (s)	49.0			0.0	4.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	49.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	158	1458
Future Vol, veh/h	115	0	0	0	158	1458
Conflicting Peds, #/hr	15	30	0	15	30	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	166	1535

Major/Minor	Minor1		Major2	
Conflicting Flow All	1145	-	30	0
Stage 1	30	-	-	-
Stage 2	1115	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	196	0	1581	-
Stage 1	-	0	-	-
Stage 2	280	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 55	-	1581	-
Mov Cap-2 Maneuver	~ 55	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 81	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 711.9	2.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	55	1581	-
HCM Lane V/C Ratio	2.201	0.105	-
HCM Control Delay (s)	$ 711.9	7.5	2.2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	12	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	308.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	45	15	20	95	25	22	25	5	20	80	51
Future Vol, veh/h	10	45	15	20	95	25	22	25	5	20	80	51
Conflicting Peds, #/hr	408	0	441	416	0	383	441	0	416	383	0	408
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	12	54	18	24	113	30	26	30	6	24	95	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1179	1118	1008	1151	1146	857	597	0	0	452	0	0
Stage 1	614	614	-	501	501	-	-	-	-	-	-	-
Stage 2	565	504	-	650	645	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	166	205	289	169	193	345	989	-	-	1119	-	-
Stage 1	476	480	-	538	530	-	-	-	-	-	-	-
Stage 2	506	538	-	445	455	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	78	116	25	~ 74	149	626	-	-	739	-	-
Mov Cap-2 Maneuver	-	78	-	25	~ 74	-	-	-	-	-	-	-
Stage 1	288	293	-	337	332	-	-	-	-	-	-	-
Stage 2	169	337	-	188	277	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 906.1	4.7	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	626	-	-	-	62	739	-	-
HCM Lane V/C Ratio	0.042	-	-	-	2.688	0.032	-	-
HCM Control Delay (s)	11	0	-	-	$ 906.1	10	0	-
HCM Lane LOS	B	A	-	-	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	16.8	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	50	20	0	35	75	25	0	60	270	15
Future Vol, veh/h	0	5	50	20	0	35	75	25	0	60	270	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	56	22	0	39	84	28	0	67	303	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.5	10.2	13.6
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	7%	26%	11%
Vol Thru, %	78%	67%	56%	80%
Vol Right, %	4%	27%	19%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	345	75	135	178
LT Vol	60	5	35	20
Through Vol	270	50	75	143
RT Vol	15	20	25	15
Lane Flow Rate	388	84	152	200
Geometry Grp	1	1	1	1
Degree of Util (X)	0.537	0.131	0.233	0.296
Departure Headway (Hd)	4.989	5.599	5.52	5.323
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	640	651	676
Service Time	2.989	3.64	3.557	3.353
HCM Lane V/C Ratio	0.532	0.131	0.233	0.296
HCM Control Delay	13.6	9.5	10.2	10.6
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.2	0.4	0.9	1.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	143	15
Future Vol, veh/h	0	20	143	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	161	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.6
HCM LOS	B

Intersection	
Int Delay, s/veh	247.6

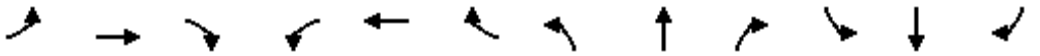
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	50	20	43	75	30	10	240	17	35	242	35
Future Vol, veh/h	10	50	20	43	75	30	10	240	17	35	242	35
Conflicting Peds, #/hr	1133	0	1232	1287	0	1188	1232	0	1287	1188	0	1133
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	56	22	48	84	34	11	270	19	39	272	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3151	3200	2811	3286	3211	2754	1543	0	0	1576	0	0
Stage 1	1602	1602	-	1589	1589	-	-	-	-	-	-	-
Stage 2	1549	1598	-	1697	1622	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	~ 7	~ 10	24	~ 5	~ 10	~ 26	400	-	-	407	-	-
Stage 1	134	167	-	137	169	-	-	-	-	-	-	-
Stage 2	144	167	-	118	163	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	0	-	0	0	~ -29	-	-	~ 4	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 4	0	-	~ 10	~ -12	-	-	-	-	-	-	-
Stage 2	12	~ -12	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				$ 640.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	-	-	~ 4	-	-
HCM Lane V/C Ratio	-	-	-	-	-	9.831	-	-
HCM Control Delay (s)	-	-	-	-	-	$ 5708.1	0	-
HCM Lane LOS	-	-	-	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-	6.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	15	48	70	35	105	41	605	90	90	601	63
Future Volume (vph)	41	15	48	70	35	105	41	605	90	90	601	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.88			1.00	0.60	1.00	1.00	0.48	1.00	0.94	
Flpb, ped/bikes		0.87			0.87	1.00	0.80	1.00	1.00	0.81	1.00	
Frt		0.94			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1332			1590	960	1341	3343	724	1363	3142	
Flt Permitted		0.85			0.72	1.00	0.36	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1152			1187	960	513	3343	724	561	3142	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	16	52	76	38	114	45	658	98	98	653	68
RTOR Reduction (vph)	0	36	0	0	0	82	0	0	26	0	2	0
Lane Group Flow (vph)	0	77	0	0	114	32	45	658	72	98	719	0
Confl. Peds. (#/hr)	540		179	179		540	368		213	213		368
Confl. Bikes (#/hr)			11			3			17			11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Effective Green, g (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		213			219	177	374	2440	528	409	2293	
v/s Ratio Prot								0.20			c0.23	
v/s Ratio Perm		0.07			c0.10	0.03	0.09		0.10	0.17		
v/c Ratio		0.36			0.52	0.18	0.12	0.27	0.14	0.24	0.31	
Uniform Delay, d1		35.6			36.8	34.3	4.0	4.5	4.0	4.4	4.7	
Progression Factor		0.95			1.00	1.00	0.55	0.52	0.44	0.64	0.63	
Incremental Delay, d2		1.0			2.2	0.5	0.6	0.3	0.5	1.2	0.3	
Delay (s)		35.0			39.0	34.8	2.8	2.6	2.3	4.1	3.3	
Level of Service		D			D	C	A	A	A	A	A	
Approach Delay (s)		35.0			36.9			2.6			3.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	100.6
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	235	340	25	0	5	266	265
Future Vol, veh/h	0	95	185	15	0	235	340	25	0	5	266	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	240	347	26	0	5	271	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	35.6	230.6	27.6
HCM LOS	E	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	6%
Vol Thru, %	98%	0%	63%	57%	55%
Vol Right, %	0%	100%	5%	4%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	271	265	295	600	330
LT Vol	5	0	95	235	20
Through Vol	266	0	185	340	180
RT Vol	0	265	15	25	130
Lane Flow Rate	277	270	301	612	337
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.669	0.601	0.73	1.432	0.789
Departure Headway (Hd)	9.876	9.133	9.945	8.418	9.75
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	368	398	367	435	374
Service Time	7.576	6.833	7.945	6.418	7.75
HCM Lane V/C Ratio	0.753	0.678	0.82	1.407	0.901
HCM Control Delay	30.4	24.7	35.6	230.6	40.9
HCM Lane LOS	D	C	E	F	E
HCM 95th-tile Q	4.6	3.8	5.6	30.6	6.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	180	130
Future Vol, veh/h	0	20	180	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	184	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	40.9
HCM LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	305	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	305	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	79	87	0	79
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	332	0	0	27	0	0

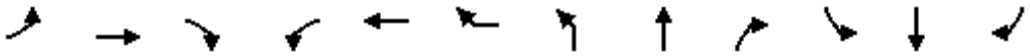
Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	-	0	-	-	0	411	419		
Stage 1	-	-	-	-	-	-	332	-		
Stage 2	-	-	-	-	-	-	79	-		
Critical Hdwy	-	-	-	-	-	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-		
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3		
Pot Cap-1 Maneuver	0	0	-	0	-	0	601	638		
Stage 1	0	0	-	0	-	0	731	-		
Stage 2	0	0	-	0	-	0	-	-		
Platoon blocked, %			-		-					
Mov Cap-1 Maneuver	-	-	-	-	-	-	601	592		
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	-		
Stage 1	-	-	-	-	-	-	731	-		
Stage 2	-	-	-	-	-	-	-	-		

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	592
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	11.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	856	423	86	1457	0	0
Future Volume (vph)	0	0	856	423	86	1457	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.93	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1466	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1466	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	911	450	91	1550	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	911	450	91	1550	0	0
Confl. Peds. (#/hr)	17	15		17	15			
Confl. Bikes (#/hr)				153				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.2	36.2	13.1	58.3		
Effective Green, g (s)			36.2	36.2	13.1	58.3		
Actuated g/C Ratio			0.62	0.62	0.22	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2197	910	393	3505		
v/s Ratio Prot			0.26		0.05	c0.44		
v/s Ratio Perm				0.31				
v/c Ratio			0.41	0.49	0.23	0.44		
Uniform Delay, d1			5.6	6.0	18.5	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.2	0.1	0.0		
Delay (s)			5.7	6.2	18.6	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.9			1.1	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



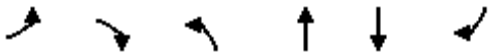
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	341	171	10	320	15	107	280	20	10	113	75
Future Volume (vph)	50	341	171	10	320	15	107	280	20	10	113	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.95			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3363			3512			1826			1763	
Flt Permitted		0.88			0.93			0.85			0.98	
Satd. Flow (perm)		2963			3286			1576			1726	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	375	188	11	352	16	118	308	22	11	124	82
RTOR Reduction (vph)	0	49	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	569	0	0	379	0	0	446	0	0	217	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1111			1232			843			923	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.12			c0.28			0.13	
v/c Ratio		0.51			0.31			0.53			0.24	
Uniform Delay, d1		24.2			22.1			15.1			12.4	
Progression Factor		1.00			0.89			1.00			1.00	
Incremental Delay, d2		1.7			0.6			2.4			0.6	
Delay (s)		25.9			20.4			17.5			13.0	
Level of Service		C			C			B			B	
Approach Delay (s)		25.9			20.4			17.5			13.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	270	19	5	207	10	38	190	25	20	190	90
Future Volume (veh/h)	82	270	19	5	207	10	38	190	25	20	190	90
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	89	293	21	5	225	11	41	207	27	22	207	98
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	1127	83	50	1611	78	119	573	71	63	491	221
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	601	2324	171	27	3322	160	182	1349	167	59	1155	520
Grp Volume(v), veh/h	198	0	205	126	0	115	275	0	0	327	0	0
Grp Sat Flow(s),veh/h/ln	1430	0	1665	1842	0	1667	1698	0	0	1734	0	0
Q Serve(g_s), s	2.9	0.0	5.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	5.2	3.7	0.0	3.8	10.2	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.45		0.10	0.04		0.10	0.15		0.10	0.07		0.30
Lane Grp Cap(c), veh/h	746	0	808	931	0	808	763	0	0	775	0	0
V/C Ratio(X)	0.27	0.00	0.25	0.14	0.00	0.14	0.36	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	746	0	808	931	0	808	763	0	0	775	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	10.1	14.2	0.0	14.2	19.5	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.3	0.0	0.4	1.3	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.5	2.0	0.0	1.8	5.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	11.1	0.0	10.8	14.5	0.0	14.6	20.8	0.0	0.0	6.3	0.0	0.0
LnGrp LOS	B		B	B		B	C			A		
Approach Vol, veh/h		403			241			275			327	
Approach Delay, s/veh		11.0			14.6			20.8			6.3	
Approach LOS		B			B			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.8		12.2		8.7		6.4
Green Ext Time (p_c), s		0.7		0.7		0.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	82	576	589	135
Future Volume (vph)	160	150	82	576	589	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.88	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2940		1439	3252	2995	
Flt Permitted	0.97		0.33	1.00	1.00	
Satd. Flow (perm)	2940		504	3252	2995	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	85	600	614	141
RTOR Reduction (vph)	0	0	0	0	20	0
Lane Group Flow (vph)	323	0	85	600	735	0
Confl. Peds. (#/hr)	6	3	375			375
Confl. Bikes (#/hr)						11
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	29.5		60.0	60.0	60.0	
Effective Green, g (s)	29.5		60.0	60.0	60.0	
Actuated g/C Ratio	0.29		0.60	0.60	0.60	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	867		302	1951	1797	
v/s Ratio Prot	c0.11			0.18	c0.25	
v/s Ratio Perm			0.17			
v/c Ratio	0.37		0.28	0.31	0.41	
Uniform Delay, d1	27.9		9.6	9.8	10.6	
Progression Factor	0.71		0.41	0.40	0.47	
Incremental Delay, d2	1.2		2.0	0.4	0.7	
Delay (s)	21.1		5.9	4.3	5.6	
Level of Service	C		A	A	A	
Approach Delay (s)	21.1			4.5	5.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	134.7
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	287	0	145	315	0	409	206
Future Vol, veh/h	0	330	287	0	145	315	0	409	206
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	312	0	158	342	0	445	224
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	154.4	67.7	165.1
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	67%	0%	32%
Vol Thru, %	0%	53%	68%
Vol Right, %	33%	47%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	615	617	460
LT Vol	409	0	145
Through Vol	0	330	315
RT Vol	206	287	0
Lane Flow Rate	668	671	500
Geometry Grp	1	1	1
Degree of Util (X)	1.283	1.254	0.982
Departure Headway (Hd)	7.355	7.531	8.245
Convergence, Y/N	Yes	Yes	Yes
Cap	501	490	445
Service Time	5.355	5.531	6.245
HCM Lane V/C Ratio	1.333	1.369	1.124
HCM Control Delay	165.1	154.4	67.7
HCM Lane LOS	F	F	F
HCM 95th-tile Q	26.3	24.4	12.2

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	53	56	0	50	41	50	0	35	262	25
Future Vol, veh/h	0	95	53	56	0	50	41	50	0	35	262	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	107	60	63	0	56	46	56	0	39	294	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.3	11.9	17
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	47%	35%	3%
Vol Thru, %	81%	26%	29%	77%
Vol Right, %	8%	27%	35%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	322	204	141	289
LT Vol	35	95	50	10
Through Vol	262	53	41	222
RT Vol	25	56	50	57
Lane Flow Rate	362	229	158	325
Geometry Grp	1	1	1	1
Degree of Util (X)	0.59	0.396	0.279	0.522
Departure Headway (Hd)	5.873	6.213	6.341	5.782
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	578	566	627
Service Time	3.886	4.261	4.395	3.795
HCM Lane V/C Ratio	0.585	0.396	0.279	0.518
HCM Control Delay	17	13.3	11.9	14.9
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.8	1.9	1.1	3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	10	222	57
Future Vol, veh/h	0	10	222	57
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	249	64
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.9
HCM LOS	B

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	68	10	0	35	111	25	0	5	213	16
Future Vol, veh/h	0	20	68	10	0	35	111	25	0	5	213	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	78	11	0	40	128	29	0	6	245	18
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

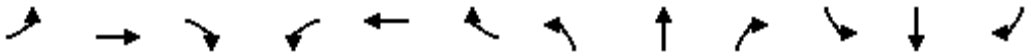
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.8	10.8	11.4
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	20%	20%	2%
Vol Thru, %	91%	69%	65%	89%
Vol Right, %	7%	10%	15%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	234	98	171	219
LT Vol	5	20	35	5
Through Vol	213	68	111	194
RT Vol	16	10	25	20
Lane Flow Rate	269	113	197	252
Geometry Grp	1	1	1	1
Degree of Util (X)	0.386	0.175	0.297	0.358
Departure Headway (Hd)	5.163	5.602	5.441	5.126
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	640	660	702
Service Time	3.193	3.642	3.476	3.159
HCM Lane V/C Ratio	0.386	0.177	0.298	0.359
HCM Control Delay	11.4	9.8	10.8	11
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.8	0.6	1.2	1.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	194	20
Future Vol, veh/h	0	5	194	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	223	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11
HCM LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	32	26	109	109	149	23	478	54	92	608	34
Future Volume (vph)	31	32	26	109	109	149	23	478	54	92	608	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.84			1.00	0.57	1.00	0.97		1.00	0.98	
Flpb, ped/bikes		0.91			0.78	1.00	0.91	1.00		0.88	1.00	
Frt		0.96			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1344			1314	832	1507	3149		1458	3231	
Flt Permitted		0.86			0.82	1.00	0.24	1.00		0.32	1.00	
Satd. Flow (perm)		1179			1103	832	380	3149		486	3231	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	34	27	115	115	157	24	503	57	97	640	36
RTOR Reduction (vph)	0	14	0	0	0	111	0	9	0	0	4	0
Lane Group Flow (vph)	0	80	0	0	230	46	24	551	0	97	672	0
Confl. Peds. (#/hr)	809		1604	1604		809	180		191	191		180
Confl. Bikes (#/hr)			219			89			26			12
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Effective Green, g (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Actuated g/C Ratio		0.29			0.29	0.29	0.32	0.32		0.32	0.32	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		341			319	241	119	991		153	1017	
v/s Ratio Prot								0.18			c0.21	
v/s Ratio Perm		0.07			c0.21	0.05	0.06			0.20		
v/c Ratio		0.23			0.72	0.19	0.20	0.56		0.63	0.66	
Uniform Delay, d1		27.0			31.9	26.7	25.1	28.4		29.3	29.6	
Progression Factor		1.00			1.00	1.00	1.20	1.18		0.71	0.70	
Incremental Delay, d2		1.6			13.2	1.7	2.8	1.7		17.2	3.1	
Delay (s)		28.6			45.1	28.4	33.0	35.2		38.1	24.0	
Level of Service		C			D	C	C	D		D	C	
Approach Delay (s)		28.6			38.3			35.1			25.8	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	153	0	15	20	0	257	5
Future Vol, veh/h	0	5	153	0	15	20	0	257	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	178	0	17	23	0	299	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	11.2
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	3%	57%
Vol Right, %	2%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	262	158	35
LT Vol	257	0	15
Through Vol	0	5	20
RT Vol	5	153	0
Lane Flow Rate	305	184	41
Geometry Grp	1	1	1
Degree of Util (X)	0.408	0.222	0.056
Departure Headway (Hd)	4.827	4.343	4.982
Convergence, Y/N	Yes	Yes	Yes
Cap	746	829	718
Service Time	2.859	2.364	3.015
HCM Lane V/C Ratio	0.409	0.222	0.057
HCM Control Delay	11.2	8.6	8.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2	0.8	0.2

Intersection	
Intersection Delay, s/veh	105.4
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	520	480	0	135	594	0	372	60
Future Vol, veh/h	0	520	480	0	135	594	0	372	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	547	505	0	142	625	0	392	63
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	110.2	127.8	56.7
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	594	520	480	372	60
LT Vol	0	0	520	0	372	0
Through Vol	135	0	0	0	0	60
RT Vol	0	594	0	480	0	0
Lane Flow Rate	142	625	547	505	392	63
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.312	1.253	1.243	0.979	0.946	0.144
Departure Headway (Hd)	8.208	7.482	8.599	7.359	9.266	8.746
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	441	488	427	495	395	412
Service Time	5.908	5.182	6.299	5.059	6.966	6.446
HCM Lane V/C Ratio	0.322	1.281	1.281	1.02	0.992	0.153
HCM Control Delay	14.6	153.5	154.3	62.5	63.8	12.9
HCM Lane LOS	B	F	F	F	F	B
HCM 95th-tile Q	1.3	24.5	21.7	12.8	10.5	0.5

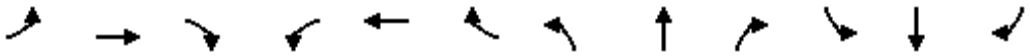
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	927	5	0	965	5	0
Future Volume (vph)	927	5	0	965	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	1.00	
Flt Protected	1.00			1.00	0.95	
Satd. Flow (prot)	1861			1881	1770	
Flt Permitted	1.00			1.00	0.95	
Satd. Flow (perm)	1861			1881	1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	997	5	0	1038	5	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1002	0	0	1038	5	0
Confl. Peds. (#/hr)		33	33		27	18
Confl. Bikes (#/hr)		5				17
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	74.0			74.0	16.0	
Effective Green, g (s)	74.0			74.0	16.0	
Actuated g/C Ratio	0.74			0.74	0.16	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	0.2			0.2	2.0	
Lane Grp Cap (vph)	1377			1391	283	
v/s Ratio Prot	0.54			c0.55	c0.00	
v/s Ratio Perm						
v/c Ratio	0.73			0.75	0.02	
Uniform Delay, d1	7.3			7.5	35.4	
Progression Factor	1.00			1.09	1.00	
Incremental Delay, d2	3.4			3.0	0.0	
Delay (s)	10.7			11.3	35.4	
Level of Service	B			B	D	
Approach Delay (s)	10.7			11.3	35.4	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	1038	43	30	764	87	77	80	25	93	30	210
Future Volume (veh/h)	185	1038	43	30	764	87	77	80	25	93	30	210
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.89	1.00		0.79	1.00		0.83
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	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	201	1128	47	33	830	95	84	87	27	101	33	228
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	340	1663	69	114	1138	130	117	177	55	236	36	247
Arrive On Green	0.19	0.49	0.49	0.13	0.71	0.71	0.07	0.14	0.14	0.14	0.21	0.21
Sat Flow, veh/h	1757	3415	142	1792	3187	365	1707	1227	381	1740	169	1169
Grp Volume(v), veh/h	201	579	596	33	465	460	84	0	114	101	0	261
Grp Sat Flow(s),veh/h/ln	1757	1752	1805	1792	1787	1765	1707	0	1607	1740	0	1338
Q Serve(g_s), s	10.4	25.3	25.3	1.7	15.5	15.5	4.8	0.0	6.5	5.3	0.0	19.1
Cycle Q Clear(g_c), s	10.4	25.3	25.3	1.7	15.5	15.5	4.8	0.0	6.5	5.3	0.0	19.1
Prop In Lane	1.00		0.08	1.00		0.21	1.00		0.24	1.00		0.87
Lane Grp Cap(c), veh/h	340	853	879	114	638	630	117	0	232	236	0	283
V/C Ratio(X)	0.59	0.68	0.68	0.29	0.73	0.73	0.72	0.00	0.49	0.43	0.00	0.92
Avail Cap(c_a), veh/h	340	853	879	114	638	630	137	0	310	236	0	285
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.86	0.86	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.7	19.6	19.7	41.6	11.4	11.4	45.6	0.0	39.4	39.7	0.0	38.6
Incr Delay (d2), s/veh	1.2	2.8	2.7	0.4	6.2	6.3	10.7	0.0	0.6	0.5	0.0	33.0
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	5.1	12.9	13.3	0.8	8.3	8.3	2.6	0.0	3.0	2.6	0.0	9.6
LnGrp Delay(d),s/veh	37.9	22.4	22.4	42.1	17.6	17.7	56.3	0.0	40.0	40.1	0.0	71.7
LnGrp LOS	D	C	C	D	B	B	E		D	D		E
Approach Vol, veh/h		1376			958			198			362	
Approach Delay, s/veh		24.7			18.5			46.9			62.9	
Approach LOS		C			B			D			E	

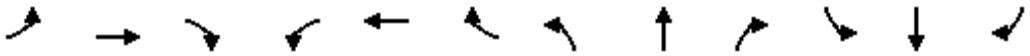
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.3	40.2	17.6	18.9	10.3	53.2	10.8	25.6
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	18.0	35.7	10.0	19.3	5.0	48.7	8.0	21.3
Max Q Clear Time (g_c+I1), s	12.4	17.5	7.3	8.5	3.7	27.3	6.8	21.1
Green Ext Time (p_c), s	0.2	3.9	0.1	0.3	0.1	5.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1073	0	5	788	63	40	60	70	183	5	58
Future Volume (vph)	88	1073	0	5	788	63	40	60	70	183	5	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.90		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.94	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3329			1840	1448		1625	
Flt Permitted	0.95	1.00		0.95	1.00			0.84	1.00		0.72	
Satd. Flow (perm)	1787	3574		1752	3329			1571	1448		1207	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	90	1095	0	5	804	64	41	61	71	187	5	59
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	51	0	12	0
Lane Group Flow (vph)	90	1095	0	5	863	0	0	102	20	0	239	0
Confl. Peds. (#/hr)	258		203	203		258	53		93	93		53
Confl. Bikes (#/hr)						6						2
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	10.2	58.1		1.0	48.9			27.9	27.9		27.9	
Effective Green, g (s)	10.2	58.1		1.0	48.9			27.9	27.9		27.9	
Actuated g/C Ratio	0.10	0.58		0.01	0.49			0.28	0.28		0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	182	2076		17	1627			438	403		336	
v/s Ratio Prot	c0.05	c0.31		0.00	0.26							
v/s Ratio Perm								0.06	0.01		c0.20	
v/c Ratio	0.49	0.53		0.29	0.53			0.23	0.05		0.71	
Uniform Delay, d1	42.5	12.7		49.1	17.6			27.8	26.4		32.4	
Progression Factor	0.65	0.60		0.94	0.26			1.00	1.00		1.00	
Incremental Delay, d2	0.6	0.8		2.0	0.7			0.3	0.1		6.9	
Delay (s)	28.4	8.4		48.0	5.2			28.1	26.4		39.3	
Level of Service	C	A		D	A			C	C		D	
Approach Delay (s)		9.9			5.4			27.4			39.3	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	1174	60	113	644	233	125	225	344	475	176	87
Future Volume (vph)	92	1174	60	113	644	233	125	225	344	475	176	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.89		0.84		1.00	0.93	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.93		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.99	
Satd. Flow (prot)	1787	3437		1703	3406	1351		2741		1573	1469	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.99	
Satd. Flow (perm)	1787	3437		1703	3406	1351		2741		1573	1469	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	98	1249	64	120	685	248	133	239	366	505	187	93
RTOR Reduction (vph)	0	3	0	0	0	36	0	102	0	0	11	0
Lane Group Flow (vph)	98	1310	0	120	685	212	0	636	0	394	380	0
Confl. Peds. (#/hr)	138		426	426		138	195		260	260		195
Confl. Bikes (#/hr)			2			27			36			18
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	8.5	31.0		5.5	28.0	50.5		23.0		22.5	22.5	
Effective Green, g (s)	8.5	31.0		5.5	28.0	50.5		23.0		22.5	22.5	
Actuated g/C Ratio	0.08	0.31		0.06	0.28	0.50		0.23		0.22	0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	151	1065		93	953	743		630		353	330	
v/s Ratio Prot	0.05	c0.38		c0.07	0.20	0.06		c0.23		0.25	c0.26	
v/s Ratio Perm						0.09						
v/c Ratio	0.65	1.23		1.29	0.72	0.29		1.01		1.12	1.15	
Uniform Delay, d1	44.3	34.5		47.2	32.5	14.3		38.5		38.8	38.8	
Progression Factor	0.91	0.90		1.00	1.00	1.00		1.00		0.89	0.90	
Incremental Delay, d2	6.3	110.9		189.8	4.7	0.2		38.4		77.2	91.6	
Delay (s)	46.6	141.9		237.1	37.1	14.5		76.9		111.7	126.3	
Level of Service	D	F		F	D	B		E		F	F	
Approach Delay (s)		135.3			54.6			76.9			119.0	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	100.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	0	167	103	0
Future Vol, veh/h	0	10	0	167	103	0
Conflicting Peds, #/hr	75	0	0	53	53	75
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	0	11	0	184	113	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	259	0	-	0	231	242
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1300	-	-	-	753	792
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	954	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1219	-	-	-	662	696
Mov Cap-2 Maneuver	-	-	-	-	662	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

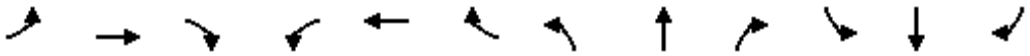
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1219	-	-	-	662
HCM Lane V/C Ratio	-	-	-	-	0.171
HCM Control Delay (s)	0	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Intersection Delay, s/veh	40.6
Intersection LOS	E

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	50	63	0	127	549	0	264	40
Future Vol, veh/h	0	50	63	0	127	549	0	264	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	56	70	0	141	610	0	293	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.1	57.9	13.2
HCM LOS	B	F	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	19%	44%	0%
Vol Thru, %	81%	0%	87%
Vol Right, %	0%	56%	13%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	676	113	304
LT Vol	127	50	0
Through Vol	549	0	264
RT Vol	0	63	40
Lane Flow Rate	751	126	338
Geometry Grp	1	1	1
Degree of Util (X)	1.013	0.219	0.489
Departure Headway (Hd)	4.857	6.281	5.209
Convergence, Y/N	Yes	Yes	Yes
Cap	751	570	692
Service Time	2.857	4.33	3.241
HCM Lane V/C Ratio	1	0.221	0.488
HCM Control Delay	57.9	11.1	13.2
HCM Lane LOS	F	B	B
HCM 95th-tile Q	17.4	0.8	2.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	272	10	5	661	5	0	0	5	0	0	10
Future Volume (vph)	10	272	10	5	661	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	286	11	5	696	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	297	706	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.09	0.08	-0.60	-0.60
Departure Headway (s)	5.6	5.1	4.5	5.6	5.5
Degree Utilization, x	0.02	0.42	0.88	0.01	0.02
Capacity (veh/h)	626	689	799	596	592
Control Delay (s)	7.5	10.6	30.2	8.6	8.6
Approach Delay (s)	10.5		30.2	8.6	8.6
Approach LOS	B		D	A	A

Intersection Summary				
Delay	24.0			
Level of Service	C			
Intersection Capacity Utilization	59.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	13.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	86	115	2326	75	74	1072
Future Vol, veh/h	86	115	2326	75	74	1072
Conflicting Peds, #/hr	0	3	0	0	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	91	121	2448	79	78	1128

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3211	1270	0	0	2530	0
Stage 1	2491	-	-	-	-	-
Stage 2	720	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 8	162	-	-	175	-
Stage 1	~ 49	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	161	-	-	175	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	~ 49	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	233	0	2.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	175	-
HCM Lane V/C Ratio	-	-	1.314	0.445	-
HCM Control Delay (s)	-	-	233	41.1	-
HCM Lane LOS	-	-	F	E	-
HCM 95th %tile Q(veh)	-	-	12.6	2.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2336	20	0	1163
Future Vol, veh/h	5	40	2336	20	0	1163
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2459	21	0	1224

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3087	1246	0	0	-	-
Stage 1	2472	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	9	165	-	-	0	-
Stage 1	49	-	-	-	0	-
Stage 2	502	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	9	164	-	-	-	-
Mov Cap-2 Maneuver	46	-	-	-	-	-
Stage 1	49	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.8	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	128	-
HCM Lane V/C Ratio	-	-	0.37	-
HCM Control Delay (s)	-	-	48.8	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	1.5	-

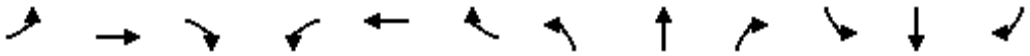
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2361	25	10	1153
Future Vol, veh/h	0	5	2361	25	10	1153
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2459	26	10	1201

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1253	0	0	2490	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	166	-	-	181	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	165	-	-	180	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

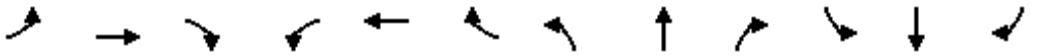
Approach	WB	NB	SB
HCM Control Delay, s	27.5	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	165	180	-
HCM Lane V/C Ratio	-	-	0.032	0.058	-
HCM Control Delay (s)	-	-	27.5	26.2	-
HCM Lane LOS	-	-	D	D	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	534	25	80	168	0	70	0	1722	5	18	949	186
Future Volume (vph)	534	25	80	168	0	70	0	1722	5	18	949	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.86	1.00		0.99		1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.98	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1692	1363	1701		1594		3568			3349	
Flt Permitted	0.95	0.96	1.00	0.34		1.00		1.00			0.86	
Satd. Flow (perm)	1681	1692	1363	610		1594		3568			2889	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	556	26	83	175	0	73	0	1794	5	19	989	194
RTOR Reduction (vph)	0	0	60	0	0	10	0	0	0	0	11	0
Lane Group Flow (vph)	289	293	23	175	0	63	0	1799	0	0	1191	0
Confl. Peds. (#/hr)			76	76			37		176	176		37
Confl. Bikes (#/hr)			8			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4				2		
Actuated Green, G (s)	33.2	33.2	33.2	33.2		33.2		77.8			77.8	
Effective Green, g (s)	33.2	33.2	33.2	33.2		33.2		77.8			77.8	
Actuated g/C Ratio	0.28	0.28	0.28	0.28		0.28		0.65			0.65	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	465	468	377	168		441		2313			1873	
v/s Ratio Prot								c0.50				
v/s Ratio Perm	0.17	0.17	0.02	c0.29		0.04					0.41	
v/c Ratio	0.62	0.63	0.06	1.04		0.14		0.78			0.64	
Uniform Delay, d1	37.9	38.0	31.9	43.4		32.7		15.0			12.6	
Progression Factor	0.73	0.72	1.57	1.00		1.00		0.67			1.00	
Incremental Delay, d2	1.2	1.2	0.0	80.9		0.1		1.3			1.7	
Delay (s)	28.7	28.7	50.2	124.3		32.7		11.3			14.3	
Level of Service	C	C	D	F		C		B			B	
Approach Delay (s)		31.4			97.3			11.3			14.3	
Approach LOS		C			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



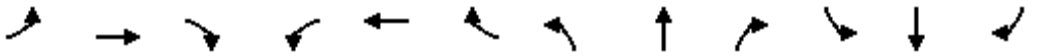
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	524	1394	60	45	749	40	0	0	0	0	0	241
Future Volume (vph)	524	1394	60	45	749	40	0	0	0	0	0	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.64	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1036	1805	3522							1565
Flt Permitted	0.95	1.00	1.00	0.14	1.00							1.00
Satd. Flow (perm)	1805	3610	1036	260	3522							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	563	1499	65	48	805	43	0	0	0	0	0	259
RTOR Reduction (vph)	0	0	33	0	6	0	0	0	0	0	0	24
Lane Group Flow (vph)	563	1499	32	48	842	0	0	0	0	0	0	235
Confl. Peds. (#/hr)			205	205		427			712	712		
Confl. Bikes (#/hr)			7			9		9				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	20.8	29.2	29.2	29.2	29.2							20.8
Effective Green, g (s)	20.8	29.2	29.2	29.2	29.2							20.8
Actuated g/C Ratio	0.35	0.49	0.49	0.49	0.49							0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	625	1756	504	126	1714							542
v/s Ratio Prot	c0.31	c0.42			0.24							0.15
v/s Ratio Perm			0.03	0.18								
v/c Ratio	0.90	0.85	0.06	0.38	0.49							0.43
Uniform Delay, d1	18.6	13.5	8.2	9.7	10.4							15.1
Progression Factor	1.00	1.00	1.00	0.62	0.66							1.22
Incremental Delay, d2	15.8	5.5	0.2	8.2	1.0							0.2
Delay (s)	34.5	19.0	8.4	14.2	7.8							18.6
Level of Service	C	B	A	B	A							B
Approach Delay (s)		22.8			8.2			0.0			18.6	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1379	15	40	829	65	65
Future Volume (vph)	1379	15	40	829	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.76	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1168	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1168	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1467	16	43	882	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1467	15	43	882	69	5
Confl. Peds. (#/hr)		74	74		41	
Confl. Bikes (#/hr)		7				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	810	194	2674	136	120
v/s Ratio Prot	c0.43		c0.03	0.27	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.61	0.02	0.22	0.33	0.51	0.04
Uniform Delay, d1	9.8	5.7	48.0	3.0	53.3	51.4
Progression Factor	1.31	1.61	0.74	2.80	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.0	1.1	0.1
Delay (s)	13.4	9.2	35.6	8.5	54.4	51.5
Level of Service	B	A	D	A	D	D
Approach Delay (s)	13.4			9.8	52.9	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1444	0	63	20	781	1707	28	5	1162	20
Future Volume (vph)	0	0	1444	0	63	20	781	1707	28	5	1162	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.66
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3496		1752	3505	1037
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3496		1752	3505	1037
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1489	0	65	21	805	1760	29	5	1198	21
RTOR Reduction (vph)	0	0	288	0	0	19	0	1	0	0	0	12
Lane Group Flow (vph)	0	0	1201	0	65	2	805	1788	0	5	1198	9
Confl. Peds. (#/hr)							243		318	318		243
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			101.8		12.9	12.9	31.9	64.4		1.0	51.2	51.2
Effective Green, g (s)			96.8		12.9	12.9	31.9	57.4		1.0	51.2	51.2
Actuated g/C Ratio			0.81		0.11	0.11	0.27	0.48		0.01	0.43	0.43
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2248		200	170	912	1672		14	1495	442
v/s Ratio Prot					0.03		c0.23	c0.51		0.00	0.34	
v/s Ratio Perm			c0.43			0.00						0.01
v/c Ratio			0.53		0.33	0.01	0.88	1.07		0.36	0.80	0.02
Uniform Delay, d1			3.9		49.5	47.9	42.3	31.3		59.2	30.0	19.9
Progression Factor			1.00		1.00	1.00	0.73	1.27		0.87	0.73	1.00
Incremental Delay, d2			0.1		0.3	0.0	8.4	41.6		4.3	3.6	0.1
Delay (s)			4.0		49.9	47.9	39.1	81.2		56.1	25.4	20.0
Level of Service			A		D	D	D	F		E	C	B
Approach Delay (s)		4.0			49.4			68.1			25.4	
Approach LOS		A			D			E			C	

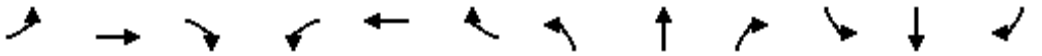
Intersection Summary			
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	877	200	1834	30	30	1972	579	30
Future Volume (vph)	877	200	1834	30	30	1972	579	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4906		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4906		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	914	217	1910	33	33	2054	629	33
RTOR Reduction (vph)	244	0	0	16	0	33	0	0
Lane Group Flow (vph)	670	217	1910	17	33	2650	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	36.9	10.0	61.0	61.0	17.9	87.9		5.6
Effective Green, g (s)	36.9	10.0	61.0	61.0	17.9	87.9		5.6
Actuated g/C Ratio	0.31	0.08	0.51	0.51	0.15	0.73		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	857	286	1798	804	264	3593		75
v/s Ratio Prot	c0.24	0.06	c0.54		0.02	c0.42		c0.02
v/s Ratio Perm				0.01		0.12		
v/c Ratio	0.78	0.76	1.06	0.02	0.12	0.74		0.44
Uniform Delay, d1	37.9	53.8	29.5	14.7	44.3	9.3		55.7
Progression Factor	1.00	0.97	0.96	1.00	0.83	2.64		1.00
Incremental Delay, d2	4.7	8.1	37.3	0.0	0.2	0.7		4.1
Delay (s)	42.5	60.4	65.8	14.7	37.1	25.4		59.8
Level of Service	D	E	E	B	D	C		E
Approach Delay (s)			64.4			25.5		
Approach LOS			E			C		

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	599	25	60	115	5	425	90	805	5	165	961	846
Future Volume (vph)	599	25	60	115	5	425	90	805	5	165	961	846
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1437	1752	1845	1568	3367	3463		1752	3505	1416
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1437	1752	1845	1568	3367	3463		1752	3505	1416
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	631	26	63	121	5	447	95	847	5	174	1012	891
RTOR Reduction (vph)	0	0	49	0	0	64	0	0	0	0	0	527
Lane Group Flow (vph)	328	329	14	121	5	383	95	852	0	174	1012	364
Confl. Peds. (#/hr)	3		60	60		3	111		170	170		111
Confl. Bikes (#/hr)						5			8			10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.3	26.3	26.3	20.7	20.7	39.7	6.0	40.5		14.5	49.0	49.0
Effective Green, g (s)	26.3	26.3	26.3	20.7	20.7	39.7	6.0	40.5		14.5	49.0	49.0
Actuated g/C Ratio	0.22	0.22	0.22	0.17	0.17	0.33	0.05	0.34		0.12	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	368	370	314	302	318	518	168	1168		211	1431	578
v/s Ratio Prot	c0.20	0.19		0.07	0.00	c0.24	0.03	c0.25		0.10	0.29	
v/s Ratio Perm			0.01									0.26
v/c Ratio	0.89	0.89	0.04	0.40	0.02	0.74	0.57	0.73		0.82	0.71	0.63
Uniform Delay, d1	45.5	45.4	36.9	44.1	41.2	35.6	55.7	34.9		51.5	29.5	28.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.94	0.92	3.00
Incremental Delay, d2	22.1	21.4	0.0	0.9	0.0	5.6	2.6	4.0		15.6	2.1	3.6
Delay (s)	67.6	66.8	37.0	45.0	41.2	41.2	58.3	39.0		64.3	29.4	88.4
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		64.6			42.0			40.9			57.6	
Approach LOS		E			D			D			E	

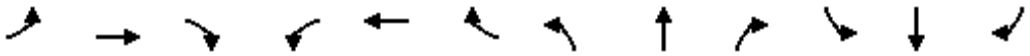
Intersection Summary			
HCM 2000 Control Delay	53.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	173	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	173	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				177	128	179
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1345	562	300	2713	0				501	263	220
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2530	1017	1774	3632	0				3619	1900	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				177	128	179
Grp Sat Flow(s),veh/h/ln	0	1787	1666	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				4.4	6.2	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				4.4	6.2	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	987	920	300	2713	0				501	263	220
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.35	0.49	0.81
Avail Cap(c_a), veh/h	0	987	920	452	2713	0				651	342	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				39.0	39.8	41.8
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.3	1.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.2	3.3	5.5
LnGrp Delay(d),s/veh	0.0	16.1	16.3	41.6	0.3	0.0				39.3	40.8	53.6
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						484	
Approach Delay, s/veh		16.2			7.7						45.0	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.7		18.8		81.2		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.8		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	573	0	0	830	337	605	230	365	0	0	0
Future Volume (vph)	305	573	0	0	830	337	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.87	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1381	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1381	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	597	0	0	865	351	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	81	0	0	177	0	0	0
Lane Group Flow (vph)	318	597	0	0	865	270	428	442	203	0	0	0
Confl. Peds. (#/hr)	24		22	22		24			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	459	551	567	507			
v/s Ratio Prot	c0.18	0.17			c0.24		0.25	c0.25				
v/s Ratio Perm						0.20			0.13			
v/c Ratio	0.86	0.29			0.73	0.59	0.78	0.78	0.40			
Uniform Delay, d1	38.3	10.3			29.4	27.7	30.5	30.5	26.2			
Progression Factor	0.83	0.70			0.54	0.44	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.6	4.8	10.3	10.2	2.4			
Delay (s)	48.0	7.5			19.4	16.9	40.8	40.7	28.5			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		21.6			18.7			37.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	818	30	5	1082	5	40	20	30	15	10	15
Future Volume (veh/h)	20	818	30	5	1082	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.96		0.94	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	835	31	5	1104	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	59	2005	74	38	2134	10	233	115	150	209	143	182
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	35	3314	122	4	3528	16	583	372	485	515	461	586
Grp Volume(v), veh/h	457	0	429	583	0	531	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1684	1856	0	1691	1440	0	0	1562	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.04		0.07	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.50	0.00	0.52	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.3	1.6	0.0	1.9	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.5	0.0	0.5	2.0	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.3	1.6	0.0	1.9	26.1	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		886			1114			92			40	
Approach Delay, s/veh		1.2			1.7			26.1			24.6	
Approach LOS		A			A			C			C	

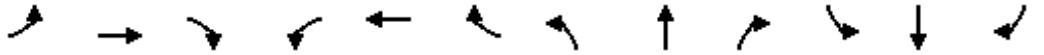
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		35.0		65.0		35.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		60.5		31.0		60.5		31.0
Max Q Clear Time (g_c+I1), s		2.0		6.3		2.0		3.6
Green Ext Time (p_c), s		2.5		0.1		2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	3.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	789	84	105	967	0	0	0	0	128	682	130
Future Volume (veh/h)	0	789	84	105	967	0	0	0	0	128	682	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	813	87	108	997	0				132	703	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1767	189	0	1967	0				201	1128	526
Arrive On Green	0.00	0.55	0.55	0.00	1.00	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	3336	347	0	3705	0				550	3091	1442
Grp Volume(v), veh/h	0	448	452	0	997	0				445	390	134
Grp Sat Flow(s),veh/h/ln	0	1787	1801	0	1805	0				1854	1787	1442
Q Serve(g_s), s	0.0	15.2	15.2	0.0	0.0	0.0				20.0	17.7	6.5
Cycle Q Clear(g_c), s	0.0	15.2	15.2	0.0	0.0	0.0				20.0	17.7	6.5
Prop In Lane	0.00		0.19	0.00		0.00				0.30		1.00
Lane Grp Cap(c), veh/h	0	974	982	0	1967	0				677	652	526
V/C Ratio(X)	0.00	0.46	0.46	0.00	0.51	0.00				0.66	0.60	0.25
Avail Cap(c_a), veh/h	0	974	982	0	1967	0				677	652	526
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	0.0	0.0	0.0				26.5	25.8	22.2
Incr Delay (d2), s/veh	0.0	1.6	1.6	0.0	0.9	0.0				4.9	4.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.9	8.0	0.0	0.3	0.0				11.2	9.4	2.7
LnGrp Delay(d),s/veh	0.0	15.4	15.4	0.0	0.9	0.0				31.5	29.8	23.4
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		900			997						969	
Approach Delay, s/veh		15.4			0.9						29.7	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.0			0.0	59.0		41.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			13.7	36.3		36.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	17.2		22.0
Green Ext Time (p_c), s		2.8			0.0	2.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

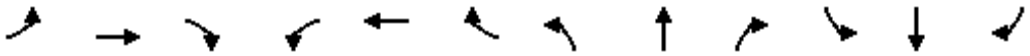


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	687	0	0	828	98	234	765	70	0	0	0
Future Volume (veh/h)	210	687	0	0	828	98	234	765	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	731	0	0	881	104	249	814	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	63	868	0	0	1361	161	285	983	93			
Arrive On Green	0.36	0.36	0.00	0.00	0.85	0.85	0.12	0.12	0.12			
Sat Flow, veh/h	2	1715	0	0	3281	376	756	2608	247			
Grp Volume(v), veh/h	316	638	0	0	494	491	601	0	536			
Grp Sat Flow(s),veh/h/ln	5	1627	0	0	1787	1776	1825	0	1786			
Q Serve(g_s), s	39.6	34.2	0.0	0.0	9.0	9.0	32.4	0.0	29.2			
Cycle Q Clear(g_c), s	39.6	34.2	0.0	0.0	9.0	9.0	32.4	0.0	29.2			
Prop In Lane	0.70		0.00	0.00		0.21	0.41		0.14			
Lane Grp Cap(c), veh/h	0	867	0	0	763	758	688	0	673			
V/C Ratio(X)	0.00	0.74	0.00	0.00	0.65	0.65	0.87	0.00	0.80			
Avail Cap(c_a), veh/h	0	867	0	0	763	758	688	0	673			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	26.0	0.0	0.0	4.8	4.8	41.4	0.0	40.0			
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	4.2	4.2	14.5	0.0	9.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	16.7	0.0	0.0	5.0	5.0	19.1	0.0	16.2			
LnGrp Delay(d),s/veh	0.0	31.5	0.0	0.0	9.1	9.1	55.9	0.0	49.5			
LnGrp LOS		C			A	A	E		D			
Approach Vol, veh/h		954			985			1137				
Approach Delay, s/veh		21.1			9.1			52.9				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		47.2		42.2		57.8		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 43		37.7		53.3		
Max Q Clear Time (g_c+I1), s		11.0		34.4		41.6		
Green Ext Time (p_c), s		1.1		0.7		2.0		

Intersection Summary		
HCM 2010 Ctrl Delay		29.0
HCM 2010 LOS		C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	520	116	25	746	50	30	50	15	10	90	75
Future Volume (vph)	80	520	116	25	746	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.98			0.98			0.97	
Flpb, ped/bikes		0.99			1.00			0.99			0.99	
Frt		0.98			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3112			3372			1767			1686	
Flt Permitted		0.70			0.92			0.89			0.99	
Satd. Flow (perm)		2183			3093			1599			1671	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	542	121	26	777	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	16	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	730	0	0	850	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	120		200	200		120	92		159	159		92
Confl. Bikes (#/hr)			1			3			14			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1036			1469			703			735	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.27			0.06			c0.09	
v/c Ratio		0.70			0.58			0.13			0.21	
Uniform Delay, d1		20.7			19.0			16.6			17.3	
Progression Factor		1.07			0.36			0.94			1.00	
Incremental Delay, d2		1.9			1.5			0.3			0.7	
Delay (s)		24.1			8.4			15.9			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		24.1			8.4			15.9			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	438	52	20	670	20	76	160	30	10	165	70
Future Volume (veh/h)	85	438	52	20	670	20	76	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.79	0.92		0.78	0.92		0.84	0.90		0.85
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	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	466	55	21	713	21	81	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	213	1049	124	59	1556	45	202	403	71	48	474	192
Arrive On Green	0.95	0.95	0.95	0.95	0.95	0.95	0.87	0.87	0.87	0.44	0.44	0.44
Sat Flow, veh/h	349	2208	260	45	3276	95	358	926	164	25	1090	441
Grp Volume(v), veh/h	280	0	331	395	0	360	283	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1250	0	1567	1785	0	1631	1448	0	0	1556	0	0
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	1.8	1.9	0.0	2.0	3.2	0.0	0.0	11.2	0.0	0.0
Prop In Lane	0.32		0.17	0.05		0.06	0.29		0.11	0.04		0.28
Lane Grp Cap(c), veh/h	641	0	744	886	0	775	676	0	0	714	0	0
V/C Ratio(X)	0.44	0.00	0.44	0.45	0.00	0.46	0.42	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	641	0	744	886	0	775	676	0	0	714	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.3	0.0	1.4	1.4	0.0	1.4	3.9	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	1.9	1.6	0.0	2.0	1.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.9	1.1	0.0	1.0	1.8	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	3.5	0.0	3.3	3.0	0.0	3.4	5.8	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	A		A	A		A	A			C		
Approach Vol, veh/h		611			755			283			261	
Approach Delay, s/veh		3.4			3.2			5.8			20.6	
Approach LOS		A			A			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.0		48.0		52.0		48.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.5		43.5		47.5		43.5
Max Q Clear Time (g_c+I1), s		4.0		5.2		3.8		13.2
Green Ext Time (p_c), s		1.9		0.8		1.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	353	55	50	483	25	207	420	40	20	330	20
Future Volume (veh/h)	70	353	55	50	483	25	207	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.75	0.97		0.85	0.99		0.92	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	372	58	53	508	26	218	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	140	718	121	108	1018	54	478	932	90	63	886	52
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	1.00	1.00	1.00	0.55	0.55	0.55
Sat Flow, veh/h	255	1966	331	181	2790	147	761	1710	165	46	1626	95
Grp Volume(v), veh/h	246	0	258	295	0	292	290	0	412	389	0	0
Grp Sat Flow(s),veh/h/ln	1079	0	1474	1464	0	1654	1018	0	1617	1767	0	0
Q Serve(g_s), s	9.5	0.0	13.5	4.6	0.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	23.1	0.0	13.5	18.1	0.0	13.6	0.0	0.0	0.0	12.4	0.0	0.0
Prop In Lane	0.30		0.22	0.18		0.09	0.75		0.10	0.05		0.05
Lane Grp Cap(c), veh/h	441	0	538	577	0	604	618	0	881	1001	0	0
V/C Ratio(X)	0.56	0.00	0.48	0.51	0.00	0.48	0.47	0.00	0.47	0.39	0.00	0.00
Avail Cap(c_a), veh/h	441	0	538	577	0	604	618	0	881	1001	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.9	0.0	24.4	25.0	0.0	24.5	0.0	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	5.0	0.0	3.0	3.2	0.0	2.8	2.5	0.0	1.8	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.0	5.9	7.2	0.0	6.6	0.4	0.0	0.4	6.5	0.0	0.0
LnGrp Delay(d),s/veh	32.9	0.0	27.5	28.2	0.0	27.2	2.5	0.0	1.8	14.3	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		504			587			702			389	
Approach Delay, s/veh		30.1			27.7			2.1			14.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.0		59.0		41.0		59.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		36.5		54.5		36.5		54.5
Max Q Clear Time (g_c+I1), s		20.1		2.0		25.1		14.4
Green Ext Time (p_c), s		6.7		9.9		5.4		9.5

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	397	111	25	381	10	237	95	25	15	80	20
Future Volume (vph)	25	397	111	25	381	10	237	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3281			1838			1785			1773	
Flt Permitted		0.92			0.95			0.97			0.99	
Satd. Flow (perm)		3026			1743			1785			1773	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	436	122	27	419	11	260	104	27	16	88	22
RTOR Reduction (vph)	0	22	0	0	1	0	0	2	0	0	7	0
Lane Group Flow (vph)	0	563	0	0	456	0	0	389	0	0	119	0
Confl. Peds. (#/hr)	56		83	83		56	87		66	66		87
Confl. Bikes (#/hr)						2			42			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		42.4			42.4			33.5			21.1	
Effective Green, g (s)		42.4			42.4			33.5			21.1	
Actuated g/C Ratio		0.38			0.38			0.30			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1161			668			541			338	
v/s Ratio Prot								c0.22			c0.07	
v/s Ratio Perm		0.19			c0.26							
v/c Ratio		0.49			0.68			0.72			0.35	
Uniform Delay, d1		25.8			28.4			34.3			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.5			5.6			8.0			2.9	
Delay (s)		27.2			34.0			42.3			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		27.2			34.0			42.3			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	67	0	5	30	5	0	136	65	5
Future Vol, veh/h	0	315	30	67	0	5	30	5	0	136	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	75	0	6	34	6	0	153	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

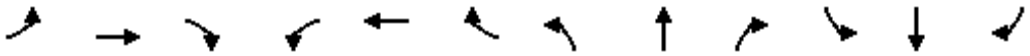
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	24.2	10.4	13.7
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	66%	76%	12%	1%
Vol Thru, %	32%	7%	75%	16%
Vol Right, %	2%	16%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	412	40	340
LT Vol	136	315	5	5
Through Vol	65	30	30	55
RT Vol	5	67	5	280
Lane Flow Rate	231	463	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.408	0.746	0.084	0.589
Departure Headway (Hd)	6.345	5.905	6.765	5.547
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	569	616	529	653
Service Time	4.36	3.905	4.807	3.547
HCM Lane V/C Ratio	0.406	0.752	0.085	0.585
HCM Control Delay	13.7	24.2	10.4	16.2
HCM Lane LOS	B	C	B	C
HCM 95th-tile Q	2	6.6	0.3	3.9

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

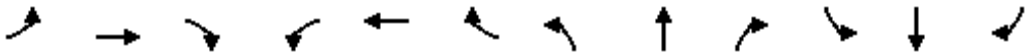
Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	16.2
HCM LOS	C



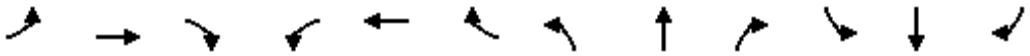
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	851	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	851	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1742			1737						3469	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1742			1326						3469	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	905	37
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	120	0	0	175	0	0	0	0	0	975	0
Confl. Peds. (#/hr)	78		113	113		78	114		59	59		114
Confl. Bikes (#/hr)			6			23						11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		400			304						2012	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.28	
v/c Ratio		0.30			0.58						0.48	
Uniform Delay, d1		15.9			17.1						6.1	
Progression Factor		1.00			0.90						2.21	
Incremental Delay, d2		0.6			2.8						0.6	
Delay (s)		16.5			18.2						14.2	
Level of Service		B			B						B	
Approach Delay (s)		16.5			18.2			0.0			14.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	909	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	909	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.93			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1622			3494				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1622			3494				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	977	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	55	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	181	0	0	1083	0	0	0	0
Confl. Peds. (#/hr)	89		93	93		89	44		48	48		44
Confl. Bikes (#/hr)			14			30			81			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.4			10.4			29.6				
Effective Green, g (s)		10.4			10.4			29.6				
Actuated g/C Ratio		0.21			0.21			0.59				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		395			337			2068				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.31				
v/c Ratio		0.30			0.54			0.52				
Uniform Delay, d1		16.7			17.6			6.0				
Progression Factor		1.17			0.93			0.99				
Incremental Delay, d2		0.2			0.8			0.8				
Delay (s)		19.8			17.2			6.7				
Level of Service		B			B			A				
Approach Delay (s)		19.8			17.2			6.7			0.0	
Approach LOS		B			B			A			A	

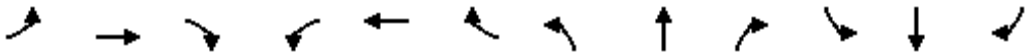
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	547	40	25	405	35
Future Volume (vph)	75	70	60	25	35	65	115	547	40	25	405	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.95			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			1.00	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1623			1551			3308			1710	
Flt Permitted		0.85			0.92			0.81			0.95	
Satd. Flow (perm)		1398			1438			2688			1622	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	588	43	27	435	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	9	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	746	0	0	494	0
Confl. Peds. (#/hr)	140		146	146		140	175		131	131		175
Confl. Bikes (#/hr)			6			4			24			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		419			431			1424			859	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.28			c0.30	
v/c Ratio		0.46			0.20			0.52			0.57	
Uniform Delay, d1		14.2			13.0			7.6			7.9	
Progression Factor		1.53			1.00			1.00			0.58	
Incremental Delay, d2		3.5			1.0			0.7			2.6	
Delay (s)		25.2			14.1			8.4			7.2	
Level of Service		C			B			A			A	
Approach Delay (s)		25.2			14.1			8.4			7.2	
Approach LOS		C			B			A			A	

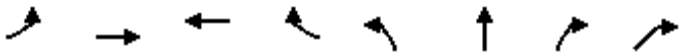
Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	700	250	531	896	0	0	0	0	303	220	220
Future Volume (vph)	0	700	250	531	896	0	0	0	0	303	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (prot)		3295		3433	3539					1579	2998	
Flt Permitted		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (perm)		3295		3433	3539					1579	2998	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	729	260	553	933	0	0	0	0	316	229	229
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	951	0	553	933	0	0	0	0	262	434	0
Confl. Peds. (#/hr)	128		138	138		128	35					35
Confl. Bikes (#/hr)			2			8						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		33.8		28.2	66.5					24.0	24.0	
Effective Green, g (s)		33.8		28.2	66.5					24.0	24.0	
Actuated g/C Ratio		0.34		0.28	0.66					0.24	0.24	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1113		968	2353					378	719	
v/s Ratio Prot		c0.29		c0.16	0.26					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.85		0.57	0.40					0.69	0.60	
Uniform Delay, d1		30.8		30.7	7.6					34.6	33.8	
Progression Factor		1.00		1.06	1.34					1.29	1.38	
Incremental Delay, d2		6.6		1.1	0.2					9.1	3.4	
Delay (s)		37.4		33.8	10.4					53.6	49.9	
Level of Service		D		C	B					D	D	
Approach Delay (s)		37.4			19.1			0.0			51.2	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	763	946	392	491	438	522	60
Future Volume (vph)	235	763	946	392	491	438	522	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	2992		3400	1705	1430	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	2992		3400	1705	1430	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	803	996	413	517	461	549	63
RTOR Reduction (vph)	0	0	45	0	0	6	82	0
Lane Group Flow (vph)	247	803	1364	0	517	532	390	63
Confl. Peds. (#/hr)	294			294	95		24	
Confl. Bikes (#/hr)				24				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	15.1	56.7	42.5		28.9	28.9	28.9	59.1
Effective Green, g (s)	15.1	56.7	42.5		28.9	28.9	28.9	59.1
Actuated g/C Ratio	0.15	0.57	0.42		0.29	0.29	0.29	0.59
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	262	1968	1271		982	492	413	943
v/s Ratio Prot	c0.14	0.23	c0.46		0.15	c0.31		0.00
v/s Ratio Perm							0.27	0.04
v/c Ratio	0.94	0.41	1.07		0.53	1.08	0.94	0.07
Uniform Delay, d1	42.0	12.2	28.8		29.8	35.5	34.8	8.7
Progression Factor	1.19	1.53	1.07		1.00	1.00	1.00	1.00
Incremental Delay, d2	29.9	0.4	45.8		2.0	64.5	32.4	0.0
Delay (s)	79.8	19.0	76.6		31.8	100.0	67.2	8.7
Level of Service	E	B	E		C	F	E	A
Approach Delay (s)		33.3	76.6			66.8		
Approach LOS		C	E			E		

Intersection Summary			
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1212	10	10	1323	5	95
Future Vol, veh/h	1212	10	10	1323	5	95
Conflicting Peds, #/hr	0	224	224	0	224	224
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1303	11	11	1423	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1538	0	2490	1105
Stage 1	-	-	-	-	1533	-
Stage 2	-	-	-	-	957	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	423	-	25	209
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	338	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	344	-	16	138
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	266	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	82.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	344	-
HCM Lane V/C Ratio	0.74	-	-	0.031	-
HCM Control Delay (s)	82.7	-	-	15.8	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

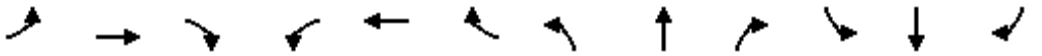
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1217	1308	30	5	25
Future Vol, veh/h	95	1217	1308	30	5	25
Conflicting Peds, #/hr	150	0	0	148	148	150
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1281	1377	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1558	0	-	0	2532	1004
Stage 1	-	-	-	-	1543	-
Stage 2	-	-	-	-	989	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	416	-	-	-	23	244
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	325	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	364	-	-	-	13	187
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	206	-

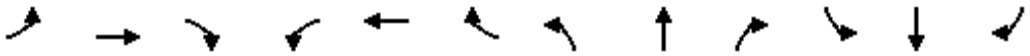
Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	34.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	364	-	-	-	155
HCM Lane V/C Ratio	0.275	-	-	-	0.204
HCM Control Delay (s)	18.6	-	-	-	34.1
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	0.7



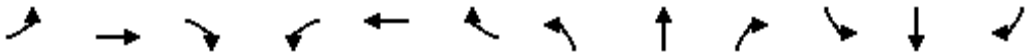
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1003	234	232	1198	0	0	0	0	45	806	130
Future Volume (vph)	0	1003	234	232	1198	0	0	0	0	45	806	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.65
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3202		1736	3471						3505	1033
Flt Permitted		1.00		0.09	1.00						1.00	1.00
Satd. Flow (perm)		3202		158	3471						3505	1033
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1045	244	242	1248	0	0	0	0	47	840	135
RTOR Reduction (vph)	0	19	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1270	0	242	1248	0	0	0	0	0	887	88
Confl. Peds. (#/hr)	269		232	232		269	298		90	90		298
Confl. Bikes (#/hr)			2			17						35
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.6		59.2	63.7						27.3	27.3
Effective Green, g (s)		46.6		59.2	63.7						27.3	27.3
Actuated g/C Ratio		0.47		0.59	0.64						0.27	0.27
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1492		292	2211						956	282
v/s Ratio Prot		c0.40		c0.10	0.36							
v/s Ratio Perm				0.39							0.25	0.08
v/c Ratio		0.85		0.83	0.56						0.93	0.31
Uniform Delay, d1		23.6		32.7	10.3						35.4	28.9
Progression Factor		0.88		0.91	0.66						1.40	1.97
Incremental Delay, d2		5.3		13.1	0.2						13.4	0.2
Delay (s)		26.1		42.9	7.0						63.0	57.1
Level of Service		C		D	A						E	E
Approach Delay (s)		26.1			12.8			0.0			62.2	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



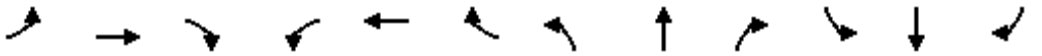
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	968	0	0	1001	30	409	924	151	0	0	0
Future Volume (vph)	5	968	0	0	1001	30	409	924	151	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.77			
Flpb, ped/bikes		1.00			1.00		0.91	1.00	1.00			
Frt		1.00			1.00		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3504			3422		1623	3574	1232			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3331			3422		1623	3574	1232			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1030	0	0	1065	32	435	983	161	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	19	0	0	0
Lane Group Flow (vph)	0	1035	0	0	1095	0	435	983	142	0	0	0
Confl. Peds. (#/hr)	243		130	130		243	55		112	112		55
Confl. Bikes (#/hr)						16			93			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		49.5			49.5		41.5	41.5	41.5			
Effective Green, g (s)		49.5			49.5		41.5	41.5	41.5			
Actuated g/C Ratio		0.50			0.50		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1648			1693		673	1483	511			
v/s Ratio Prot					c0.32			c0.28				
v/s Ratio Perm		0.31					0.27		0.12			
v/c Ratio		0.63			0.65		0.65	0.66	0.28			
Uniform Delay, d1		18.5			18.8		23.4	23.6	19.3			
Progression Factor		0.20			0.56		0.83	0.83	0.84			
Incremental Delay, d2		0.9			1.7		2.7	1.3	0.8			
Delay (s)		4.5			12.2		22.1	20.8	17.1			
Level of Service		A			B		C	C	B			
Approach Delay (s)		4.5			12.2			20.8			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	990	59	48	961	15	40	60	44	20	51	35
Future Volume (vph)	85	990	59	48	961	15	40	60	44	20	51	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3314		1703	3367			1603			1580	
Flt Permitted	0.95	1.00		0.95	1.00			0.88			0.93	
Satd. Flow (perm)	1736	3314		1703	3367			1434			1481	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	1053	63	51	1022	16	43	64	47	21	54	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	90	1113	0	51	1037	0	0	137	0	0	93	0
Confl. Peds. (#/hr)	214		302	302		214	72		98	98		72
Confl. Bikes (#/hr)			2			9			30			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Effective Green, g (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Actuated g/C Ratio	0.10	0.65		0.05	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2160		86	2006			239			247	
v/s Ratio Prot	c0.05	c0.34		0.03	0.31							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.51	0.52		0.59	0.52			0.57			0.38	
Uniform Delay, d1	42.5	9.1		46.4	11.8			38.4			37.0	
Progression Factor	0.70	0.25		0.79	0.69			1.00			1.00	
Incremental Delay, d2	0.7	0.7		5.4	0.7			2.0			0.4	
Delay (s)	30.5	3.0		42.2	8.9			40.4			37.4	
Level of Service	C	A		D	A			D			D	
Approach Delay (s)		5.1			10.4			40.4			37.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	961	33	85	888	30	76	50	10	60	36	130
Future Volume (vph)	100	961	33	85	888	30	76	50	10	60	36	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.97			0.98			1.00	0.68		1.00	0.74
Flpb, ped/bikes	1.00	1.00			0.99			0.87	1.00		0.85	1.00
Frt	1.00	1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1736	3351			3297			1603	1104		1553	1179
Flt Permitted	0.95	1.00			0.74			0.73	1.00		0.64	1.00
Satd. Flow (perm)	1736	3351			2446			1207	1104		1026	1179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1022	35	90	945	32	81	53	11	64	38	138
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	1055	0	0	1065	0	0	134	2	0	102	22
Confl. Peds. (#/hr)	337		693	693		337	152		193	193		152
Confl. Bikes (#/hr)			9			12			9			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	9.0	74.9			61.9			16.1	16.1		16.1	16.1
Effective Green, g (s)	9.0	74.9			61.9			16.1	16.1		16.1	16.1
Actuated g/C Ratio	0.09	0.75			0.62			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	156	2509			1514			194	177		165	189
v/s Ratio Prot	c0.06	0.31										
v/s Ratio Perm					c0.44			c0.11	0.00		0.10	0.02
v/c Ratio	0.68	0.42			0.70			0.69	0.01		0.62	0.12
Uniform Delay, d1	44.1	4.6			12.9			39.6	35.3		39.1	35.9
Progression Factor	0.86	0.19			0.40			1.00	1.00		0.72	0.88
Incremental Delay, d2	8.0	0.5			2.4			8.3	0.0		4.2	0.1
Delay (s)	45.9	1.3			7.6			47.9	35.3		32.2	31.6
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.4			7.6			46.9			31.9	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	857	119	4	891	50	27	191	116	5	242	60
Future Volume (vph)	5	857	119	4	891	50	27	191	116	5	242	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.89			0.96			0.84			0.90	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3045			3397			1397			1585	
Flt Permitted		0.95			0.95			0.95			0.99	
Satd. Flow (perm)		2896			3234			1337			1577	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	912	127	4	948	53	29	203	123	5	257	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	1043	0	0	1002	0	0	353	0	0	323	0
Confl. Peds. (#/hr)	493		608	608		493	754		597	597		754
Confl. Bikes (#/hr)			1			7			71			20
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		60.5			60.5			30.5			30.5	
Effective Green, g (s)		60.5			60.5			30.5			30.5	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1752			1956			407			480	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.31			c0.26			0.20	
v/c Ratio		0.60			0.51			0.87			0.67	
Uniform Delay, d1		12.2			11.3			32.8			30.4	
Progression Factor		0.86			0.84			1.17			1.35	
Incremental Delay, d2		1.4			0.8			15.8			2.8	
Delay (s)		11.9			10.3			54.1			43.7	
Level of Service		B			B			D			D	
Approach Delay (s)		11.9			10.3			54.1			43.7	
Approach LOS		B			B			D			D	

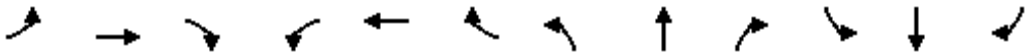
Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	807	106	171	843	70	67	567	208	100	410	40
Future Volume (veh/h)	70	807	106	171	843	70	67	567	208	100	410	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.83	1.00		0.79	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	841	110	178	878	73	70	591	217	104	427	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	121	1082	142	221	1309	109	89	636	232	121	949	92
Arrive On Green	0.14	0.71	0.71	0.26	0.83	0.83	0.02	0.09	0.09	0.14	0.61	0.61
Sat Flow, veh/h	1774	3049	399	1723	3155	262	1691	2239	818	1723	3097	301
Grp Volume(v), veh/h	73	488	463	178	478	473	70	445	363	104	235	234
Grp Sat Flow(s),veh/h/ln	1774	1770	1678	1723	1719	1699	1691	1687	1370	1723	1719	1679
Q Serve(g_s), s	3.9	17.8	17.8	9.7	10.7	10.7	4.1	26.2	26.4	5.9	7.3	7.5
Cycle Q Clear(g_c), s	3.9	17.8	17.8	9.7	10.7	10.7	4.1	26.2	26.4	5.9	7.3	7.5
Prop In Lane	1.00		0.24	1.00		0.15	1.00		0.60	1.00		0.18
Lane Grp Cap(c), veh/h	121	628	596	221	713	705	89	479	389	121	527	515
V/C Ratio(X)	0.60	0.78	0.78	0.81	0.67	0.67	0.79	0.93	0.93	0.86	0.45	0.45
Avail Cap(c_a), veh/h	121	628	596	221	713	705	169	481	390	121	527	515
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.77	0.77	0.77	0.80	0.80	0.80	0.83	0.83	0.83	0.79	0.79	0.79
Uniform Delay (d), s/veh	41.9	11.9	11.9	36.0	5.9	5.9	48.6	44.3	44.4	42.5	14.8	14.9
Incr Delay (d2), s/veh	4.6	7.2	7.6	14.8	4.0	4.1	4.8	21.1	25.6	35.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.7	9.2	5.5	5.3	5.3	2.1	15.0	12.8	4.0	3.4	3.4
LnGrp Delay(d),s/veh	46.5	19.1	19.5	50.8	9.9	9.9	53.4	65.4	70.0	77.7	15.0	15.1
LnGrp LOS	D	B	B	D	A	A	D	E	E	E	B	B
Approach Vol, veh/h		1024			1129			878			573	
Approach Delay, s/veh		21.3			16.4			66.3			26.4	
Approach LOS		C			B			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	46.0	11.5	32.9	16.8	40.0	9.3	35.2
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	41.5	7.0	* 29	12.0	35.5	10.0	25.5
Max Q Clear Time (g_c+I1), s	5.9	12.7	7.9	28.4	11.7	19.8	6.1	9.5
Green Ext Time (p_c), s	0.0	2.3	0.0	0.1	0.0	2.2	0.0	0.9

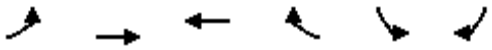
Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Notes



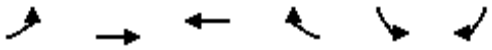
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	876	279	55	926	50	128	227	51	45	76	25
Future Volume (vph)	20	876	279	55	926	50	128	227	51	45	76	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.97		1.00	1.00	0.55		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1752	3156		1770	3417		1770	1863	867		1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1752	3156		1770	3417		1770	1863	867		1696	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	942	300	59	996	54	138	244	55	48	82	27
RTOR Reduction (vph)	0	28	0	0	3	0	0	0	47	0	8	0
Lane Group Flow (vph)	22	1214	0	59	1047	0	138	244	8	0	149	0
Confl. Peds. (#/hr)	218		185	185		218	329		437	437		329
Confl. Bikes (#/hr)			2			3			75			10
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Effective Green, g (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Actuated g/C Ratio	0.02	0.48		0.05	0.51		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1527		84	1749		269	283	131		256	
v/s Ratio Prot	0.01	c0.38		c0.03	c0.31		0.08	c0.13			c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.80		0.70	0.60		0.51	0.86	0.06		0.58	
Uniform Delay, d1	48.6	21.6		46.9	17.2		39.0	41.4	36.3		39.5	
Progression Factor	1.18	0.40		1.14	0.94		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.6	2.9		18.2	1.4		0.7	22.0	0.1		2.2	
Delay (s)	73.0	11.5		71.5	17.5		39.7	63.4	36.4		41.7	
Level of Service	E	B		E	B		D	E	D		D	
Approach Delay (s)		12.6			20.4			52.5			41.7	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



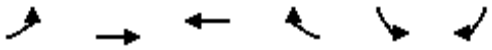
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	962	1001	0	15	25
Future Volume (vph)	0	962	1001	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.86	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1470	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1046	1088	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	1046	1088	0	21	0
Confl. Peds. (#/hr)	209			209	123	121
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		249	
v/s Ratio Prot		0.29	c0.31		c0.01	
v/s Ratio Perm						
v/c Ratio		0.39	0.41		0.08	
Uniform Delay, d1		4.6	4.7		34.9	
Progression Factor		0.15	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.1	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	942	1006	35	0	0
Future Volume (vph)	25	942	1006	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	0.99			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3457			
Flt Permitted	0.10	1.00	1.00			
Satd. Flow (perm)	186	1881	3457			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1024	1093	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	1024	1129	0	0	0
Confl. Peds. (#/hr)	144			144	305	125
Confl. Bikes (#/hr)				8		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	40.8			
Effective Green, g (s)	71.5	74.5	40.8			
Actuated g/C Ratio	0.72	0.74	0.41			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	624	1401	1410			
v/s Ratio Prot	0.01	c0.54	c0.33			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.73	0.80			
Uniform Delay, d1	7.4	7.1	26.0			
Progression Factor	1.33	1.73	0.29			
Incremental Delay, d2	0.0	1.9	3.2			
Delay (s)	9.8	14.2	10.8			
Level of Service	A	B	B			
Approach Delay (s)		14.1	10.8		0.0	
Approach LOS		B	B		A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	892	1016	136	47	30
Future Volume (vph)	40	892	1016	136	47	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3468		1720	
Flt Permitted	0.10	1.00	1.00		0.97	
Satd. Flow (perm)	191	1881	3468		1720	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	959	1092	146	51	32
RTOR Reduction (vph)	0	0	0	0	23	0
Lane Group Flow (vph)	43	959	1238	0	60	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	46.7		17.0	
Effective Green, g (s)	71.5	74.5	46.7		17.0	
Actuated g/C Ratio	0.72	0.74	0.47		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	532	1401	1619		292	
v/s Ratio Prot	0.02	c0.51	c0.36		c0.03	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.68	0.76		0.20	
Uniform Delay, d1	7.8	6.6	22.1		35.7	
Progression Factor	0.03	0.02	1.00		1.00	
Incremental Delay, d2	0.0	0.8	3.5		0.1	
Delay (s)	0.2	0.9	25.6		35.8	
Level of Service	A	A	C		D	
Approach Delay (s)		0.9	25.6		35.8	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	567	62	587	911	226	1556
Future Volume (vph)	567	62	587	911	226	1556
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.88	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1408	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1408	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	603	66	624	969	240	1655
RTOR Reduction (vph)	0	11	0	0	0	2
Lane Group Flow (vph)	603	55	624	969	240	1653
Confl. Peds. (#/hr)		49	49			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	25.5	25.5	79.5	79.5	21.5	105.5
Effective Green, g (s)	25.5	25.5	79.5	79.5	21.5	105.5
Actuated g/C Ratio	0.18	0.18	0.57	0.57	0.15	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	650	256	1930	1047	271	2100
v/s Ratio Prot	c0.17		0.18	c0.53	c0.14	0.59
v/s Ratio Perm		0.04				
v/c Ratio	0.93	0.22	0.32	0.93	0.89	0.79
Uniform Delay, d1	56.3	48.7	16.0	27.6	58.0	10.4
Progression Factor	1.00	1.00	0.44	0.53	0.97	1.02
Incremental Delay, d2	19.7	0.5	0.3	11.2	24.4	1.8
Delay (s)	76.0	49.2	7.3	25.8	81.0	12.4
Level of Service	E	D	A	C	F	B
Approach Delay (s)	73.4			18.6	21.1	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1278	220	27	893	190	25	165	105	30	33
Future Volume (vph)	35	280	1278	220	27	893	190	25	165	105	30	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.91	1.00	0.98		0.94	1.00	1.00	0.91	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1434	1736	4500		1255	1698	1766	1457	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	187	3505	1434	215	4500		1255	1698	1766	1457	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1318	227	28	921	196	26	170	108	31	34
RTOR Reduction (vph)	0	0	0	86	0	0	0	17	0	0	55	0
Lane Group Flow (vph)	36	289	1318	141	28	1120	0	6	136	142	10	0
Confl. Peds. (#/hr)	22	22		18	18		22	22	42		22	21
Confl. Bikes (#/hr)				4				1				5
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Effective Green, g (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Actuated g/C Ratio	0.08	0.44	0.36	0.36	0.24	0.24		0.24	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	143	329	1276	522	52	1092		304	265	276	227	
v/s Ratio Prot	0.02	c0.14	c0.38			0.25			0.08	c0.08		
v/s Ratio Perm		0.25		0.10	0.13			0.00			0.01	
v/c Ratio	0.25	0.88	1.03	0.27	0.54	1.03		0.02	0.51	0.51	0.04	
Uniform Delay, d1	60.2	40.3	44.5	31.4	46.2	53.0		40.3	54.2	54.2	50.2	
Progression Factor	0.94	0.88	0.86	0.77	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	13.4	27.6	0.7	34.6	33.9		0.1	0.7	0.7	0.0	
Delay (s)	56.9	48.9	65.7	24.9	80.8	86.9		40.4	54.9	54.8	50.2	
Level of Service	E	D	E	C	F	F		D	D	D	D	
Approach Delay (s)			58.0			85.9				54.0		
Approach LOS			E			F				D		

Intersection Summary			
HCM 2000 Control Delay	66.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1684			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1684			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	126	0
Lane Group Flow (vph)	0	218	210	0	0	62	95	0
Confl. Peds. (#/hr)	21	22		42	21	18	42	22
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.0	20.6	
Effective Green, g (s)		24.5	24.5			6.0	20.6	
Actuated g/C Ratio		0.18	0.18			0.04	0.15	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	294			76	414	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.82	0.23	
Uniform Delay, d1		54.7	54.5			66.5	52.7	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.7			45.8	0.2	
Delay (s)		62.5	61.1			112.3	52.9	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.9		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	8.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	47	1320
Future Vol, veh/h	120	0	0	0	47	1320
Conflicting Peds, #/hr	75	153	0	75	153	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	52	1451

Major/Minor	Minor1		Major2	
Conflicting Flow All	1057	-	153	0
Stage 1	153	-	-	-
Stage 2	904	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	214	0	1433	-
Stage 1	-	0	-	-
Stage 2	346	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	152	-	1433	-
Mov Cap-2 Maneuver	152	-	-	-
Stage 1	-	-	-	-
Stage 2	281	-	-	-

Approach	WB	SB
HCM Control Delay, s	99.6	0.9
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	152	1433	-
HCM Lane V/C Ratio	0.868	0.036	-
HCM Control Delay (s)	99.6	7.6	0.7
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	5.9	0.1	-

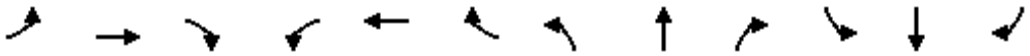
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	0	1400	40
Future Vol, veh/h	0	69	0	0	1400	40
Conflicting Peds, #/hr	277	151	151	0	0	277
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	75	0	0	1522	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1211	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	174	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	134	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	61.6	0
HCM LOS	F	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	134	-	-
HCM Lane V/C Ratio	0.56	-	-
HCM Control Delay (s)	61.6	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	2.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	37	0	0	90	110	20	1184	60	0	0	0
Future Volume (vph)	45	37	0	0	90	110	20	1184	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1771			1537			3473				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1465			1537			3473				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	40	0	0	98	120	22	1287	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	89	0	0	212	0	0	1367	0	0	0	0
Confl. Peds. (#/hr)	117		79	79		117	55		61	61		55
Confl. Bikes (#/hr)			7			10			79			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			645			1423				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.06						0.39				
v/c Ratio		0.14			0.33			0.96				
Uniform Delay, d1		9.0			9.8			14.4				
Progression Factor		0.81			0.87			0.73				
Incremental Delay, d2		0.5			1.4			13.9				
Delay (s)		7.7			9.9			24.5				
Level of Service		A			A			C				
Approach Delay (s)		7.7			9.9			24.5			0.0	
Approach LOS		A			A			C			A	

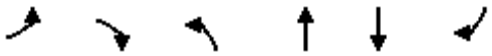
Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	7	70	5	65	10	209	80	75	260	30
Future Volume (vph)	60	15	7	70	5	65	10	209	80	75	260	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.84			0.83			0.95	
Flpb, ped/bikes		0.82			0.78			0.99			0.93	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1392			1137			1390			1540	
Flt Permitted		0.75			0.83			0.99			0.88	
Satd. Flow (perm)		1084			967			1372			1361	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	8	75	5	70	11	225	86	81	280	32
RTOR Reduction (vph)	0	5	0	0	18	0	0	26	0	0	6	0
Lane Group Flow (vph)	0	84	0	0	132	0	0	296	0	0	387	0
Confl. Peds. (#/hr)	179		298	298		179	690		591	591		690
Confl. Bikes (#/hr)			2			3			63			25
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		16.0			16.0			25.5			25.5	
Effective Green, g (s)		16.0			16.0			25.5			25.5	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		346			309			699			694	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.14			0.22			c0.28	
v/c Ratio		0.24			0.43			0.42			0.56	
Uniform Delay, d1		12.5			13.4			7.7			8.4	
Progression Factor		0.75			0.52			0.99			1.11	
Incremental Delay, d2		1.2			4.1			1.8			2.8	
Delay (s)		10.7			11.0			9.4			12.1	
Level of Service		B			B			A			B	
Approach Delay (s)		10.7			11.0			9.4			12.1	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

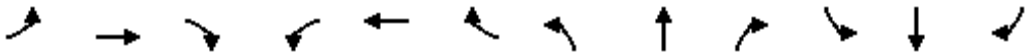
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	717	622	85
Future Volume (vph)	110	75	55	717	622	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.87			1.00	1.00	0.64
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1493			3330	3343	950
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1493			2915	3343	950
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	755	655	89
RTOR Reduction (vph)	46	0	0	0	0	45
Lane Group Flow (vph)	149	0	0	813	655	44
Confl. Peds. (#/hr)	262	361	182			182
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	492			1428	1638	465
v/s Ratio Prot	c0.10				0.20	
v/s Ratio Perm				c0.28		0.05
v/c Ratio	0.30			0.57	0.40	0.09
Uniform Delay, d1	12.5			9.0	8.1	6.8
Progression Factor	1.12			1.35	1.01	1.19
Incremental Delay, d2	1.4			1.5	0.6	0.3
Delay (s)	15.5			13.7	8.8	8.5
Level of Service	B			B	A	A
Approach Delay (s)	15.5			13.7	8.7	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Future Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	118	13	5	11	23	263	0	60	16	274	71	112

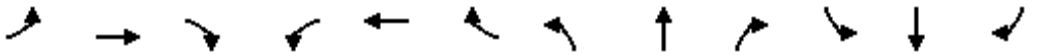
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	136	297	30	46	310	148
Volume Left (vph)	118	11	0	0	274	0
Volume Right (vph)	5	263	0	16	0	112
Hadj (s)	0.15	-0.52	0.44	0.20	0.53	-0.45
Departure Headway (s)	5.9	5.0	6.9	6.6	6.4	5.4
Degree Utilization, x	0.22	0.41	0.06	0.08	0.55	0.22
Capacity (veh/h)	558	673	465	490	545	642
Control Delay (s)	10.6	11.5	9.1	9.0	15.6	8.7
Approach Delay (s)	10.6	11.5	9.0		13.4	
Approach LOS	B	B	A		B	

Intersection Summary				
Delay	12.1			
Level of Service	B			
Intersection Capacity Utilization	68.4%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	111	98	5	65	213	95	847	5	67	601	133
Future Volume (veh/h)	174	111	98	5	65	213	95	847	5	67	601	133
Number	3	8	18	7	4	14	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		0.89	0.96		0.83	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	183	117	103	5	68	224	100	892	5	71	633	140
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	224	520	396	38	302	206	340	2044	11	90	1212	268
Arrive On Green	0.10	0.30	0.30	0.17	0.17	0.17	0.19	0.56	0.56	0.05	0.42	0.42
Sat Flow, veh/h	1707	1748	1329	59	1728	1179	1810	3680	21	1792	2900	640
Grp Volume(v), veh/h	183	114	106	73	0	224	100	438	459	71	390	383
Grp Sat Flow(s),veh/h/ln	1707	1703	1374	1787	0	1179	1810	1805	1896	1792	1787	1753
Q Serve(g_s), s	11.9	7.0	8.3	0.0	0.0	24.5	6.7	19.9	19.9	5.5	22.7	22.8
Cycle Q Clear(g_c), s	11.9	7.0	8.3	4.7	0.0	24.5	6.7	19.9	19.9	5.5	22.7	22.8
Prop In Lane	1.00		0.97	0.07		1.00	1.00		0.01	1.00		0.37
Lane Grp Cap(c), veh/h	224	507	409	560	0	206	340	1003	1053	90	747	732
V/C Ratio(X)	0.82	0.22	0.26	0.13	0.00	1.09	0.29	0.44	0.44	0.79	0.52	0.52
Avail Cap(c_a), veh/h	307	590	476	560	0	206	340	1003	1053	198	747	732
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	0.98	0.00	0.98	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	37.0	37.4	49.6	0.0	57.8	48.9	18.3	18.3	65.7	30.3	30.4
Incr Delay (d2), s/veh	11.4	0.2	0.3	0.0	0.0	86.9	0.2	1.2	1.1	5.6	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	3.3	3.2	2.0	0.0	12.9	3.3	10.2	10.7	2.9	11.7	11.6
LnGrp Delay(d),s/veh	53.4	37.2	37.8	49.6	0.0	144.6	49.0	19.4	19.4	71.3	32.9	33.0
LnGrp LOS	D	D	D	D		F	D	B	B	E	C	C
Approach Vol, veh/h		403			297			997			844	
Approach Delay, s/veh		44.7			121.3			22.4			36.2	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	82.3	17.2	29.0	30.8	63.0		46.2
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	62.5	21.0	24.5	19.5	58.5		48.5
Max Q Clear Time (g_c+I1), s	7.5	21.9	13.9	26.5	8.7	24.8		10.3
Green Ext Time (p_c), s	0.0	6.0	0.3	0.0	2.8	0.7		3.2

Intersection Summary	
HCM 2010 Ctrl Delay	42.1
HCM 2010 LOS	D



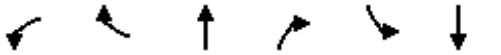
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	20	0	37	26	67	0	1507	58	15	542	272
Future Volume (vph)	148	20	0	37	26	67	0	1507	58	15	542	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		0.99			1.00	0.85
Flt Protected	0.95	0.96			0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1640			3278	1509		3551			3534	1537
Flt Permitted	0.71	0.73			0.70	1.00		1.00			0.87	1.00
Satd. Flow (perm)	1211	1243			2375	1509		3551			3092	1537
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	157	21	0	39	28	71	0	1603	62	16	577	289
RTOR Reduction (vph)	0	0	0	0	0	56	0	1	0	0	0	49
Lane Group Flow (vph)	88	90	0	0	67	15	0	1664	0	0	593	240
Confl. Peds. (#/hr)							7		2	2		7
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2				1		1
Actuated Green, G (s)	14.5	14.5			14.5	14.5		116.5			116.5	116.5
Effective Green, g (s)	14.5	14.5			14.5	14.5		116.5			116.5	116.5
Actuated g/C Ratio	0.10	0.10			0.10	0.10		0.83			0.83	0.83
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	125	128			245	156		2954			2572	1279
v/s Ratio Prot								c0.47				
v/s Ratio Perm	c0.07	0.07			0.03	0.01					0.19	0.16
v/c Ratio	0.70	0.70			0.27	0.09		0.56			0.23	0.19
Uniform Delay, d1	60.7	60.7			57.9	56.8		3.7			2.4	2.3
Progression Factor	0.51	0.51			1.00	1.00		1.05			0.47	0.38
Incremental Delay, d2	13.4	13.1			0.2	0.1		0.6			0.2	0.3
Delay (s)	44.2	43.8			58.1	56.9		4.5			1.3	1.2
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		44.0			57.5			4.5			1.3	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	922	1505	0	699	619	0
Future Volume (vph)	922	1505	0	699	619	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	951	1552	0	721	638	0
RTOR Reduction (vph)	0	739	0	0	0	0
Lane Group Flow (vph)	951	813	0	721	638	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	73.3	73.3		73.3	57.7	
Effective Green, g (s)	73.3	73.3		73.3	57.7	
Actuated g/C Ratio	0.52	0.52		0.52	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1871	1473		1890	1414	
v/s Ratio Prot	0.27			0.20	c0.19	
v/s Ratio Perm		c0.29				
v/c Ratio	0.51	0.55		0.38	0.45	
Uniform Delay, d1	21.7	22.3		19.9	29.7	
Progression Factor	1.00	1.00		0.37	0.58	
Incremental Delay, d2	0.1	0.3		0.0	1.0	
Delay (s)	21.7	22.6		7.4	18.4	
Level of Service	C	C		A	B	
Approach Delay (s)	22.3			7.4	18.4	
Approach LOS	C			A	B	

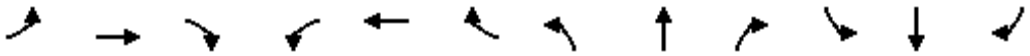
Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	163	1356
Future Volume (veh/h)	100	0	0	0	163	1356
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			177	1474
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			367	2889
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				339	3110
Grp Volume(v), veh/h	0.0				875	776
Grp Sat Flow(s),veh/h/ln					1754	1610
Q Serve(g_s), s					36.7	39.3
Cycle Q Clear(g_c), s					40.7	39.3
Prop In Lane					0.20	
Lane Grp Cap(c), veh/h					1719	1538
V/C Ratio(X)					0.51	0.50
Avail Cap(c_a), veh/h					1719	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					15.4	15.0
Incr Delay (d2), s/veh					1.1	1.2
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					20.3	18.0
LnGrp Delay(d),s/veh					16.5	16.2
LnGrp LOS					B	B
Approach Vol, veh/h						1651
Approach Delay, s/veh						16.3
Approach LOS						B

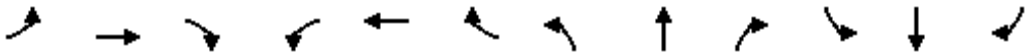
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		42.7						
Green Ext Time (p_c), s		2.1						

Intersection Summary	
HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	108	0	0	70	187	25	997	90	0	0	0
Future Volume (vph)	60	108	0	0	70	187	25	997	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.85			0.98				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.90			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1790			1435			3429				
Flt Permitted		0.70			1.00			1.00				
Satd. Flow (perm)		1282			1435			3429				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	119	0	0	77	205	27	1096	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	31	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	185	0	0	251	0	0	1211	0	0	0	0
Confl. Peds. (#/hr)	200		131	131		200	28		72	72		28
Confl. Bikes (#/hr)			9			26			95			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		12.4			12.4			29.1				
Effective Green, g (s)		12.4			12.4			29.1				
Actuated g/C Ratio		0.25			0.25			0.58				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		317			355			1995				
v/s Ratio Prot					c0.17							
v/s Ratio Perm		0.14						0.35				
v/c Ratio		0.58			0.71			0.61				
Uniform Delay, d1		16.5			17.1			6.8				
Progression Factor		1.05			1.22			1.00				
Incremental Delay, d2		1.4			5.2			1.4				
Delay (s)		18.8			26.1			8.1				
Level of Service		B			C			A				
Approach Delay (s)		18.8			26.1			8.1			0.0	
Approach LOS		B			C			A			A	

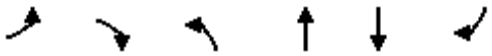
Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	130	23	10	81	25	27	224	15	15	242	40
Future Volume (vph)	35	130	23	10	81	25	27	224	15	15	242	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.87			0.96			0.90	
Flpb, ped/bikes		0.91			0.96			0.96			0.98	
Frt		0.98			0.97			0.99			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1560			1535			1615			1563	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1474			1500			1545			1536	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	138	24	11	86	27	29	238	16	16	257	43
RTOR Reduction (vph)	0	3	0	0	11	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	196	0	0	113	0	0	281	0	0	312	0
Confl. Peds. (#/hr)	556		609	609		556	843		636	636		843
Confl. Bikes (#/hr)			24			31			74			27
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		501			510			757			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.13			0.08			0.18			c0.20	
v/c Ratio		0.39			0.22			0.37			0.41	
Uniform Delay, d1		12.6			11.8			7.9			8.2	
Progression Factor		1.36			0.46			0.82			1.21	
Incremental Delay, d2		2.0			1.0			1.4			1.4	
Delay (s)		19.0			6.4			7.9			11.3	
Level of Service		B			A			A			B	
Approach Delay (s)		19.0			6.4			7.9			11.3	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	100	61	677	652	45
Future Volume (vph)	95	100	61	677	652	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.83		1.00	1.00	0.97	
Flpb, ped/bikes	1.00		0.84	1.00	1.00	
Frt	0.93		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1428		1411	3343	3169	
Flt Permitted	0.98		0.32	1.00	1.00	
Satd. Flow (perm)	1428		471	3343	3169	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	109	66	736	709	49
RTOR Reduction (vph)	19	0	0	0	10	0
Lane Group Flow (vph)	193	0	66	736	748	0
Confl. Peds. (#/hr)	673	477	273			273
Confl. Bikes (#/hr)		6				15
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	18.0		23.5	23.5	23.5	
Effective Green, g (s)	18.0		23.5	23.5	23.5	
Actuated g/C Ratio	0.36		0.47	0.47	0.47	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	514		221	1571	1489	
v/s Ratio Prot	c0.14			0.22	c0.24	
v/s Ratio Perm			0.14			
v/c Ratio	0.38		0.30	0.47	0.50	
Uniform Delay, d1	11.8		8.2	9.0	9.2	
Progression Factor	0.69		1.01	1.07	1.20	
Incremental Delay, d2	2.0		3.3	1.0	1.1	
Delay (s)	10.2		11.6	10.6	12.2	
Level of Service	B		B	B	B	
Approach Delay (s)	10.2			10.7	12.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

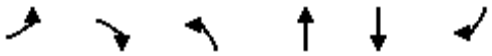
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	143	148	0	65	130	0	89	85
Future Vol, veh/h	0	143	148	0	65	130	0	89	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	163	168	0	74	148	0	101	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	11.7	9.8	10.7
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	49%	51%
Vol Thru, %	33%	0%	49%
Vol Right, %	67%	51%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	195	291	174
LT Vol	0	143	89
Through Vol	65	0	85
RT Vol	130	148	0
Lane Flow Rate	222	331	198
Geometry Grp	1	1	1
Degree of Util (X)	0.291	0.442	0.296
Departure Headway (Hd)	4.728	4.813	5.382
Convergence, Y/N	Yes	Yes	Yes
Cap	751	741	662
Service Time	2.807	2.882	3.465
HCM Lane V/C Ratio	0.296	0.447	0.299
HCM Control Delay	9.8	11.7	10.7
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.2	2.3	1.2

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	126	15	85	5	275	128	332	127	218
Future Volume (vph)	126	15	85	5	275	128	332	127	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1517		1743	1779		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1517		1743	1779		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	138	16	93	5	302	141	365	140	240
RTOR Reduction (vph)	0	76	0	0	18	0	0	66	0
Lane Group Flow (vph)	138	33	0	5	425	0	365	314	0
Confl. Peds. (#/hr)			54	13					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	14.0	14.0		24.8	24.8		22.9	22.9	
Effective Green, g (s)	14.0	14.0		24.8	24.8		22.9	22.9	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	323	276		563	575		518	463	
v/s Ratio Prot	c0.08	0.02			c0.24		c0.21		
v/s Ratio Perm				0.00				0.20	
v/c Ratio	0.43	0.12		0.01	0.74		0.70	0.68	
Uniform Delay, d1	27.8	26.2		17.6	23.1		23.9	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.0	6.0		5.4	5.1	
Delay (s)	28.7	26.4		17.6	29.0		29.3	28.8	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		27.7			28.9		29.0		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	76.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	260	0	0	1347	164
Future Volume (vph)	0	260	0	0	1347	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.74
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1164
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1164
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	271	0	0	1403	171
RTOR Reduction (vph)	0	24	0	0	0	26
Lane Group Flow (vph)	0	247	0	0	1403	145
Confl. Peds. (#/hr)	178		117			117
Confl. Bikes (#/hr)		2				38
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		19.9			70.6	70.6
Effective Green, g (s)		19.9			70.6	70.6
Actuated g/C Ratio		0.20			0.71	0.71
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		314			2498	821
v/s Ratio Prot		c0.16			c0.40	
v/s Ratio Perm						0.12
v/c Ratio		0.79			0.56	0.18
Uniform Delay, d1		38.0			7.2	4.9
Progression Factor		1.00			0.44	0.36
Incremental Delay, d2		11.3			0.7	0.4
Delay (s)		49.4			3.9	2.2
Level of Service		D			A	A
Approach Delay (s)	49.4			0.0	3.7	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	46.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	158	1454
Future Vol, veh/h	115	0	0	0	158	1454
Conflicting Peds, #/hr	14	28	0	14	28	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	166	1531

Major/Minor	Minor1		Major2	
Conflicting Flow All	1140	-	28	0
Stage 1	28	-	-	-
Stage 2	1112	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	198	0	1584	-
Stage 1	-	0	-	-
Stage 2	281	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 58	-	1584	-
Mov Cap-2 Maneuver	~ 58	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 84	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 655.4	2.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	58	1584	-
HCM Lane V/C Ratio	2.087	0.105	-
HCM Control Delay (s)	$ 655.4	7.5	2.2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	11.7	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	204.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	41	15	20	92	25	21	25	5	20	80	47
Future Vol, veh/h	9	41	15	20	92	25	21	25	5	20	80	47
Conflicting Peds, #/hr	381	0	412	388	0	357	412	0	388	357	0	381
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	11	49	18	24	110	30	25	30	6	24	95	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1116	1057	947	1087	1082	802	563	0	0	424	0	0
Stage 1	583	583	-	471	471	-	-	-	-	-	-	-
Stage 2	533	474	-	616	611	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	183	223	314	187	210	372	1019	-	-	1146	-	-
Stage 1	495	495	-	558	546	-	-	-	-	-	-	-
Stage 2	527	554	-	465	472	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	92	135	40	~ 87	172	669	-	-	782	-	-
Mov Cap-2 Maneuver	-	92	-	40	~ 87	-	-	-	-	-	-	-
Stage 1	313	314	-	363	355	-	-	-	-	-	-	-
Stage 2	198	361	-	216	299	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 593.4	4.4	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	669	-	-	-	80	782	-	-
HCM Lane V/C Ratio	0.037	-	-	-	2.039	0.03	-	-
HCM Control Delay (s)	10.6	0	-	-	$ 593.4	9.7	0	-
HCM Lane LOS	B	A	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	14.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	46	20	0	35	72	25	0	60	255	15
Future Vol, veh/h	0	5	46	20	0	35	72	25	0	60	255	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	52	22	0	39	81	28	0	67	287	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.3	10	12.7
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	7%	27%	12%
Vol Thru, %	77%	65%	55%	79%
Vol Right, %	5%	28%	19%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	330	71	132	170
LT Vol	60	5	35	20
Through Vol	255	46	72	135
RT Vol	15	20	25	15
Lane Flow Rate	371	80	148	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.498	0.122	0.224	0.28
Departure Headway (Hd)	4.937	5.498	5.429	5.273
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	734	654	663	686
Service Time	2.937	3.516	3.444	3.273
HCM Lane V/C Ratio	0.505	0.122	0.223	0.278
HCM Control Delay	12.7	9.3	10	10.3
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	2.8	0.4	0.9	1.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	135	15
Future Vol, veh/h	0	20	135	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	152	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.3
HCM LOS	B

Intersection	
Int Delay, s/veh	15.2

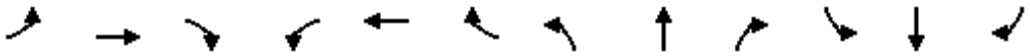
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	46	20	41	72	30	10	231	16	33	237	35
Future Vol, veh/h	10	46	20	41	72	30	10	231	16	33	237	35
Conflicting Peds, #/hr	1057	0	1149	1201	0	1109	1149	0	1201	1109	0	1057
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	52	22	46	81	34	11	260	18	37	266	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2966	3010	2636	3090	3021	2579	1455	0	0	1479	0	0
Stage 1	1509	1509	-	1492	1492	-	-	-	-	-	-	-
Stage 2	1457	1501	-	1598	1529	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	~ 9	~ 14	31	~ 7	~ 13	34	433	-	-	443	-	-
Stage 1	152	185	-	156	189	-	-	-	-	-	-	-
Stage 2	163	187	-	135	181	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	0	-	0	0	0	-	-	~ 34	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	152	0	-	0	0	-	-	-	-	-	-	-
Stage 2	12	0	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				39
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	-	-	~ 34	-	-
HCM Lane V/C Ratio	-	-	-	-	-	1.091	-	-
HCM Control Delay (s)	-	-	-	-	-	$ 360.1	0	-
HCM Lane LOS	-	-	-	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-	3.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	15	42	70	35	105	39	599	90	90	601	61
Future Volume (vph)	39	15	42	70	35	105	39	599	90	90	601	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.89			1.00	0.61	1.00	1.00	0.51	1.00	0.95	
Flpb, ped/bikes		0.87			0.88	1.00	0.81	1.00	1.00	0.82	1.00	
Frt		0.94			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1357			1599	976	1347	3343	765	1378	3152	
Flt Permitted		0.85			0.74	1.00	0.36	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1175			1218	976	517	3343	765	572	3152	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	16	46	76	38	114	42	651	98	98	653	66
RTOR Reduction (vph)	0	33	0	0	0	93	0	0	26	0	2	0
Lane Group Flow (vph)	0	71	0	0	114	21	42	651	72	98	717	0
Confl. Peds. (#/hr)	504		167	167		504	343		199	199		343
Confl. Bikes (#/hr)			10			3			15			10
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Effective Green, g (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		217			225	180	377	2440	558	417	2300	
v/s Ratio Prot								0.19			c0.23	
v/s Ratio Perm		0.06			c0.09	0.02	0.08		0.09	0.17		
v/c Ratio		0.33			0.51	0.12	0.11	0.27	0.13	0.24	0.31	
Uniform Delay, d1		35.3			36.6	33.9	4.0	4.5	4.0	4.4	4.7	
Progression Factor		0.96			1.00	1.00	0.60	0.56	0.48	0.68	0.67	
Incremental Delay, d2		0.9			1.8	0.3	0.6	0.3	0.5	1.2	0.3	
Delay (s)		34.8			38.4	34.2	2.9	2.8	2.4	4.2	3.5	
Level of Service		C			D	C	A	A	A	A	A	
Approach Delay (s)		34.8			36.3			2.8			3.5	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	97.9
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	234	339	25	0	5	262	265
Future Vol, veh/h	0	95	185	15	0	234	339	25	0	5	262	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	239	346	26	0	5	267	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	35	224.1	26.9
HCM LOS	D	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	6%
Vol Thru, %	98%	0%	63%	57%	54%
Vol Right, %	0%	100%	5%	4%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	267	265	295	598	325
LT Vol	5	0	95	234	20
Through Vol	262	0	185	339	175
RT Vol	0	265	15	25	130
Lane Flow Rate	272	270	301	610	332
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.656	0.598	0.726	1.417	0.774
Departure Headway (Hd)	9.803	9.06	9.845	8.36	9.682
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	371	400	370	439	378
Service Time	7.503	6.76	7.845	6.36	7.682
HCM Lane V/C Ratio	0.733	0.675	0.814	1.39	0.878
HCM Control Delay	29.4	24.4	35	224.1	39
HCM Lane LOS	D	C	D	F	E
HCM 95th-tile Q	4.5	3.8	5.5	30.1	6.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	175	130
Future Vol, veh/h	0	20	175	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	179	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	39
HCM LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	303	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	303	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	79	87	0	79
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	329	0	0	27	0	0

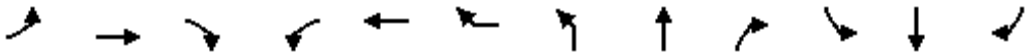
Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	-	0	-	-	0	408	416		
Stage 1	-	-	-	-	-	-	329	-		
Stage 2	-	-	-	-	-	-	79	-		
Critical Hdwy	-	-	-	-	-	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-		
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3		
Pot Cap-1 Maneuver	0	0	-	0	-	0	603	641		
Stage 1	0	0	-	0	-	0	734	-		
Stage 2	0	0	-	0	-	0	-	-		
Platoon blocked, %			-		-					
Mov Cap-1 Maneuver	-	-	-	-	-	-	603	595		
Mov Cap-2 Maneuver	-	-	-	-	-	-	603	-		
Stage 1	-	-	-	-	-	-	734	-		
Stage 2	-	-	-	-	-	-	-	-		

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	595
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	11.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	856	419	82	1457	0	0
Future Volume (vph)	0	0	856	419	82	1457	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.93	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1473	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1473	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	911	446	87	1550	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	911	446	87	1550	0	0
Confl. Peds. (#/hr)	15	14		15	14			
Confl. Bikes (#/hr)				143				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.6	36.6	13.1	58.7		
Effective Green, g (s)			36.6	36.6	13.1	58.7		
Actuated g/C Ratio			0.62	0.62	0.22	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2206	918	390	3505		
v/s Ratio Prot			0.26		0.05	c0.44		
v/s Ratio Perm				0.30				
v/c Ratio			0.41	0.49	0.22	0.44		
Uniform Delay, d1			5.6	6.0	18.6	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.1	0.1	0.0		
Delay (s)			5.6	6.1	18.7	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.8			1.0	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



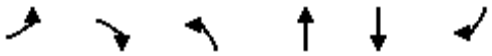
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	340	165	10	314	15	103	265	20	10	105	75
Future Volume (vph)	50	340	165	10	314	15	103	265	20	10	105	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.96			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3367			3511			1826			1759	
Flt Permitted		0.88			0.93			0.85			0.98	
Satd. Flow (perm)		2967			3285			1581			1722	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	374	181	11	345	16	113	291	22	11	115	82
RTOR Reduction (vph)	0	46	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	564	0	0	372	0	0	424	0	0	208	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1112			1231			845			921	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.11			c0.27			0.12	
v/c Ratio		0.51			0.30			0.50			0.23	
Uniform Delay, d1		24.1			22.0			14.8			12.3	
Progression Factor		1.00			0.90			1.00			1.00	
Incremental Delay, d2		1.7			0.6			2.1			0.6	
Delay (s)		25.8			20.4			16.9			12.9	
Level of Service		C			C			B			B	
Approach Delay (s)		25.8			20.4			16.9			12.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	270	18	5	204	10	36	180	25	20	184	89
Future Volume (veh/h)	82	270	18	5	204	10	36	180	25	20	184	89
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	89	293	20	5	222	11	39	196	27	22	200	97
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	1131	79	51	1610	79	119	570	74	64	487	224
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	603	2332	163	27	3319	162	182	1342	175	60	1145	527
Grp Volume(v), veh/h	198	0	204	125	0	113	262	0	0	319	0	0
Grp Sat Flow(s),veh/h/ln	1432	0	1666	1842	0	1667	1699	0	0	1733	0	0
Q Serve(g_s), s	2.9	0.0	5.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	5.2	3.7	0.0	3.8	9.6	0.0	0.0	4.2	0.0	0.0
Prop In Lane	0.45		0.10	0.04		0.10	0.15		0.10	0.07		0.30
Lane Grp Cap(c), veh/h	747	0	808	931	0	808	764	0	0	775	0	0
V/C Ratio(X)	0.26	0.00	0.25	0.13	0.00	0.14	0.34	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	747	0	808	931	0	808	764	0	0	775	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	10.1	14.2	0.0	14.2	19.3	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.3	0.0	0.4	1.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	2.5	2.0	0.0	1.8	5.1	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	11.1	0.0	10.8	14.5	0.0	14.6	20.5	0.0	0.0	6.2	0.0	0.0
LnGrp LOS	B		B	B		B	C			A		
Approach Vol, veh/h		402			238			262			319	
Approach Delay, s/veh		11.0			14.5			20.5			6.2	
Approach LOS		B			B			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.8		11.6		8.7		6.2
Green Ext Time (p_c), s		0.7		0.7		0.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	79	568	583	135
Future Volume (vph)	160	150	79	568	583	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.89	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2940		1441	3252	2999	
Flt Permitted	0.97		0.34	1.00	1.00	
Satd. Flow (perm)	2940		510	3252	2999	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	82	592	607	141
RTOR Reduction (vph)	0	0	0	0	20	0
Lane Group Flow (vph)	323	0	82	592	728	0
Confl. Peds. (#/hr)	6	3	350			350
Confl. Bikes (#/hr)						10
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	29.5		60.0	60.0	60.0	
Effective Green, g (s)	29.5		60.0	60.0	60.0	
Actuated g/C Ratio	0.29		0.60	0.60	0.60	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	867		306	1951	1799	
v/s Ratio Prot	c0.11			0.18	c0.24	
v/s Ratio Perm			0.16			
v/c Ratio	0.37		0.27	0.30	0.40	
Uniform Delay, d1	27.9		9.5	9.8	10.6	
Progression Factor	0.71		0.37	0.37	0.43	
Incremental Delay, d2	1.2		1.9	0.4	0.7	
Delay (s)	21.0		5.4	4.0	5.2	
Level of Service	C		A	A	A	
Approach Delay (s)	21.0			4.1	5.2	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	131.2
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	286	0	139	315	0	408	202
Future Vol, veh/h	0	330	286	0	139	315	0	408	202
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	311	0	151	342	0	443	220
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	152.2	64.2	159.9
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	67%	0%	31%
Vol Thru, %	0%	54%	69%
Vol Right, %	33%	46%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	610	616	454
LT Vol	408	0	139
Through Vol	0	330	315
RT Vol	202	286	0
Lane Flow Rate	663	670	493
Geometry Grp	1	1	1
Degree of Util (X)	1.27	1.249	0.968
Departure Headway (Hd)	7.336	7.481	8.204
Convergence, Y/N	Yes	Yes	Yes
Cap	504	489	444
Service Time	5.336	5.481	6.204
HCM Lane V/C Ratio	1.315	1.37	1.11
HCM Control Delay	159.9	152.2	64.2
HCM Lane LOS	F	F	F
HCM 95th-tile Q	25.7	24.3	11.8

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	86	50	50	0	50	39	50	0	31	251	25
Future Vol, veh/h	0	86	50	50	0	50	39	50	0	31	251	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	97	56	56	0	56	44	56	0	35	282	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.2	11.3	15.1
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	46%	36%	4%
Vol Thru, %	82%	27%	28%	78%
Vol Right, %	8%	27%	36%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	307	186	139	275
LT Vol	31	86	50	10
Through Vol	251	50	39	215
RT Vol	25	50	50	50
Lane Flow Rate	345	209	156	309
Geometry Grp	1	1	1	1
Degree of Util (X)	0.538	0.347	0.262	0.474
Departure Headway (Hd)	5.612	5.969	6.032	5.524
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	638	598	590	649
Service Time	3.685	4.053	4.122	3.6
HCM Lane V/C Ratio	0.541	0.349	0.264	0.476
HCM Control Delay	15.1	12.2	11.3	13.5
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.2	1.5	1	2.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	10	215	50
Future Vol, veh/h	0	10	215	50
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	242	56
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.5
HCM LOS	B

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	65	10	0	34	109	25	0	5	201	15
Future Vol, veh/h	0	20	65	10	0	34	109	25	0	5	201	15
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	75	11	0	39	125	29	0	6	231	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

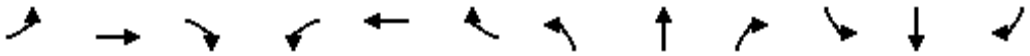
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.7	10.5	11
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	21%	20%	2%
Vol Thru, %	91%	68%	65%	88%
Vol Right, %	7%	11%	15%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	221	95	168	212
LT Vol	5	20	34	5
Through Vol	201	65	109	187
RT Vol	15	10	25	20
Lane Flow Rate	254	109	193	244
Geometry Grp	1	1	1	1
Degree of Util (X)	0.361	0.167	0.287	0.343
Departure Headway (Hd)	5.113	5.517	5.359	5.065
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	704	650	670	712
Service Time	3.141	3.551	3.39	3.093
HCM Lane V/C Ratio	0.361	0.168	0.288	0.343
HCM Control Delay	11	9.7	10.5	10.7
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.6	0.6	1.2	1.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	187	20
Future Vol, veh/h	0	5	187	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	215	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.7
HCM LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	30	25	109	107	147	22	470	54	91	603	34
Future Volume (vph)	30	30	25	109	107	147	22	470	54	91	603	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.84			1.00	0.58	1.00	0.97		1.00	0.98	
Flpb, ped/bikes		0.91			0.78	1.00	0.92	1.00		0.89	1.00	
Frt		0.96			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1343			1307	849	1516	3154		1469	3234	
Flt Permitted		0.86			0.82	1.00	0.24	1.00		0.32	1.00	
Satd. Flow (perm)		1180			1101	849	387	3154		499	3234	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	32	26	115	113	155	23	495	57	96	635	36
RTOR Reduction (vph)	0	15	0	0	0	110	0	9	0	0	4	0
Lane Group Flow (vph)	0	75	0	0	228	45	23	543	0	96	667	0
Confl. Peds. (#/hr)	755		1497	1497		755	168		178	178		168
Confl. Bikes (#/hr)			204			83			24			11
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Effective Green, g (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Actuated g/C Ratio		0.29			0.29	0.29	0.32	0.32		0.32	0.32	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		342			319	246	121	993		157	1018	
v/s Ratio Prot								0.17			c0.21	
v/s Ratio Perm		0.06			c0.21	0.05	0.06			0.19		
v/c Ratio		0.22			0.71	0.18	0.19	0.55		0.61	0.66	
Uniform Delay, d1		26.9			31.8	26.6	25.0	28.3		29.1	29.6	
Progression Factor		1.00			1.00	1.00	1.22	1.18		0.71	0.71	
Incremental Delay, d2		1.5			12.9	1.6	2.6	1.6		15.5	3.1	
Delay (s)		28.4			44.6	28.2	33.1	35.0		36.2	24.0	
Level of Service		C			D	C	C	D		D	C	
Approach Delay (s)		28.4			38.0			35.0			25.5	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	150	0	15	20	0	253	5
Future Vol, veh/h	0	5	150	0	15	20	0	253	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	174	0	17	23	0	294	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	11.1
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	3%	57%
Vol Right, %	2%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	258	155	35
LT Vol	253	0	15
Through Vol	0	5	20
RT Vol	5	150	0
Lane Flow Rate	300	180	41
Geometry Grp	1	1	1
Degree of Util (X)	0.402	0.217	0.056
Departure Headway (Hd)	4.819	4.329	4.964
Convergence, Y/N	Yes	Yes	Yes
Cap	747	829	721
Service Time	2.849	2.352	2.997
HCM Lane V/C Ratio	0.402	0.217	0.057
HCM Control Delay	11.1	8.6	8.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.9	0.8	0.2

Intersection	
Intersection Delay, s/veh	104.6
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	522	475	0	135	595	0	366	59
Future Vol, veh/h	0	522	475	0	135	595	0	366	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	549	500	0	142	626	0	385	62
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	109.5	127.4	53.9
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	595	522	475	366	59
LT Vol	0	0	522	0	366	0
Through Vol	135	0	0	0	0	59
RT Vol	0	595	0	475	0	0
Lane Flow Rate	142	626	549	500	385	62
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.312	1.252	1.245	0.966	0.93	0.141
Departure Headway (Hd)	8.196	7.47	8.582	7.342	9.267	8.746
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	442	489	429	500	393	412
Service Time	5.896	5.17	6.282	5.042	6.967	6.446
HCM Lane V/C Ratio	0.321	1.28	1.28	1	0.98	0.15
HCM Control Delay	14.6	153	155	59.4	60.5	12.9
HCM Lane LOS	B	F	F	F	F	B
HCM 95th-tile Q	1.3	24.4	21.8	12.3	10.1	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	920	5	0	964	5	0
Future Volume (vph)	920	5	0	964	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	1.00	
Flt Protected	1.00			1.00	0.95	
Satd. Flow (prot)	1861			1881	1770	
Flt Permitted	1.00			1.00	0.95	
Satd. Flow (perm)	1861			1881	1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	989	5	0	1037	5	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	994	0	0	1037	5	0
Confl. Peds. (#/hr)		31	31		25	17
Confl. Bikes (#/hr)		4				15
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	74.0			74.0	16.0	
Effective Green, g (s)	74.0			74.0	16.0	
Actuated g/C Ratio	0.74			0.74	0.16	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	0.2			0.2	2.0	
Lane Grp Cap (vph)	1377			1391	283	
v/s Ratio Prot	0.53			c0.55	c0.00	
v/s Ratio Perm						
v/c Ratio	0.72			0.75	0.02	
Uniform Delay, d1	7.3			7.5	35.4	
Progression Factor	1.00			1.11	1.00	
Incremental Delay, d2	3.3			3.0	0.0	
Delay (s)	10.6			11.4	35.4	
Level of Service	B			B	D	
Approach Delay (s)	10.6			11.4	35.4	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

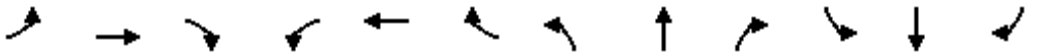
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	1026	43	30	763	86	77	80	25	90	30	201
Future Volume (veh/h)	172	1026	43	30	763	86	77	80	25	90	30	201
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.90	1.00		0.80	1.00		0.83
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	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	187	1115	47	33	829	93	84	87	27	98	33	218
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	326	1649	69	136	1193	134	117	174	54	226	36	238
Arrive On Green	0.19	0.48	0.48	0.15	0.75	0.75	0.07	0.14	0.14	0.13	0.20	0.20
Sat Flow, veh/h	1757	3414	144	1792	3200	359	1707	1231	382	1740	177	1170
Grp Volume(v), veh/h	187	572	590	33	463	459	84	0	114	98	0	251
Grp Sat Flow(s),veh/h/ln	1757	1752	1805	1792	1787	1771	1707	0	1614	1740	0	1347
Q Serve(g_s), s	9.7	25.1	25.1	1.6	13.7	13.7	4.8	0.0	6.5	5.2	0.0	18.2
Cycle Q Clear(g_c), s	9.7	25.1	25.1	1.6	13.7	13.7	4.8	0.0	6.5	5.2	0.0	18.2
Prop In Lane	1.00		0.08	1.00		0.20	1.00		0.24	1.00		0.87
Lane Grp Cap(c), veh/h	326	846	872	136	667	661	117	0	228	226	0	273
V/C Ratio(X)	0.57	0.68	0.68	0.24	0.69	0.69	0.72	0.00	0.50	0.43	0.00	0.92
Avail Cap(c_a), veh/h	326	846	872	136	667	661	137	0	318	226	0	279
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	0.86	0.86	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	19.8	19.9	39.9	9.7	9.7	45.6	0.0	39.7	40.1	0.0	39.0
Incr Delay (d2), s/veh	1.0	2.8	2.7	0.3	5.1	5.2	10.7	0.0	0.6	0.5	0.0	32.1
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	4.8	12.7	13.1	0.8	7.4	7.3	2.6	0.0	3.0	2.5	0.0	9.2
LnGrp Delay(d),s/veh	38.1	22.7	22.6	40.2	14.8	14.9	56.3	0.0	40.3	40.6	0.0	71.1
LnGrp LOS	D	C	C	D	B	B	E		D	D		E
Approach Vol, veh/h		1349			955			198			349	
Approach Delay, s/veh		24.8			15.7			47.1			62.6	
Approach LOS		C			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.6	41.8	17.0	18.6	11.6	52.8	10.8	24.8
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	17.0	37.3	9.0	19.7	6.0	48.3	8.0	20.7
Max Q Clear Time (g_c+I1), s	11.7	15.7	7.2	8.5	3.6	27.1	6.8	20.2
Green Ext Time (p_c), s	0.2	4.1	0.0	0.3	0.1	5.4	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	1062	0	5	790	59	40	60	70	178	5	54
Future Volume (vph)	84	1062	0	5	790	59	40	60	70	178	5	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.90		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.94	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3342			1841	1458		1635	
Flt Permitted	0.95	1.00		0.95	1.00			0.84	1.00		0.71	
Satd. Flow (perm)	1787	3574		1752	3342			1575	1458		1211	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	86	1084	0	5	806	60	41	61	71	182	5	55
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	51	0	12	0
Lane Group Flow (vph)	86	1084	0	5	861	0	0	102	20	0	230	0
Confl. Peds. (#/hr)	241		189	189		241	49		87	87		49
Confl. Bikes (#/hr)						6						1
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	9.7	58.1		1.0	49.4			27.9	27.9		27.9	
Effective Green, g (s)	9.7	58.1		1.0	49.4			27.9	27.9		27.9	
Actuated g/C Ratio	0.10	0.58		0.01	0.49			0.28	0.28		0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	173	2076		17	1650			439	406		337	
v/s Ratio Prot	c0.05	c0.30		0.00	0.26							
v/s Ratio Perm								0.06	0.01		c0.19	
v/c Ratio	0.50	0.52		0.29	0.52			0.23	0.05		0.68	
Uniform Delay, d1	42.8	12.6		49.1	17.3			27.8	26.4		32.1	
Progression Factor	0.65	0.62		0.92	0.27			1.00	1.00		1.00	
Incremental Delay, d2	0.7	0.8		2.3	0.8			0.3	0.1		5.6	
Delay (s)	28.5	8.6		47.6	5.3			28.1	26.4		37.8	
Level of Service	C	A		D	A			C	C		D	
Approach Delay (s)		10.0			5.6			27.4			37.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	1163	60	113	642	229	125	225	344	469	176	87
Future Volume (vph)	87	1163	60	113	642	229	125	225	344	469	176	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.89		0.84		1.00	0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.93		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.99	
Satd. Flow (prot)	1787	3438		1703	3406	1357		2750		1573	1475	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.99	
Satd. Flow (perm)	1787	3438		1703	3406	1357		2750		1573	1475	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	93	1237	64	120	683	244	133	239	366	499	187	93
RTOR Reduction (vph)	0	4	0	0	0	36	0	118	0	0	12	0
Lane Group Flow (vph)	93	1298	0	120	683	208	0	620	0	389	378	0
Confl. Peds. (#/hr)	129		398	398		129	182		242	242		182
Confl. Bikes (#/hr)			1			25			34			17
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	6.6	30.0		6.5	29.9	52.4		23.0		22.5	22.5	
Effective Green, g (s)	6.6	30.0		6.5	29.9	52.4		23.0		22.5	22.5	
Actuated g/C Ratio	0.07	0.30		0.06	0.30	0.52		0.23		0.22	0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	117	1031		110	1018	772		632		353	331	
v/s Ratio Prot	0.05	c0.38		c0.07	0.20	0.06		c0.23		0.25	c0.26	
v/s Ratio Perm						0.09						
v/c Ratio	0.79	1.26		1.09	0.67	0.27		0.98		1.10	1.14	
Uniform Delay, d1	46.0	35.0		46.8	30.7	13.2		38.3		38.8	38.8	
Progression Factor	0.92	0.91		1.00	1.00	1.00		1.00		0.87	0.87	
Incremental Delay, d2	26.0	123.5		112.4	3.5	0.2		30.9		72.3	88.4	
Delay (s)	68.5	155.2		159.1	34.3	13.4		69.2		105.9	122.2	
Level of Service	E	F		F	C	B		E		F	F	
Approach Delay (s)		149.4			43.7			69.2			114.0	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	99.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	0	167	103	0
Future Vol, veh/h	0	10	0	167	103	0
Conflicting Peds, #/hr	70	0	0	49	49	70
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	0	11	0	184	113	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	254	0	-	0	222	232
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	60	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1305	-	-	-	762	802
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1229	-	-	-	676	711
Mov Cap-2 Maneuver	-	-	-	-	676	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

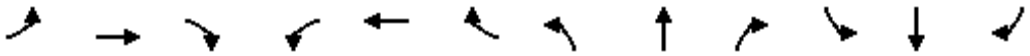
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1229	-	-	-	676
HCM Lane V/C Ratio	-	-	-	-	0.167
HCM Control Delay (s)	0	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Intersection Delay, s/veh	40.6
Intersection LOS	E

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	50	63	0	127	549	0	264	40
Future Vol, veh/h	0	50	63	0	127	549	0	264	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	56	70	0	141	610	0	293	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.1	57.9	13.2
HCM LOS	B	F	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	19%	44%	0%
Vol Thru, %	81%	0%	87%
Vol Right, %	0%	56%	13%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	676	113	304
LT Vol	127	50	0
Through Vol	549	0	264
RT Vol	0	63	40
Lane Flow Rate	751	126	338
Geometry Grp	1	1	1
Degree of Util (X)	1.013	0.219	0.489
Departure Headway (Hd)	4.857	6.281	5.209
Convergence, Y/N	Yes	Yes	Yes
Cap	751	570	692
Service Time	2.857	4.33	3.241
HCM Lane V/C Ratio	1	0.221	0.488
HCM Control Delay	57.9	11.1	13.2
HCM Lane LOS	F	B	B
HCM 95th-tile Q	17.4	0.8	2.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	272	10	5	661	5	0	0	5	0	0	10
Future Volume (vph)	10	272	10	5	661	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	286	11	5	696	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	297	706	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.09	0.08	-0.60	-0.60
Departure Headway (s)	5.6	5.1	4.5	5.6	5.5
Degree Utilization, x	0.02	0.42	0.88	0.01	0.02
Capacity (veh/h)	626	689	799	596	592
Control Delay (s)	7.5	10.6	30.2	8.6	8.6
Approach Delay (s)	10.5		30.2	8.6	8.6
Approach LOS	B		D	A	A

Intersection Summary				
Delay	24.0			
Level of Service	C			
Intersection Capacity Utilization	59.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	21.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	101	131	2346	86	85	1093
Future Vol, veh/h	101	131	2346	86	85	1093
Conflicting Peds, #/hr	0	4	0	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	106	138	2469	91	89	1151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3273	1288	0	0	2564	0
Stage 1	2519	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 7	157	-	-	169	-
Stage 1	~ 48	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	156	-	-	168	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	~ 48	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 335.4	0	3.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	156	168	-
HCM Lane V/C Ratio	-	-	1.565	0.533	-
HCM Control Delay (s)	-	-	$ 335.4	48.5	-
HCM Lane LOS	-	-	F	E	-
HCM 95th %tile Q(veh)	-	-	16.6	2.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2367	20	0	1199
Future Vol, veh/h	5	40	2367	20	0	1199
Conflicting Peds, #/hr	4	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2492	21	0	1262

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3141	1264	0	0	-	-
Stage 1	2506	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	8	161	-	-	0	-
Stage 1	47	-	-	-	0	-
Stage 2	490	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	8	160	-	-	-	-
Mov Cap-2 Maneuver	44	-	-	-	-	-
Stage 1	47	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	50.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	124	-
HCM Lane V/C Ratio	-	-	0.382	-
HCM Control Delay (s)	-	-	50.9	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	1.6	-

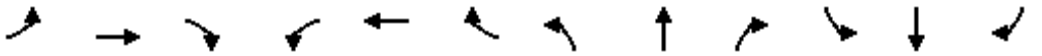
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2392	25	10	1189
Future Vol, veh/h	0	5	2392	25	10	1189
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2492	26	10	1239

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1269	0	0	2523	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	162	-	-	176	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	161	-	-	175	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

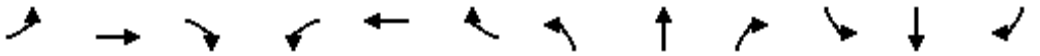
Approach	WB	NB	SB
HCM Control Delay, s	28.1	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	175	-
HCM Lane V/C Ratio	-	-	0.032	0.06	-
HCM Control Delay (s)	-	-	28.1	26.9	-
HCM Lane LOS	-	-	D	D	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	531	29	80	182	0	90	0	1736	5	32	970	187
Future Volume (vph)	531	29	80	182	0	90	0	1736	5	32	970	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.85	1.00		0.99		1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.98	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1694	1351	1692		1594		3568			3348	
Flt Permitted	0.95	0.96	1.00	0.36		1.00		1.00			0.74	
Satd. Flow (perm)	1681	1694	1351	645		1594		3568			2483	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	553	30	83	190	0	94	0	1808	5	33	1010	195
RTOR Reduction (vph)	0	0	59	0	0	10	0	0	0	0	11	0
Lane Group Flow (vph)	293	290	24	190	0	84	0	1813	0	0	1227	0
Confl. Peds. (#/hr)			81	81			39		188	188		39
Confl. Bikes (#/hr)			8			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4				2		
Actuated Green, G (s)	34.9	34.9	34.9	34.9		34.9		76.1			76.1	
Effective Green, g (s)	34.9	34.9	34.9	34.9		34.9		76.1			76.1	
Actuated g/C Ratio	0.29	0.29	0.29	0.29		0.29		0.63			0.63	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	488	492	392	187		463		2262			1574	
v/s Ratio Prot								c0.51				
v/s Ratio Perm	0.17	0.17	0.02	c0.29		0.05					0.49	
v/c Ratio	0.60	0.59	0.06	1.02		0.18		0.80			0.78	
Uniform Delay, d1	36.6	36.4	30.7	42.5		31.9		16.3			15.9	
Progression Factor	0.72	0.72	1.55	1.00		1.00		0.64			1.00	
Incremental Delay, d2	0.9	0.7	0.0	70.0		0.1		1.5			3.9	
Delay (s)	27.2	27.0	47.7	112.6		31.9		12.0			19.8	
Level of Service	C	C	D	F		C		B			B	
Approach Delay (s)		29.7			85.9			12.0			19.8	
Approach LOS		C			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	525	1376	60	45	742	40	0	0	0	0	0	242
Future Volume (vph)	525	1376	60	45	742	40	0	0	0	0	0	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.66	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1068	1805	3522							1565
Flt Permitted	0.95	1.00	1.00	0.14	1.00							1.00
Satd. Flow (perm)	1805	3610	1068	260	3522							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	565	1480	65	48	798	43	0	0	0	0	0	260
RTOR Reduction (vph)	0	0	33	0	6	0	0	0	0	0	0	24
Lane Group Flow (vph)	565	1480	32	48	835	0	0	0	0	0	0	236
Confl. Peds. (#/hr)			193	193		402			672	672		
Confl. Bikes (#/hr)			7			9		9				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	20.8	29.2	29.2	29.2	29.2							20.8
Effective Green, g (s)	20.8	29.2	29.2	29.2	29.2							20.8
Actuated g/C Ratio	0.35	0.49	0.49	0.49	0.49							0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	625	1756	519	126	1714							542
v/s Ratio Prot	c0.31	c0.41			0.24							0.15
v/s Ratio Perm			0.03	0.18								
v/c Ratio	0.90	0.84	0.06	0.38	0.49							0.44
Uniform Delay, d1	18.6	13.4	8.1	9.7	10.4							15.1
Progression Factor	1.00	1.00	1.00	0.61	0.64							1.18
Incremental Delay, d2	16.2	5.1	0.2	8.2	1.0							0.2
Delay (s)	34.8	18.5	8.4	14.1	7.6							18.0
Level of Service	C	B	A	B	A							B
Approach Delay (s)		22.6			8.0			0.0			18.0	
Approach LOS		C			A			A			B	

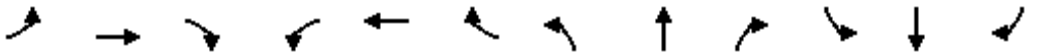
Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1361	15	40	822	65	65
Future Volume (vph)	1361	15	40	822	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.77	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1186	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1186	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1448	16	43	874	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1448	15	43	874	69	5
Confl. Peds. (#/hr)		70	70		39	
Confl. Bikes (#/hr)		7				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	823	194	2674	136	120
v/s Ratio Prot	c0.42		c0.03	0.26	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.61	0.02	0.22	0.33	0.51	0.04
Uniform Delay, d1	9.7	5.7	48.0	3.0	53.3	51.4
Progression Factor	1.33	1.67	0.75	2.98	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.0	1.1	0.1
Delay (s)	13.5	9.5	35.9	9.0	54.4	51.5
Level of Service	B	A	D	A	D	D
Approach Delay (s)	13.5			10.3	52.9	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1426	0	68	20	769	1721	37	5	1197	20
Future Volume (vph)	0	0	1426	0	68	20	769	1721	37	5	1197	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.66
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3483		1752	3505	1036
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3483		1752	3505	1036
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1470	0	70	21	793	1774	38	5	1234	21
RTOR Reduction (vph)	0	0	282	0	0	19	0	2	0	0	0	12
Lane Group Flow (vph)	0	0	1188	0	70	2	793	1810	0	5	1234	9
Confl. Peds. (#/hr)							245		321	321		245
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			102.0		12.7	12.7	31.1	65.2		1.0	52.2	52.2
Effective Green, g (s)			97.0		12.7	12.7	31.1	58.2		1.0	52.2	52.2
Actuated g/C Ratio			0.81		0.11	0.11	0.26	0.49		0.01	0.44	0.44
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2252		197	167	889	1689		14	1524	450
v/s Ratio Prot					0.04		c0.23	c0.52		0.00	0.35	
v/s Ratio Perm			c0.43			0.00						0.01
v/c Ratio			0.53		0.36	0.01	0.89	1.07		0.36	0.81	0.02
Uniform Delay, d1			3.8		49.8	48.0	42.8	30.9		59.2	29.6	19.3
Progression Factor			1.00		1.00	1.00	0.74	1.25		0.83	0.71	1.00
Incremental Delay, d2			0.1		0.4	0.0	9.4	42.4		3.6	3.1	0.1
Delay (s)			3.9		50.2	48.1	41.2	81.0		52.6	24.1	19.4
Level of Service			A		D	D	D	F		D	C	B
Approach Delay (s)		3.9			49.7			68.9			24.1	
Approach LOS		A			D			E			C	

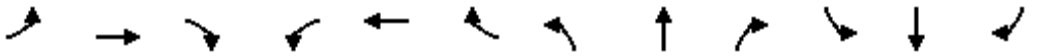
Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	881	200	1841	30	30	1979	589	30
Future Volume (vph)	881	200	1841	30	30	1979	589	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4905		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4905		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	918	217	1918	33	33	2061	640	33
RTOR Reduction (vph)	244	0	0	16	0	33	0	0
Lane Group Flow (vph)	674	217	1918	17	33	2668	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	36.0	10.0	61.9	61.9	18.0	87.9		5.6
Effective Green, g (s)	36.0	10.0	61.9	61.9	18.0	87.9		5.6
Actuated g/C Ratio	0.30	0.08	0.52	0.52	0.15	0.73		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	836	286	1825	816	265	3592		75
v/s Ratio Prot	c0.24	0.06	c0.54		0.02	0.43		c0.02
v/s Ratio Perm				0.01		0.11		
v/c Ratio	0.81	0.76	1.05	0.02	0.12	0.74		0.44
Uniform Delay, d1	38.8	53.8	29.1	14.2	44.2	9.4		55.7
Progression Factor	1.00	0.97	0.96	1.00	0.82	2.57		1.00
Incremental Delay, d2	5.7	8.1	33.1	0.0	0.2	0.7		4.1
Delay (s)	44.5	60.4	61.1	14.3	36.5	25.0		59.8
Level of Service	D	E	E	B	D	C		E
Approach Delay (s)			60.3			25.1		
Approach LOS			E			C		

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	606	25	60	115	5	425	90	805	5	165	961	853
Future Volume (vph)	606	25	60	115	5	425	90	805	5	165	961	853
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1438	1752	1845	1568	3367	3462		1752	3505	1416
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1438	1752	1845	1568	3367	3462		1752	3505	1416
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	638	26	63	121	5	447	95	847	5	174	1012	898
RTOR Reduction (vph)	0	0	49	0	0	64	0	0	0	0	0	534
Lane Group Flow (vph)	332	332	14	121	5	383	95	852	0	174	1012	364
Confl. Peds. (#/hr)	3		60	60		3	111		170	170		111
Confl. Bikes (#/hr)						5			8			10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.6	26.6	26.6	20.7	20.7	39.7	6.0	40.2		14.5	48.7	48.7
Effective Green, g (s)	26.6	26.6	26.6	20.7	20.7	39.7	6.0	40.2		14.5	48.7	48.7
Actuated g/C Ratio	0.22	0.22	0.22	0.17	0.17	0.33	0.05	0.34		0.12	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	372	375	318	302	318	518	168	1159		211	1422	574
v/s Ratio Prot	c0.20	0.20		0.07	0.00	c0.24	0.03	c0.25		0.10	0.29	
v/s Ratio Perm			0.01									0.26
v/c Ratio	0.89	0.89	0.04	0.40	0.02	0.74	0.57	0.74		0.82	0.71	0.63
Uniform Delay, d1	45.3	45.2	36.7	44.1	41.2	35.6	55.7	35.2		51.5	29.8	28.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.94	0.91	3.10
Incremental Delay, d2	22.1	20.7	0.0	0.9	0.0	5.6	2.6	4.2		15.5	2.1	3.7
Delay (s)	67.4	66.0	36.7	45.0	41.2	41.2	58.3	39.4		64.2	29.2	92.0
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		64.1			42.0			41.3			59.2	
Approach LOS		E			D			D			E	

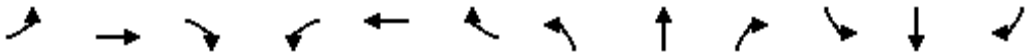
Intersection Summary			
HCM 2000 Control Delay	53.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	176	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	176	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				180	128	179
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1345	562	300	2713	0				501	263	220
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2530	1017	1774	3632	0				3619	1900	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				180	128	179
Grp Sat Flow(s),veh/h/ln	0	1787	1666	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				4.5	6.2	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				4.5	6.2	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	987	920	300	2713	0				501	263	220
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.36	0.49	0.81
Avail Cap(c_a), veh/h	0	987	920	452	2713	0				651	342	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				39.0	39.8	41.8
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.3	1.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.3	3.3	5.5
LnGrp Delay(d),s/veh	0.0	16.2	16.3	41.6	0.3	0.0				39.4	40.8	53.6
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						487	
Approach Delay, s/veh		16.2			7.7						45.0	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.7		18.9		81.1		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.8		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	576	0	0	830	340	605	230	365	0	0	0
Future Volume (vph)	305	576	0	0	830	340	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.87	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1381	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1381	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	600	0	0	865	354	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	82	0	0	176	0	0	0
Lane Group Flow (vph)	318	600	0	0	865	272	428	442	205	0	0	0
Confl. Peds. (#/hr)	24		22	22		24			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	459	551	567	507			
v/s Ratio Prot	c0.18	0.17			c0.24		0.25	c0.25				
v/s Ratio Perm						0.20			0.13			
v/c Ratio	0.86	0.29			0.73	0.59	0.78	0.78	0.40			
Uniform Delay, d1	38.3	10.3			29.4	27.7	30.5	30.5	26.2			
Progression Factor	0.83	0.69			0.54	0.44	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.6	4.9	10.3	10.2	2.4			
Delay (s)	48.1	7.4			19.5	17.2	40.8	40.7	28.6			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		21.5			18.8			37.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	821	30	5	1085	5	40	20	30	15	10	15
Future Volume (veh/h)	20	821	30	5	1085	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.96		0.94	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	838	31	5	1107	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	59	2006	73	38	2134	10	233	115	150	209	143	182
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	35	3315	121	4	3528	16	583	372	485	515	461	586
Grp Volume(v), veh/h	458	0	431	584	0	533	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1684	1856	0	1691	1440	0	0	1562	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.04		0.07	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.50	0.00	0.52	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.3	1.6	0.0	1.9	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.5	0.0	0.5	2.0	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.3	1.6	0.0	1.9	26.1	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		889			1117			92			40	
Approach Delay, s/veh		1.2			1.7			26.1			24.6	
Approach LOS		A			A			C			C	

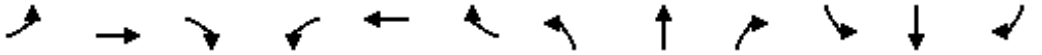
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		35.0		65.0		35.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		60.5		31.0		60.5		31.0
Max Q Clear Time (g_c+I1), s		2.0		6.3		2.0		3.6
Green Ext Time (p_c), s		2.5		0.1		2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	3.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	790	86	105	970	0	0	0	0	121	690	130
Future Volume (veh/h)	0	790	86	105	970	0	0	0	0	121	690	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	814	89	108	1000	0				125	711	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1762	193	0	1967	0				190	1139	526
Arrive On Green	0.00	0.55	0.55	0.00	1.00	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	3328	353	0	3705	0				521	3122	1442
Grp Volume(v), veh/h	0	450	453	0	1000	0				445	391	134
Grp Sat Flow(s),veh/h/ln	0	1787	1800	0	1805	0				1855	1787	1442
Q Serve(g_s), s	0.0	15.3	15.3	0.0	0.0	0.0				20.1	17.8	6.5
Cycle Q Clear(g_c), s	0.0	15.3	15.3	0.0	0.0	0.0				20.1	17.8	6.5
Prop In Lane	0.00		0.20	0.00		0.00				0.28		1.00
Lane Grp Cap(c), veh/h	0	974	981	0	1967	0				677	652	526
V/C Ratio(X)	0.00	0.46	0.46	0.00	0.51	0.00				0.66	0.60	0.25
Avail Cap(c_a), veh/h	0	974	981	0	1967	0				677	652	526
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	0.0	0.0	0.0				26.5	25.8	22.2
Incr Delay (d2), s/veh	0.0	1.6	1.6	0.0	0.9	0.0				5.0	4.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.9	8.0	0.0	0.3	0.0				11.2	9.4	2.7
LnGrp Delay(d),s/veh	0.0	15.4	15.4	0.0	0.9	0.0				31.5	29.8	23.4
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		903			1000						970	
Approach Delay, s/veh		15.4			0.9						29.7	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.0			0.0	59.0		41.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			13.7	36.3		36.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	17.3		22.1
Green Ext Time (p_c), s		2.8			0.0	2.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

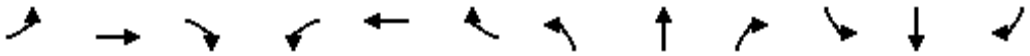


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	681	0	0	828	88	237	774	70	0	0	0
Future Volume (veh/h)	210	681	0	0	828	88	237	774	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	724	0	0	881	94	252	823	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	63	862	0	0	1365	146	288	995	93			
Arrive On Green	0.35	0.35	0.00	0.00	0.85	0.85	0.13	0.13	0.13			
Sat Flow, veh/h	2	1714	0	0	3322	344	757	2610	244			
Grp Volume(v), veh/h	315	632	0	0	488	487	607	0	542			
Grp Sat Flow(s),veh/h/ln	4	1627	0	0	1787	1785	1825	0	1787			
Q Serve(g_s), s	39.2	33.9	0.0	0.0	9.3	9.3	32.7	0.0	29.4			
Cycle Q Clear(g_c), s	39.2	33.9	0.0	0.0	9.3	9.3	32.7	0.0	29.4			
Prop In Lane	0.71		0.00	0.00		0.19	0.41		0.14			
Lane Grp Cap(c), veh/h	0	860	0	0	756	755	695	0	681			
V/C Ratio(X)	0.00	0.73	0.00	0.00	0.65	0.65	0.87	0.00	0.80			
Avail Cap(c_a), veh/h	0	860	0	0	756	755	695	0	681			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	26.1	0.0	0.0	5.2	5.2	41.3	0.0	39.9			
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	4.2	4.2	14.3	0.0	9.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	16.5	0.0	0.0	5.0	4.9	19.3	0.0	16.4			
LnGrp Delay(d),s/veh	0.0	31.7	0.0	0.0	9.4	9.4	55.6	0.0	49.3			
LnGrp LOS		C			A	A	E		D			
Approach Vol, veh/h		947			975			1149				
Approach Delay, s/veh		21.1			9.4			52.6				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		46.8		42.6		57.4		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 42		38.1		52.9		
Max Q Clear Time (g_c+I1), s		11.3		34.7		41.2		
Green Ext Time (p_c), s		1.1		0.8		2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	29.2
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	510	119	25	736	50	30	50	15	10	90	75
Future Volume (vph)	80	510	119	25	736	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.98			0.98			0.97	
Flpb, ped/bikes		0.99			1.00			0.99			0.99	
Frt		0.97			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3098			3371			1767			1686	
Flt Permitted		0.70			0.92			0.89			0.99	
Satd. Flow (perm)		2181			3091			1599			1671	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	531	124	26	767	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	17	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	721	0	0	840	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	120		200	200		120	92		159	159		92
Confl. Bikes (#/hr)			1			3			14			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1035			1468			703			735	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.27			0.06			c0.09	
v/c Ratio		0.70			0.57			0.13			0.21	
Uniform Delay, d1		20.6			18.9			16.6			17.3	
Progression Factor		1.07			0.36			0.93			1.00	
Incremental Delay, d2		1.8			1.4			0.3			0.7	
Delay (s)		23.8			8.2			15.8			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		23.8			8.2			15.8			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	428	52	20	659	20	77	160	30	10	165	70
Future Volume (veh/h)	85	428	52	20	659	20	77	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.78	0.92		0.78	0.92		0.84	0.90		0.85
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	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	455	55	21	701	21	82	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	212	1021	123	59	1522	45	208	410	73	48	486	197
Arrive On Green	0.93	0.93	0.93	0.93	0.93	0.93	0.89	0.89	0.89	0.44	0.44	0.44
Sat Flow, veh/h	354	2195	265	46	3272	97	363	922	163	25	1092	442
Grp Volume(v), veh/h	276	0	324	389	0	354	284	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1252	0	1562	1785	0	1630	1448	0	0	1558	0	0
Q Serve(g_s), s	0.0	0.0	2.5	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	2.5	2.6	0.0	2.7	2.7	0.0	0.0	11.0	0.0	0.0
Prop In Lane	0.33		0.17	0.05		0.06	0.29		0.11	0.04		0.28
Lane Grp Cap(c), veh/h	630	0	726	868	0	758	691	0	0	731	0	0
V/C Ratio(X)	0.44	0.00	0.45	0.45	0.00	0.47	0.41	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	630	0	726	868	0	758	691	0	0	731	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.9	0.0	2.0	2.0	0.0	2.0	3.2	0.0	0.0	18.5	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	2.0	1.7	0.0	2.1	1.8	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.3	1.5	0.0	1.4	1.5	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	4.1	0.0	3.9	3.6	0.0	4.0	5.0	0.0	0.0	19.8	0.0	0.0
LnGrp LOS	A		A	A		A	A			B		
Approach Vol, veh/h		600			743			284			261	
Approach Delay, s/veh		4.0			3.8			5.0			19.8	
Approach LOS		A			A			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		51.0		49.0		51.0		49.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		46.5		44.5		46.5		44.5
Max Q Clear Time (g_c+I1), s		4.7		4.7		4.5		13.0
Green Ext Time (p_c), s		1.9		0.8		1.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	6.3
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	338	60	50	461	25	218	420	40	20	330	20
Future Volume (veh/h)	70	338	60	50	461	25	218	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.74	0.97		0.84	0.99		0.92	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	356	63	53	485	26	229	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	139	678	129	108	975	54	500	928	90	64	902	53
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	1.00	1.00	1.00	0.56	0.56	0.56
Sat Flow, veh/h	260	1911	365	185	2748	153	785	1672	161	47	1625	95
Grp Volume(v), veh/h	243	0	250	283	0	281	292	0	421	389	0	0
Grp Sat Flow(s),veh/h/ln	1085	0	1449	1434	0	1651	999	0	1619	1767	0	0
Q Serve(g_s), s	9.5	0.0	13.5	4.7	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.7	0.0	13.5	18.2	0.0	13.2	0.0	0.0	0.0	12.1	0.0	0.0
Prop In Lane	0.30		0.25	0.19		0.09	0.79		0.10	0.05		0.05
Lane Grp Cap(c), veh/h	432	0	515	552	0	586	619	0	898	1019	0	0
V/C Ratio(X)	0.56	0.00	0.49	0.51	0.00	0.48	0.47	0.00	0.47	0.38	0.00	0.00
Avail Cap(c_a), veh/h	432	0	515	552	0	586	619	0	898	1019	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.5	0.0	25.1	25.7	0.0	25.1	0.0	0.0	0.0	12.6	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.0	3.3	3.4	0.0	2.8	2.6	0.0	1.8	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	5.8	7.0	0.0	6.5	0.4	0.0	0.4	6.4	0.0	0.0
LnGrp Delay(d),s/veh	33.7	0.0	28.4	29.1	0.0	27.9	2.6	0.0	1.8	13.7	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		493			564			713			389	
Approach Delay, s/veh		31.0			28.5			2.1			13.7	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		60.0		40.0		60.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		35.5		55.5		35.5		55.5
Max Q Clear Time (g_c+I1), s		20.2		2.0		24.7		14.1
Green Ext Time (p_c), s		6.2		10.1		5.1		9.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	383	110	25	359	10	237	95	25	15	80	20
Future Volume (vph)	25	383	110	25	359	10	237	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3276			1837			1785			1773	
Flt Permitted		0.92			0.94			0.97			0.99	
Satd. Flow (perm)		3023			1739			1785			1773	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	421	121	27	395	11	260	104	27	16	88	22
RTOR Reduction (vph)	0	22	0	0	1	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	547	0	0	432	0	0	388	0	0	119	0
Confl. Peds. (#/hr)	56		83	83		56	87		66	66		87
Confl. Bikes (#/hr)						2			42			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		41.4			41.4			34.5			21.1	
Effective Green, g (s)		41.4			41.4			34.5			21.1	
Actuated g/C Ratio		0.37			0.37			0.31			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1132			651			557			338	
v/s Ratio Prot								c0.22			c0.07	
v/s Ratio Perm		0.18			c0.25							
v/c Ratio		0.48			0.66			0.70			0.35	
Uniform Delay, d1		26.4			28.8			33.4			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.5			5.3			7.1			2.9	
Delay (s)		27.9			34.0			40.5			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		27.9			34.0			40.5			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	53	0	5	30	5	0	114	65	5
Future Vol, veh/h	0	315	30	53	0	5	30	5	0	114	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	60	0	6	34	6	0	128	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

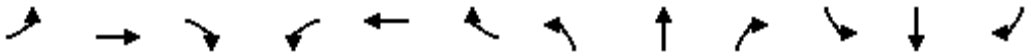
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	21.8	10.2	12.6
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	79%	12%	1%
Vol Thru, %	35%	8%	75%	16%
Vol Right, %	3%	13%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	184	398	40	340
LT Vol	114	315	5	5
Through Vol	65	30	30	55
RT Vol	5	53	5	280
Lane Flow Rate	207	447	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.353	0.712	0.082	0.565
Departure Headway (Hd)	6.149	5.728	6.577	5.325
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	581	626	548	672
Service Time	4.241	3.793	4.577	3.404
HCM Lane V/C Ratio	0.356	0.714	0.082	0.568
HCM Control Delay	12.6	21.8	10.2	15.2
HCM Lane LOS	B	C	B	C
HCM 95th-tile Q	1.6	5.9	0.3	3.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

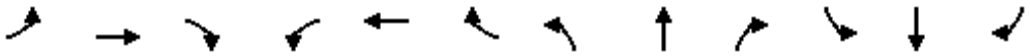
Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15.2
HCM LOS	C



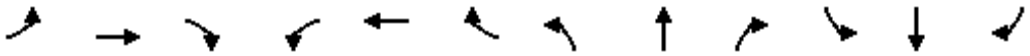
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	861	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	861	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1742			1737						3470	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1742			1326						3470	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	916	37
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	121	0	0	175	0	0	0	0	0	986	0
Confl. Peds. (#/hr)	78		113	113		78	114		59	59		114
Confl. Bikes (#/hr)			6			23						11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		400			304						2012	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.28	
v/c Ratio		0.30			0.58						0.49	
Uniform Delay, d1		15.9			17.1						6.2	
Progression Factor		1.00			0.89						2.23	
Incremental Delay, d2		0.6			2.8						0.6	
Delay (s)		16.5			18.0						14.3	
Level of Service		B			B						B	
Approach Delay (s)		16.5			18.0			0.0			14.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	921	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	921	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.93			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1622			3495				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1622			3495				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	990	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	53	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	183	0	0	1096	0	0	0	0
Confl. Peds. (#/hr)	89		93	93		89	44		48	48		44
Confl. Bikes (#/hr)			14			30			81			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.5			10.5			29.5				
Effective Green, g (s)		10.5			10.5			29.5				
Actuated g/C Ratio		0.21			0.21			0.59				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		399			340			2062				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.31				
v/c Ratio		0.30			0.54			0.53				
Uniform Delay, d1		16.6			17.6			6.1				
Progression Factor		1.18			0.93			1.03				
Incremental Delay, d2		0.1			0.8			0.8				
Delay (s)		19.8			17.1			7.1				
Level of Service		B			B			A				
Approach Delay (s)		19.8			17.1			7.1			0.0	
Approach LOS		B			B			A			A	

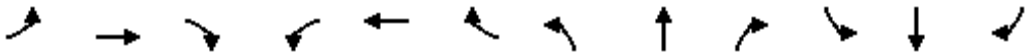
Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	558	40	25	410	35
Future Volume (vph)	75	70	60	25	35	65	115	558	40	25	410	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.95			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			1.00	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1623			1551			3313			1711	
Flt Permitted		0.85			0.92			0.81			0.95	
Satd. Flow (perm)		1398			1438			2691			1622	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	600	43	27	441	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	8	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	759	0	0	500	0
Confl. Peds. (#/hr)	140		146	146		140	175		131	131		175
Confl. Bikes (#/hr)			6			4			24			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		419			431			1426			859	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.28			c0.31	
v/c Ratio		0.46			0.20			0.53			0.58	
Uniform Delay, d1		14.2			13.0			7.7			8.0	
Progression Factor		1.54			1.00			1.03			0.63	
Incremental Delay, d2		3.5			1.0			0.7			2.7	
Delay (s)		25.3			14.1			8.6			7.7	
Level of Service		C			B			A			A	
Approach Delay (s)		25.3			14.1			8.6			7.7	
Approach LOS		C			B			A			A	

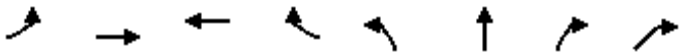
Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	700	250	545	894	0	0	0	0	300	220	220
Future Volume (vph)	0	700	250	545	894	0	0	0	0	300	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3295		3433	3539					1579	2997	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		3295		3433	3539					1579	2997	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	729	260	568	931	0	0	0	0	312	229	229
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	951	0	568	931	0	0	0	0	263	430	0
Confl. Peds. (#/hr)	128		138	138		128	35					35
Confl. Bikes (#/hr)			2			8						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		33.8		28.2	66.5					24.0	24.0	
Effective Green, g (s)		33.8		28.2	66.5					24.0	24.0	
Actuated g/C Ratio		0.34		0.28	0.66					0.24	0.24	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1113		968	2353					378	719	
v/s Ratio Prot		c0.29		c0.17	0.26					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.85		0.59	0.40					0.70	0.60	
Uniform Delay, d1		30.8		30.9	7.6					34.7	33.7	
Progression Factor		1.00		1.06	1.35					1.29	1.38	
Incremental Delay, d2		6.6		1.2	0.2					9.2	3.3	
Delay (s)		37.4		34.1	10.5					53.8	49.8	
Level of Service		D		C	B					D	D	
Approach Delay (s)		37.4			19.4			0.0			51.2	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	760	955	387	494	440	523	60
Future Volume (vph)	235	760	955	387	494	440	523	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	3000		3400	1705	1430	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	3000		3400	1705	1430	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	800	1005	407	520	463	551	63
RTOR Reduction (vph)	0	0	44	0	0	6	82	0
Lane Group Flow (vph)	247	800	1368	0	520	534	392	63
Confl. Peds. (#/hr)	294			294	95		24	
Confl. Bikes (#/hr)				24				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	15.1	56.5	42.3		29.1	29.1	29.1	58.9
Effective Green, g (s)	15.1	56.5	42.3		29.1	29.1	29.1	58.9
Actuated g/C Ratio	0.15	0.56	0.42		0.29	0.29	0.29	0.59
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	262	1961	1269		989	496	416	940
v/s Ratio Prot	c0.14	0.23	c0.46		0.15	c0.31		0.00
v/s Ratio Perm							0.27	0.04
v/c Ratio	0.94	0.41	1.08		0.53	1.08	0.94	0.07
Uniform Delay, d1	42.0	12.3	28.9		29.7	35.5	34.6	8.8
Progression Factor	1.18	1.53	1.08		1.00	1.00	1.00	1.00
Incremental Delay, d2	29.9	0.4	47.7		2.0	62.8	32.0	0.0
Delay (s)	79.6	19.2	79.0		31.7	98.2	66.6	8.8
Level of Service	E	B	E		C	F	E	A
Approach Delay (s)		33.5	79.0			65.9		
Approach LOS		C	E			E		

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1208	10	10	1327	5	95
Future Vol, veh/h	1208	10	10	1327	5	95
Conflicting Peds, #/hr	0	224	224	0	224	224
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1299	11	11	1427	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1534	0	2487	1103
Stage 1	-	-	-	-	1528	-
Stage 2	-	-	-	-	959	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	425	-	25	209
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	337	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	346	-	16	138
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	265	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	82.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	346	-
HCM Lane V/C Ratio	0.74	-	-	0.031	-
HCM Control Delay (s)	82.7	-	-	15.7	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

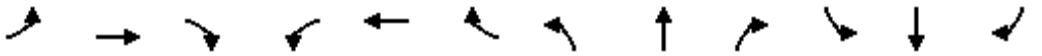
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1213	1312	30	5	25
Future Vol, veh/h	95	1213	1312	30	5	25
Conflicting Peds, #/hr	150	0	0	148	148	150
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1277	1381	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1563	0	-	0	2533	1006
Stage 1	-	-	-	-	1547	-
Stage 2	-	-	-	-	986	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	414	-	-	-	23	243
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	327	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	362	-	-	-	13	186
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	207	-

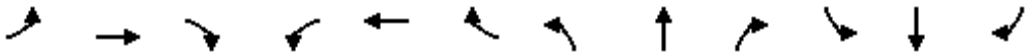
Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	34.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	362	-	-	-	154
HCM Lane V/C Ratio	0.276	-	-	-	0.205
HCM Control Delay (s)	18.7	-	-	-	34.3
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	0.7



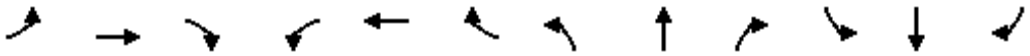
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	997	236	232	1202	0	0	0	0	45	816	130
Future Volume (vph)	0	997	236	232	1202	0	0	0	0	45	816	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.65
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3198		1736	3471						3505	1033
Flt Permitted		1.00		0.09	1.00						1.00	1.00
Satd. Flow (perm)		3198		158	3471						3505	1033
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1039	246	242	1252	0	0	0	0	47	850	135
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1265	0	242	1252	0	0	0	0	0	897	88
Confl. Peds. (#/hr)	269		232	232		269	298		90	90		298
Confl. Bikes (#/hr)			2			17						35
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.4		59.0	63.5						27.5	27.5
Effective Green, g (s)		46.4		59.0	63.5						27.5	27.5
Actuated g/C Ratio		0.46		0.59	0.64						0.28	0.28
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1483		292	2204						963	284
v/s Ratio Prot		c0.40		c0.10	0.36							
v/s Ratio Perm				0.38							0.26	0.09
v/c Ratio		0.85		0.83	0.57						0.93	0.31
Uniform Delay, d1		23.8		32.8	10.4						35.3	28.7
Progression Factor		0.87		0.91	0.67						1.39	1.95
Incremental Delay, d2		5.4		13.0	0.2						14.0	0.2
Delay (s)		26.2		42.9	7.1						63.0	56.2
Level of Service		C		D	A						E	E
Approach Delay (s)		26.2			12.9			0.0			62.1	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



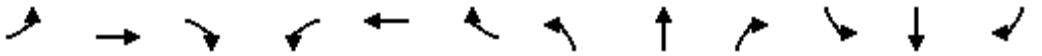
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	962	0	0	987	30	427	936	151	0	0	0
Future Volume (vph)	5	962	0	0	987	30	427	936	151	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.77			
Flpb, ped/bikes		1.00			1.00		0.91	1.00	1.00			
Frt		1.00			1.00		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3504			3421		1623	3574	1234			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3331			3421		1623	3574	1234			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1023	0	0	1050	32	454	996	161	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	18	0	0	0
Lane Group Flow (vph)	0	1028	0	0	1080	0	454	996	143	0	0	0
Confl. Peds. (#/hr)	243		130	130		243	55		112	112		55
Confl. Bikes (#/hr)						16			93			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		48.5			48.5		42.5	42.5	42.5			
Effective Green, g (s)		48.5			48.5		42.5	42.5	42.5			
Actuated g/C Ratio		0.48			0.48		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1615			1659		689	1518	524			
v/s Ratio Prot					c0.32			0.28				
v/s Ratio Perm		0.31					c0.28		0.12			
v/c Ratio		0.64			0.65		0.66	0.66	0.27			
Uniform Delay, d1		19.2			19.4		23.0	22.9	18.7			
Progression Factor		0.23			0.58		0.83	0.83	0.84			
Incremental Delay, d2		0.9			1.8		2.6	1.2	0.7			
Delay (s)		5.4			12.9		21.7	20.2	16.4			
Level of Service		A			B		C	C	B			
Approach Delay (s)		5.4			12.9			20.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



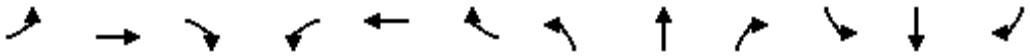
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	982	61	49	947	15	40	60	45	20	52	35
Future Volume (vph)	85	982	61	49	947	15	40	60	45	20	52	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3308		1703	3366			1601			1582	
Flt Permitted	0.95	1.00		0.95	1.00			0.88			0.93	
Satd. Flow (perm)	1736	3308		1703	3366			1431			1482	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	1045	65	52	1007	16	43	64	48	21	55	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	90	1107	0	52	1022	0	0	138	0	0	94	0
Confl. Peds. (#/hr)	214		302	302		214	72		98	98		72
Confl. Bikes (#/hr)			2			9			30			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Effective Green, g (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Actuated g/C Ratio	0.10	0.65		0.05	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2156		86	2006			238			247	
v/s Ratio Prot	c0.05	c0.33		0.03	0.30							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.51	0.51		0.60	0.51			0.58			0.38	
Uniform Delay, d1	42.5	9.1		46.5	11.7			38.4			37.0	
Progression Factor	0.70	0.26		0.80	0.69			1.00			1.00	
Incremental Delay, d2	0.7	0.7		6.1	0.7			2.1			0.4	
Delay (s)	30.3	3.0		43.1	8.8			40.5			37.4	
Level of Service	C	A		D	A			D			D	
Approach Delay (s)		5.1			10.4			40.5			37.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	947	40	85	866	30	85	50	10	60	39	130
Future Volume (vph)	100	947	40	85	866	30	85	50	10	60	39	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.96			0.98			1.00	0.68		1.00	0.74
Flpb, ped/bikes	1.00	1.00			0.99			0.86	1.00		0.86	1.00
Frt	1.00	0.99			1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1736	3322			3293			1593	1104		1569	1179
Flt Permitted	0.95	1.00			0.74			0.72	1.00		0.62	1.00
Satd. Flow (perm)	1736	3322			2439			1176	1104		1010	1179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1007	43	90	921	32	90	53	11	64	41	138
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	1047	0	0	1041	0	0	143	2	0	105	22
Confl. Peds. (#/hr)	337		693	693		337	152		193	193		152
Confl. Bikes (#/hr)			9			12			9			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	9.0	74.7			61.7			16.3	16.3		16.3	16.3
Effective Green, g (s)	9.0	74.7			61.7			16.3	16.3		16.3	16.3
Actuated g/C Ratio	0.09	0.75			0.62			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	156	2481			1504			191	179		164	192
v/s Ratio Prot	c0.06	0.32										
v/s Ratio Perm					c0.43			c0.12	0.00		0.10	0.02
v/c Ratio	0.68	0.42			0.69			0.75	0.01		0.64	0.12
Uniform Delay, d1	44.1	4.7			12.8			39.9	35.1		39.1	35.7
Progression Factor	0.88	0.22			0.41			1.00	1.00		0.72	0.90
Incremental Delay, d2	8.0	0.5			2.3			13.1	0.0		5.5	0.1
Delay (s)	46.6	1.5			7.6			53.0	35.1		33.6	32.1
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.6			7.6			51.7			32.7	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	837	125	5	863	50	33	192	117	5	242	60
Future Volume (vph)	5	837	125	5	863	50	33	192	117	5	242	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.89			0.96			0.84			0.90	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3018			3391			1396			1585	
Flt Permitted		0.95			0.95			0.94			0.99	
Satd. Flow (perm)		2871			3225			1318			1577	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	890	133	5	918	53	35	204	124	5	257	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	1027	0	0	973	0	0	361	0	0	322	0
Confl. Peds. (#/hr)	493		608	608		493	754		597	597		754
Confl. Bikes (#/hr)			1			7			71			20
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		59.6			59.6			31.4			31.4	
Effective Green, g (s)		59.6			59.6			31.4			31.4	
Actuated g/C Ratio		0.60			0.60			0.31			0.31	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1711			1922			413			495	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.30			c0.27			0.20	
v/c Ratio		0.60			0.51			0.87			0.65	
Uniform Delay, d1		12.7			11.7			32.4			29.6	
Progression Factor		0.84			0.84			1.18			1.35	
Incremental Delay, d2		1.4			0.8			16.6			2.2	
Delay (s)		12.1			10.6			54.9			42.2	
Level of Service		B			B			D			D	
Approach Delay (s)		12.1			10.6			54.9			42.2	
Approach LOS		B			B			D			D	

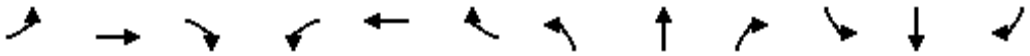
Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	785	109	174	810	70	73	578	212	100	415	40
Future Volume (veh/h)	70	785	109	174	810	70	73	578	212	100	415	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.83	1.00		0.79	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	818	114	181	844	73	76	602	221	104	432	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	142	1071	149	241	1304	113	96	638	233	121	940	90
Arrive On Green	0.16	0.71	0.71	0.28	0.83	0.83	0.02	0.09	0.09	0.14	0.61	0.61
Sat Flow, veh/h	1774	3017	420	1723	3142	272	1691	2239	819	1723	3100	298
Grp Volume(v), veh/h	73	480	452	181	462	455	76	453	370	104	237	237
Grp Sat Flow(s),veh/h/ln	1774	1770	1668	1723	1719	1695	1691	1687	1370	1723	1719	1680
Q Serve(g_s), s	3.8	17.2	17.2	9.6	9.9	9.9	4.5	26.7	26.9	5.9	7.5	7.7
Cycle Q Clear(g_c), s	3.8	17.2	17.2	9.6	9.9	9.9	4.5	26.7	26.9	5.9	7.5	7.7
Prop In Lane	1.00		0.25	1.00		0.16	1.00		0.60	1.00		0.18
Lane Grp Cap(c), veh/h	142	628	592	241	713	703	96	481	391	121	521	509
V/C Ratio(X)	0.51	0.76	0.76	0.75	0.65	0.65	0.79	0.94	0.95	0.86	0.46	0.46
Avail Cap(c_a), veh/h	142	628	592	241	713	703	169	481	391	121	521	509
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.77	0.77	0.77	0.82	0.82	0.82	0.82	0.82	0.82	0.78	0.78	0.78
Uniform Delay (d), s/veh	40.2	11.8	11.8	34.4	5.8	5.8	48.5	44.5	44.6	42.5	15.2	15.2
Incr Delay (d2), s/veh	1.1	6.7	7.1	9.1	3.7	3.7	4.4	23.6	28.2	34.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.2	8.7	5.1	5.1	5.0	2.2	15.6	13.3	3.9	3.5	3.6
LnGrp Delay(d),s/veh	41.3	18.5	18.9	43.5	9.5	9.6	52.9	68.0	72.7	77.4	15.4	15.4
LnGrp LOS	D	B	B	D	A	A	D	E	E	E	B	B
Approach Vol, veh/h		1005			1098			899			578	
Approach Delay, s/veh		20.4			15.1			68.7			26.6	
Approach LOS		C			B			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	46.0	11.5	33.0	18.0	40.0	9.7	34.8
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	41.5	7.0	* 29	12.0	35.5	10.0	25.5
Max Q Clear Time (g_c+I1), s	5.8	11.9	7.9	28.9	11.6	19.2	6.5	9.7
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	2.2	0.0	0.9

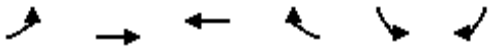
Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Notes



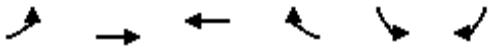
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	857	280	55	896	50	128	227	51	45	75	25
Future Volume (vph)	20	857	280	55	896	50	128	227	51	45	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.97		1.00	1.00	0.55		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1752	3150		1770	3413		1770	1863	867		1694	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1752	3150		1770	3413		1770	1863	867		1694	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	922	301	59	963	54	138	244	55	48	81	27
RTOR Reduction (vph)	0	29	0	0	3	0	0	0	47	0	8	0
Lane Group Flow (vph)	22	1194	0	59	1014	0	138	244	8	0	148	0
Confl. Peds. (#/hr)	218		185	185		218	329		437	437		329
Confl. Bikes (#/hr)			2			3			75			10
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Effective Green, g (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Actuated g/C Ratio	0.02	0.48		0.05	0.51		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1524		84	1747		269	283	131		255	
v/s Ratio Prot	0.01	c0.38		c0.03	c0.30		0.08	c0.13			c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.78		0.70	0.58		0.51	0.86	0.06		0.58	
Uniform Delay, d1	48.6	21.4		46.9	16.9		39.0	41.4	36.3		39.5	
Progression Factor	1.18	0.39		1.13	0.90		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.6	2.7		18.3	1.3		0.7	22.0	0.1		2.2	
Delay (s)	72.8	11.0		71.3	16.6		39.7	63.4	36.4		41.7	
Level of Service	E	B		E	B		D	E	D		D	
Approach Delay (s)		12.1			19.6			52.5			41.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



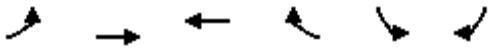
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	943	971	0	15	25
Future Volume (vph)	0	943	971	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.86	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1470	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1025	1055	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	1025	1055	0	21	0
Confl. Peds. (#/hr)	209			209	123	121
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		249	
v/s Ratio Prot		0.29	c0.30		c0.01	
v/s Ratio Perm						
v/c Ratio		0.39	0.40		0.08	
Uniform Delay, d1		4.6	4.6		34.9	
Progression Factor		0.15	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.1	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	923	976	35	0	0
Future Volume (vph)	25	923	976	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	0.99			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3455			
Flt Permitted	0.11	1.00	1.00			
Satd. Flow (perm)	212	1881	3455			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1003	1061	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	1003	1097	0	0	0
Confl. Peds. (#/hr)	144			144	305	125
Confl. Bikes (#/hr)				8		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	41.2			
Effective Green, g (s)	71.5	74.5	41.2			
Actuated g/C Ratio	0.72	0.74	0.41			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	628	1401	1423			
v/s Ratio Prot	0.01	c0.53	c0.32			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.72	0.77			
Uniform Delay, d1	7.0	7.0	25.3			
Progression Factor	1.33	1.67	0.25			
Incremental Delay, d2	0.0	1.7	2.8			
Delay (s)	9.3	13.3	9.2			
Level of Service	A	B	A			
Approach Delay (s)		13.2	9.2		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	873	986	114	33	30
Future Volume (vph)	40	873	986	114	33	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.94	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3476		1702	
Flt Permitted	0.11	1.00	1.00		0.97	
Satd. Flow (perm)	213	1881	3476		1702	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	939	1060	123	35	32
RTOR Reduction (vph)	0	0	0	0	27	0
Lane Group Flow (vph)	43	939	1183	0	40	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	45.9		17.0	
Effective Green, g (s)	71.5	74.5	45.9		17.0	
Actuated g/C Ratio	0.72	0.74	0.46		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	555	1401	1595		289	
v/s Ratio Prot	0.02	c0.50	c0.34		c0.02	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.67	0.74		0.14	
Uniform Delay, d1	7.4	6.5	22.2		35.3	
Progression Factor	0.15	0.06	1.00		1.00	
Incremental Delay, d2	0.0	0.7	3.2		0.1	
Delay (s)	1.1	1.1	25.3		35.4	
Level of Service	A	A	C		D	
Approach Delay (s)		1.1	25.3		35.4	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	573	23	584	916	169	1552
Future Volume (vph)	573	23	584	916	169	1552
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.89	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1419	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1419	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	610	24	621	974	180	1651
RTOR Reduction (vph)	0	4	0	0	0	3
Lane Group Flow (vph)	610	20	621	974	180	1648
Confl. Peds. (#/hr)		46	46			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	26.3	26.3	82.5	82.5	17.7	104.7
Effective Green, g (s)	26.3	26.3	82.5	82.5	17.7	104.7
Actuated g/C Ratio	0.19	0.19	0.59	0.59	0.13	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	671	266	2003	1087	223	2084
v/s Ratio Prot	c0.17		0.18	c0.53	0.10	c0.59
v/s Ratio Perm		0.01				
v/c Ratio	0.91	0.07	0.31	0.90	0.81	0.79
Uniform Delay, d1	55.7	46.8	14.4	25.0	59.5	10.9
Progression Factor	1.00	1.00	0.43	0.57	0.98	1.05
Incremental Delay, d2	16.5	0.1	0.3	8.5	16.9	1.9
Delay (s)	72.1	47.0	6.6	22.8	75.4	13.3
Level of Service	E	D	A	C	E	B
Approach Delay (s)	71.2			16.5	19.4	
Approach LOS	E			B	B	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1280	220	25	895	190	25	165	105	30	31
Future Volume (vph)	35	280	1280	220	25	895	190	25	165	105	30	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.92	1.00	0.98		0.95	1.00	1.00	0.92	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1446	1736	4511		1263	1698	1766	1474	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	187	3505	1446	215	4511		1263	1698	1766	1474	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1320	227	26	923	196	26	170	108	31	32
RTOR Reduction (vph)	0	0	0	86	0	0	0	17	0	0	53	0
Lane Group Flow (vph)	36	289	1320	141	26	1122	0	6	136	142	10	0
Confl. Peds. (#/hr)	19	19		16	16		19	19	35		19	18
Confl. Bikes (#/hr)				3				1				4
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Effective Green, g (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Actuated g/C Ratio	0.08	0.44	0.36	0.36	0.24	0.24		0.24	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	143	329	1276	526	52	1095		306	265	276	230	
v/s Ratio Prot	0.02	c0.14	c0.38			0.25			0.08	c0.08		
v/s Ratio Perm		0.25		0.10	0.12			0.00			0.01	
v/c Ratio	0.25	0.88	1.03	0.27	0.50	1.02		0.02	0.51	0.51	0.04	
Uniform Delay, d1	60.2	40.3	44.5	31.3	45.7	53.0		40.3	54.2	54.2	50.1	
Progression Factor	0.94	0.89	0.86	0.79	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	13.5	28.2	0.7	30.5	33.6		0.1	0.7	0.7	0.0	
Delay (s)	57.3	49.3	66.6	25.5	76.2	86.6		40.4	54.9	54.8	50.2	
Level of Service	E	D	E	C	E	F		D	D	D	D	
Approach Delay (s)			58.8			85.5				54.0		
Approach LOS			E			F				D		

Intersection Summary			
HCM 2000 Control Delay	66.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1687			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1687			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	126	0
Lane Group Flow (vph)	0	218	210	0	0	62	95	0
Confl. Peds. (#/hr)	18	19		35	18	16	35	19
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.0	20.6	
Effective Green, g (s)		24.5	24.5			6.0	20.6	
Actuated g/C Ratio		0.18	0.18			0.04	0.15	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	295			76	414	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.82	0.23	
Uniform Delay, d1		54.7	54.4			66.5	52.7	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.6			45.8	0.2	
Delay (s)		62.5	61.0			112.3	52.9	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.9		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	9.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	47	1332
Future Vol, veh/h	120	0	0	0	47	1332
Conflicting Peds, #/hr	75	153	0	75	153	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	52	1464

Major/Minor	Minor1		Major2	
Conflicting Flow All	1063	-	153	0
Stage 1	153	-	-	-
Stage 2	910	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	212	0	1433	-
Stage 1	-	0	-	-
Stage 2	343	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	149	-	1433	-
Mov Cap-2 Maneuver	149	-	-	-
Stage 1	-	-	-	-
Stage 2	276	-	-	-

Approach	WB	SB
HCM Control Delay, s	104.7	0.9
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	149	1433	-
HCM Lane V/C Ratio	0.885	0.036	-
HCM Control Delay (s)	104.7	7.6	0.7
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	6	0.1	-

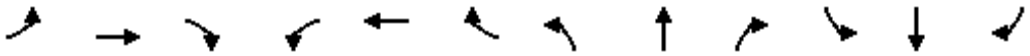
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	0	1412	40
Future Vol, veh/h	0	69	0	0	1412	40
Conflicting Peds, #/hr	277	151	151	0	0	277
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	75	0	0	1535	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1217	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	173	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	133	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	62.4	0
HCM LOS	F	

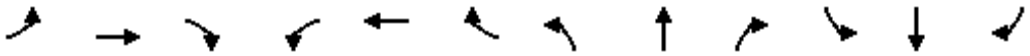
Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	133	-	-
HCM Lane V/C Ratio	0.564	-	-
HCM Control Delay (s)	62.4	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	2.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	37	0	0	90	110	20	1214	60	0	0	0
Future Volume (vph)	45	37	0	0	90	110	20	1214	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1771			1537			3474				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1465			1537			3474				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	40	0	0	98	120	22	1320	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	89	0	0	213	0	0	1400	0	0	0	0
Confl. Peds. (#/hr)	117		79	79		117	55		61	61		55
Confl. Bikes (#/hr)			7			10			79			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			645			1424				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.06						0.40				
v/c Ratio		0.14			0.33			0.98				
Uniform Delay, d1		9.0			9.8			14.6				
Progression Factor		0.82			0.87			0.74				
Incremental Delay, d2		0.4			1.4			17.5				
Delay (s)		7.8			9.9			28.4				
Level of Service		A			A			C				
Approach Delay (s)		7.8			9.9			28.4			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

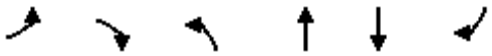
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	7	70	5	65	10	217	80	75	267	30
Future Volume (vph)	60	15	7	70	5	65	10	217	80	75	267	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.84			0.83			0.95	
Flpb, ped/bikes		0.82			0.78			0.99			0.93	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1392			1137			1398			1546	
Flt Permitted		0.75			0.83			0.99			0.88	
Satd. Flow (perm)		1084			967			1381			1367	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	8	75	5	70	11	233	86	81	287	32
RTOR Reduction (vph)	0	5	0	0	17	0	0	25	0	0	6	0
Lane Group Flow (vph)	0	84	0	0	133	0	0	305	0	0	394	0
Confl. Peds. (#/hr)	179		298	298		179	690		591	591		690
Confl. Bikes (#/hr)			2			3			63			25
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		16.0			16.0			25.5			25.5	
Effective Green, g (s)		16.0			16.0			25.5			25.5	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		346			309			704			697	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.14			0.22			c0.29	
v/c Ratio		0.24			0.43			0.43			0.56	
Uniform Delay, d1		12.5			13.4			7.7			8.4	
Progression Factor		0.75			0.52			0.98			1.12	
Incremental Delay, d2		1.2			4.2			1.8			2.8	
Delay (s)		10.7			11.1			9.4			12.3	
Level of Service		B			B			A			B	
Approach Delay (s)		10.7			11.1			9.4			12.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

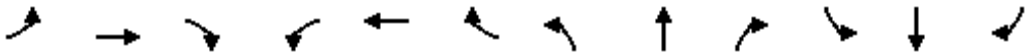
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	738	633	85
Future Volume (vph)	110	75	55	738	633	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.87			1.00	1.00	0.64
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1493			3332	3343	950
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1493			2918	3343	950
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	777	666	89
RTOR Reduction (vph)	44	0	0	0	0	45
Lane Group Flow (vph)	151	0	0	835	666	44
Confl. Peds. (#/hr)	262	361	182			182
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	492			1429	1638	465
v/s Ratio Prot	c0.10				0.20	
v/s Ratio Perm				c0.29		0.05
v/c Ratio	0.31			0.58	0.41	0.09
Uniform Delay, d1	12.5			9.1	8.1	6.8
Progression Factor	1.13			1.34	1.00	1.19
Incremental Delay, d2	1.5			1.6	0.6	0.3
Delay (s)	15.5			13.8	8.7	8.4
Level of Service	B			B	A	A
Approach Delay (s)	15.5			13.8	8.7	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Future Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	118	13	5	11	23	263	0	60	16	274	71	112

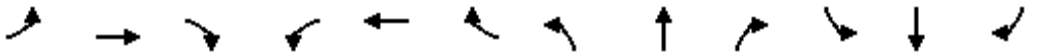
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	136	297	30	46	310	148
Volume Left (vph)	118	11	0	0	274	0
Volume Right (vph)	5	263	0	16	0	112
Hadj (s)	0.15	-0.52	0.44	0.20	0.53	-0.45
Departure Headway (s)	5.9	5.0	6.9	6.6	6.4	5.4
Degree Utilization, x	0.22	0.41	0.06	0.08	0.55	0.22
Capacity (veh/h)	558	673	465	490	545	642
Control Delay (s)	10.6	11.5	9.1	9.0	15.6	8.7
Approach Delay (s)	10.6	11.5	9.0		13.4	
Approach LOS	B	B	A		B	

Intersection Summary				
Delay	12.1			
Level of Service	B			
Intersection Capacity Utilization	68.4%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	112	97	5	65	208	95	848	5	63	604	137
Future Volume (veh/h)	177	112	97	5	65	208	95	848	5	63	604	137
Number	3	8	18	7	4	14	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		0.90	0.96		0.83	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	186	118	102	5	68	219	100	893	5	66	636	144
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	227	527	395	38	302	206	338	2051	11	84	1206	273
Arrive On Green	0.10	0.30	0.30	0.17	0.17	0.17	0.19	0.56	0.56	0.05	0.42	0.42
Sat Flow, veh/h	1707	1762	1319	60	1728	1179	1810	3680	21	1792	2885	652
Grp Volume(v), veh/h	186	113	107	73	0	219	100	438	460	66	394	386
Grp Sat Flow(s),veh/h/ln	1707	1703	1378	1787	0	1179	1810	1805	1896	1792	1787	1750
Q Serve(g_s), s	12.1	7.0	8.2	0.0	0.0	24.5	6.7	19.9	19.9	5.1	23.0	23.1
Cycle Q Clear(g_c), s	12.1	7.0	8.2	4.7	0.0	24.5	6.7	19.9	19.9	5.1	23.0	23.1
Prop In Lane	1.00		0.96	0.07		1.00	1.00		0.01	1.00		0.37
Lane Grp Cap(c), veh/h	227	509	412	562	0	206	338	1006	1057	84	747	731
V/C Ratio(X)	0.82	0.22	0.26	0.13	0.00	1.06	0.30	0.44	0.44	0.78	0.53	0.53
Avail Cap(c_a), veh/h	307	590	478	562	0	206	338	1006	1057	198	747	731
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	0.99	0.00	0.99	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	36.8	37.3	49.6	0.0	57.8	49.0	18.1	18.1	66.0	30.4	30.4
Incr Delay (d2), s/veh	12.0	0.2	0.3	0.0	0.0	79.5	0.2	1.2	1.1	5.8	2.7	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.3	3.2	2.0	0.0	12.5	3.3	10.2	10.7	2.7	11.9	11.7
LnGrp Delay(d),s/veh	53.9	37.1	37.6	49.6	0.0	137.2	49.2	19.3	19.2	71.8	33.1	33.2
LnGrp LOS	D	D	D	D		F	D	B	B	E	C	C
Approach Vol, veh/h		406			292			998			846	
Approach Delay, s/veh		44.9			115.3			22.2			36.1	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	82.5	17.4	29.0	30.6	63.0		46.4
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	62.5	21.0	24.5	19.5	58.5		48.5
Max Q Clear Time (g_c+I1), s	7.1	21.9	14.1	26.5	8.7	25.1		10.2
Green Ext Time (p_c), s	0.0	6.0	0.3	0.0	2.4	0.8		3.1

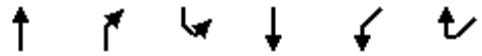
Intersection Summary	
HCM 2010 Ctrl Delay	41.2
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	16	0	11	21	48	0	1464	39	3	512	272
Future Volume (vph)	149	16	0	11	21	48	0	1464	39	3	512	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	0.96			0.98	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1637			3315	1509		3558			3538	1537
Flt Permitted	0.73	0.74			0.86	1.00		1.00			0.95	1.00
Satd. Flow (perm)	1250	1264			2904	1509		3558			3355	1537
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	159	17	0	12	22	51	0	1557	41	3	545	289
RTOR Reduction (vph)	0	0	0	0	0	46	0	1	0	0	0	48
Lane Group Flow (vph)	87	89	0	0	34	5	0	1597	0	0	548	241
Confl. Peds. (#/hr)							7		2	2		7
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2				1		1
Actuated Green, G (s)	14.2	14.2			14.2	14.2		116.8			116.8	116.8
Effective Green, g (s)	14.2	14.2			14.2	14.2		116.8			116.8	116.8
Actuated g/C Ratio	0.10	0.10			0.10	0.10		0.83			0.83	0.83
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	126	128			294	153		2968			2799	1282
v/s Ratio Prot								c0.45				
v/s Ratio Perm	0.07	c0.07			0.01	0.00					0.16	0.16
v/c Ratio	0.69	0.70			0.12	0.03		0.54			0.20	0.19
Uniform Delay, d1	60.8	60.8			57.2	56.7		3.5			2.3	2.3
Progression Factor	0.53	0.53			1.00	1.00		1.04			0.39	0.05
Incremental Delay, d2	12.1	12.2			0.1	0.0		0.6			0.2	0.3
Delay (s)	44.2	44.2			57.3	56.7		4.2			1.1	0.4
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		44.2			57.0			4.2			0.8	
Approach LOS		D			E			A			A	

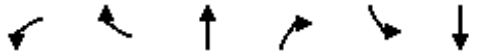
Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	924	1443	0	701	563	0
Future Volume (vph)	924	1443	0	701	563	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	953	1488	0	723	580	0
RTOR Reduction (vph)	0	712	0	0	0	0
Lane Group Flow (vph)	953	776	0	723	580	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	73.0	73.0		73.0	58.0	
Effective Green, g (s)	73.0	73.0		73.0	58.0	
Actuated g/C Ratio	0.52	0.52		0.52	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1863	1467		1882	1422	
v/s Ratio Prot	0.27			0.20	c0.17	
v/s Ratio Perm		c0.28				
v/c Ratio	0.51	0.53		0.38	0.41	
Uniform Delay, d1	21.9	22.1		20.0	28.9	
Progression Factor	1.00	1.00		0.38	0.45	
Incremental Delay, d2	0.1	0.2		0.0	0.9	
Delay (s)	22.0	22.3		7.6	14.0	
Level of Service	C	C		A	B	
Approach Delay (s)	22.2			7.6	14.0	
Approach LOS	C			A	B	

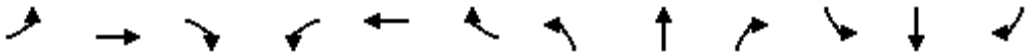
Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	171	1360
Future Volume (veh/h)	100	0	0	0	171	1360
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			186	1478
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			383	2870
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				355	3090
Grp Volume(v), veh/h	0.0				882	782
Grp Sat Flow(s),veh/h/ln					1749	1610
Q Serve(g_s), s					37.8	39.6
Cycle Q Clear(g_c), s					41.2	39.6
Prop In Lane					0.21	
Lane Grp Cap(c), veh/h					1714	1538
V/C Ratio(X)					0.51	0.51
Avail Cap(c_a), veh/h					1714	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					15.6	15.1
Incr Delay (d2), s/veh					1.1	1.2
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					20.6	18.2
LnGrp Delay(d),s/veh					16.7	16.3
LnGrp LOS					B	B
Approach Vol, veh/h						1664
Approach Delay, s/veh						16.5
Approach LOS						B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		43.2						
Green Ext Time (p_c), s		2.1						

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B



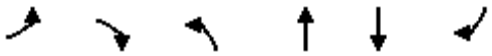
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	116	0	0	70	207	25	1007	90	0	0	0
Future Volume (vph)	60	116	0	0	70	207	25	1007	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.84			0.98				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.90			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1798			1425			3430				
Flt Permitted		0.71			1.00			1.00				
Satd. Flow (perm)		1298			1425			3430				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	127	0	0	77	227	27	1107	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	26	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	193	0	0	278	0	0	1222	0	0	0	0
Confl. Peds. (#/hr)	200		131	131		200	28		72	72		28
Confl. Bikes (#/hr)			9			26			95			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		13.3			13.3			28.2				
Effective Green, g (s)		13.3			13.3			28.2				
Actuated g/C Ratio		0.27			0.27			0.56				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		345			379			1934				
v/s Ratio Prot					c0.20							
v/s Ratio Perm		0.15						0.36				
v/c Ratio		0.56			0.73			0.63				
Uniform Delay, d1		15.8			16.7			7.4				
Progression Factor		1.02			1.23			1.00				
Incremental Delay, d2		0.9			6.2			1.6				
Delay (s)		17.0			26.8			9.0				
Level of Service		B			C			A				
Approach Delay (s)		17.0			26.8			9.0			0.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	134	24	10	87	25	30	232	15	15	249	40
Future Volume (vph)	35	134	24	10	87	25	30	232	15	15	249	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.87			0.96			0.90	
Flpb, ped/bikes		0.91			0.96			0.95			0.98	
Frt		0.98			0.97			0.99			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1553			1546			1610			1561	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1468			1512			1532			1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	143	26	11	93	27	32	247	16	16	265	43
RTOR Reduction (vph)	0	2	0	0	7	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	204	0	0	124	0	0	293	0	0	321	0
Confl. Peds. (#/hr)	607		666	666		607	921		695	695		921
Confl. Bikes (#/hr)			26			34			81			29
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		499			514			750			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.08			0.19			c0.21	
v/c Ratio		0.41			0.24			0.39			0.43	
Uniform Delay, d1		12.6			11.9			8.0			8.2	
Progression Factor		1.43			0.45			0.81			1.22	
Incremental Delay, d2		2.1			1.0			1.5			1.5	
Delay (s)		20.2			6.3			8.0			11.5	
Level of Service		C			A			A			B	
Approach Delay (s)		20.2			6.3			8.0			11.5	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	104	67	698	663	45
Future Volume (vph)	95	104	67	698	663	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.82		1.00	1.00	0.97	
Flpb, ped/bikes	1.00		0.85	1.00	1.00	
Frt	0.93		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1414		1412	3343	3170	
Flt Permitted	0.98		0.31	1.00	1.00	
Satd. Flow (perm)	1414		462	3343	3170	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	113	73	759	721	49
RTOR Reduction (vph)	15	0	0	0	10	0
Lane Group Flow (vph)	201	0	73	759	760	0
Confl. Peds. (#/hr)	736	522	298			298
Confl. Bikes (#/hr)		6				17
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	18.0		23.5	23.5	23.5	
Effective Green, g (s)	18.0		23.5	23.5	23.5	
Actuated g/C Ratio	0.36		0.47	0.47	0.47	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	509		217	1571	1489	
v/s Ratio Prot	c0.14			0.23	c0.24	
v/s Ratio Perm			0.16			
v/c Ratio	0.39		0.34	0.48	0.51	
Uniform Delay, d1	11.9		8.3	9.1	9.2	
Progression Factor	0.69		1.02	1.09	1.20	
Incremental Delay, d2	2.2		4.0	1.0	1.2	
Delay (s)	10.5		12.6	10.9	12.3	
Level of Service	B		B	B	B	
Approach Delay (s)	10.5			11.0	12.3	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

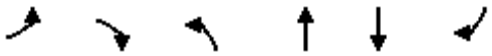
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	147	148	0	65	133	0	89	85
Future Vol, veh/h	0	147	148	0	65	133	0	89	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	167	168	0	74	151	0	101	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	11.8	9.8	10.8
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	50%	51%
Vol Thru, %	33%	0%	49%
Vol Right, %	67%	50%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	198	295	174
LT Vol	0	147	89
Through Vol	65	0	85
RT Vol	133	148	0
Lane Flow Rate	225	335	198
Geometry Grp	1	1	1
Degree of Util (X)	0.296	0.45	0.297
Departure Headway (Hd)	4.741	4.828	5.401
Convergence, Y/N	Yes	Yes	Yes
Cap	749	741	658
Service Time	2.822	2.898	3.487
HCM Lane V/C Ratio	0.3	0.452	0.301
HCM Control Delay	9.8	11.8	10.8
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.2	2.3	1.2

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	130	15	85	5	279	128	332	129	228
Future Volume (vph)	130	15	85	5	279	128	332	129	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1517		1742	1780		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1517		1742	1780		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	143	16	93	5	307	141	365	142	251
RTOR Reduction (vph)	0	76	0	0	18	0	0	68	0
Lane Group Flow (vph)	143	33	0	5	430	0	365	325	0
Confl. Peds. (#/hr)			54	13					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	14.2	14.2		25.0	25.0		22.9	22.9	
Effective Green, g (s)	14.2	14.2		25.0	25.0		22.9	22.9	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	325	279		564	577		515	461	
v/s Ratio Prot	c0.08	0.02			c0.24		c0.21		
v/s Ratio Perm				0.00				0.21	
v/c Ratio	0.44	0.12		0.01	0.75		0.71	0.70	
Uniform Delay, d1	27.9	26.2		17.7	23.2		24.1	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.2		0.0	6.3		5.5	6.1	
Delay (s)	28.9	26.4		17.7	29.5		29.7	30.1	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		27.8			29.3		29.9		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	262	0	0	1350	165
Future Volume (vph)	0	262	0	0	1350	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.74
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1164
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1164
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	273	0	0	1406	172
RTOR Reduction (vph)	0	22	0	0	0	25
Lane Group Flow (vph)	0	251	0	0	1406	147
Confl. Peds. (#/hr)	178		117			117
Confl. Bikes (#/hr)		2				38
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		20.2			70.3	70.3
Effective Green, g (s)		20.2			70.3	70.3
Actuated g/C Ratio		0.20			0.70	0.70
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		319			2487	818
v/s Ratio Prot		c0.16			c0.40	
v/s Ratio Perm						0.13
v/c Ratio		0.79			0.57	0.18
Uniform Delay, d1		37.8			7.3	5.0
Progression Factor		1.00			0.47	0.43
Incremental Delay, d2		11.1			0.7	0.4
Delay (s)		49.0			4.2	2.5
Level of Service		D			A	A
Approach Delay (s)	49.0			0.0	4.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	51.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	158	1459
Future Vol, veh/h	115	0	0	0	158	1459
Conflicting Peds, #/hr	15	31	0	15	31	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	166	1536

Major/Minor	Minor1		Major2	
Conflicting Flow All	1147	-	31	0
Stage 1	31	-	-	-
Stage 2	1116	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	196	0	1580	-
Stage 1	-	0	-	-
Stage 2	279	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 54	-	1580	-
Mov Cap-2 Maneuver	~ 54	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 79	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 732.2	2.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	54	1580	-
HCM Lane V/C Ratio	2.242	0.105	-
HCM Control Delay (s)	$ 732.2	7.5	2.2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	12.1	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	359

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	46	15	20	96	25	22	25	5	20	80	52
Future Vol, veh/h	10	46	15	20	96	25	22	25	5	20	80	52
Conflicting Peds, #/hr	416	0	450	424	0	390	450	0	424	390	0	416
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	12	55	18	24	114	30	26	30	6	24	95	62

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1197	1136	1026	1169	1164	873	607	0	0	460	0	0
Stage 1	624	624	-	509	509	-	-	-	-	-	-	-
Stage 2	573	512	-	660	655	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	161	200	282	164	188	338	981	-	-	1112	-	-
Stage 1	470	475	-	532	525	-	-	-	-	-	-	-
Stage 2	501	533	-	439	451	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	75	110	~ 21	~ 70	143	613	-	-	727	-	-
Mov Cap-2 Maneuver	-	75	-	~ 21	~ 70	-	-	-	-	-	-	-
Stage 1	281	286	-	329	325	-	-	-	-	-	-	-
Stage 2	161	330	-	179	272	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 1056	4.7	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	613	-	-	-	56	727	-	-
HCM Lane V/C Ratio	0.043	-	-	-	2.997	0.033	-	-
HCM Control Delay (s)	11.1	0	-	-	$ 1056	10.1	0	-
HCM Lane LOS	B	A	-	-	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	17.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	51	20	0	35	76	25	0	60	275	15
Future Vol, veh/h	0	5	51	20	0	35	76	25	0	60	275	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	57	22	0	39	85	28	0	67	309	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.6	10.3	13.9
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	7%	26%	11%
Vol Thru, %	79%	67%	56%	81%
Vol Right, %	4%	26%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	350	76	136	181
LT Vol	60	5	35	20
Through Vol	275	51	76	146
RT Vol	15	20	25	15
Lane Flow Rate	393	85	153	203
Geometry Grp	1	1	1	1
Degree of Util (X)	0.547	0.134	0.236	0.302
Departure Headway (Hd)	5.007	5.635	5.552	5.345
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	635	646	673
Service Time	3.007	3.676	3.59	3.377
HCM Lane V/C Ratio	0.543	0.134	0.237	0.302
HCM Control Delay	13.9	9.6	10.3	10.7
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.3	0.5	0.9	1.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	146	15
Future Vol, veh/h	0	20	146	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	164	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.7
HCM LOS	B

Intersection	
Int Delay, s/veh	0

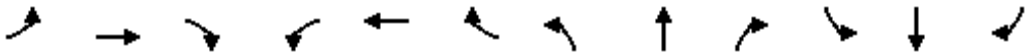
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	51	20	44	76	30	10	242	18	35	243	35
Future Vol, veh/h	10	51	20	44	76	30	10	242	18	35	243	35
Conflicting Peds, #/hr	1155	0	1256	1313	0	1212	1256	0	1313	1212	0	1155
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	57	22	49	85	34	11	272	20	39	273	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3203	3255	2862	3341	3264	2807	1568	0	0	1605	0	0
Stage 1	1627	1627	-	1617	1617	-	-	-	-	-	-	-
Stage 2	1576	1628	-	1724	1647	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	~ 6	~ 9	~ 22	~ 5	~ 9	~ 24	391	-	-	396	-	-
Stage 1	130	162	-	132	164	-	-	-	-	-	-	-
Stage 2	139	162	-	114	158	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	0	-	0	0	~ -37	-	-	~ -4	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 6	~ -8	-	~ 12	~ -15	-	-	-	-	-	-	-
Stage 2	930	~ -15	-	931	~ -7	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	-	-	+	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	15	49	70	35	105	41	624	90	90	614	63
Future Volume (vph)	41	15	49	70	35	105	41	624	90	90	614	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.87			1.00	0.60	1.00	1.00	0.48	1.00	0.95	
Flpb, ped/bikes		0.87			0.87	1.00	0.81	1.00	1.00	0.81	1.00	
Frt		0.94			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1327			1587	955	1347	3343	721	1373	3146	
Flt Permitted		0.85			0.72	1.00	0.36	1.00	1.00	0.38	1.00	
Satd. Flow (perm)		1148			1181	955	507	3343	721	552	3146	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	16	53	76	38	114	45	678	98	98	667	68
RTOR Reduction (vph)	0	37	0	0	0	77	0	0	26	0	2	0
Lane Group Flow (vph)	0	77	0	0	114	37	45	678	72	98	733	0
Confl. Peds. (#/hr)	551		182	182		551	375		217	217		375
Confl. Bikes (#/hr)			11			3			17			11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Effective Green, g (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		212			218	176	370	2440	526	402	2296	
v/s Ratio Prot								0.20			c0.23	
v/s Ratio Perm		0.07			c0.10	0.04	0.09		0.10	0.18		
v/c Ratio		0.36			0.52	0.21	0.12	0.28	0.14	0.24	0.32	
Uniform Delay, d1		35.6			36.8	34.5	4.0	4.6	4.0	4.4	4.8	
Progression Factor		0.95			1.00	1.00	0.53	0.50	0.40	0.65	0.64	
Incremental Delay, d2		1.1			2.3	0.6	0.6	0.3	0.5	1.3	0.3	
Delay (s)		35.0			39.0	35.1	2.8	2.6	2.1	4.2	3.3	
Level of Service		C			D	D	A	A	A	A	A	
Approach Delay (s)		35.0			37.1			2.5			3.4	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	103.4
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	235	341	25	0	5	268	265
Future Vol, veh/h	0	95	185	15	0	235	341	25	0	5	268	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	240	348	26	0	5	273	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	36.5	237.1	28.1
HCM LOS	E	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	6%
Vol Thru, %	98%	0%	63%	57%	56%
Vol Right, %	0%	100%	5%	4%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	273	265	295	601	338
LT Vol	5	0	95	235	20
Through Vol	268	0	185	341	188
RT Vol	0	265	15	25	130
Lane Flow Rate	279	270	301	613	345
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.677	0.604	0.736	1.447	0.811
Departure Headway (Hd)	9.969	9.226	10.062	8.492	9.819
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	365	395	361	435	372
Service Time	7.669	6.926	8.062	6.492	7.819
HCM Lane V/C Ratio	0.764	0.684	0.834	1.409	0.927
HCM Control Delay	31.2	25	36.5	237.1	43.7
HCM Lane LOS	D	C	E	F	E
HCM 95th-tile Q	4.7	3.8	5.7	31.1	7.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	188	130
Future Vol, veh/h	0	20	188	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	192	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	43.7
HCM LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	306	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	306	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	79	87	0	79
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	333	0	0	27	0	0

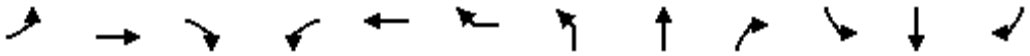
Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	-	0	-	-	0	412	420		
Stage 1	-	-	-	-	-	-	333	-		
Stage 2	-	-	-	-	-	-	79	-		
Critical Hdwy	-	-	-	-	-	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-		
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3		
Pot Cap-1 Maneuver	0	0	-	0	-	0	600	638		
Stage 1	0	0	-	0	-	0	731	-		
Stage 2	0	0	-	0	-	0	-	-		
Platoon blocked, %			-		-					
Mov Cap-1 Maneuver	-	-	-	-	-	-	600	592		
Mov Cap-2 Maneuver	-	-	-	-	-	-	600	-		
Stage 1	-	-	-	-	-	-	731	-		
Stage 2	-	-	-	-	-	-	-	-		

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	592
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	11.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations								
Traffic Volume (vph)	0	0	856	425	87	1457	0	0
Future Volume (vph)	0	0	856	425	87	1457	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.92	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1464	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1464	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	911	452	93	1550	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	911	452	93	1550	0	0
Confl. Peds. (#/hr)	17	15		17	15			
Confl. Bikes (#/hr)				156				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.1	36.1	13.1	58.2		
Effective Green, g (s)			36.1	36.1	13.1	58.2		
Actuated g/C Ratio			0.62	0.62	0.23	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2195	908	394	3505		
v/s Ratio Prot			0.26		0.05	c0.44		
v/s Ratio Perm				c0.31				
v/c Ratio			0.42	0.50	0.24	0.44		
Uniform Delay, d1			5.7	6.1	18.5	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.2	0.1	0.0		
Delay (s)			5.7	6.2	18.6	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.9			1.1	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



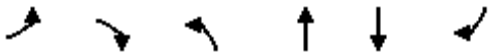
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	342	172	10	323	15	108	285	20	10	116	75
Future Volume (vph)	50	342	172	10	323	15	108	285	20	10	116	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.95			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3362			3512			1827			1765	
Flt Permitted		0.88			0.93			0.85			0.98	
Satd. Flow (perm)		2961			3286			1577			1727	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	376	189	11	355	16	119	313	22	11	127	82
RTOR Reduction (vph)	0	49	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	571	0	0	382	0	0	452	0	0	220	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1110			1232			843			923	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.12			c0.29			0.13	
v/c Ratio		0.51			0.31			0.54			0.24	
Uniform Delay, d1		24.2			22.1			15.2			12.4	
Progression Factor		1.00			0.88			1.00			1.00	
Incremental Delay, d2		1.7			0.6			2.4			0.6	
Delay (s)		25.9			20.0			17.6			13.0	
Level of Service		C			C			B			B	
Approach Delay (s)		25.9			20.0			17.6			13.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	270	20	5	208	10	39	193	25	20	191	91
Future Volume (veh/h)	82	270	20	5	208	10	39	193	25	20	191	91
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	89	293	22	5	226	11	42	210	27	22	208	99
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	1123	86	50	1612	77	120	573	70	63	490	222
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	599	2316	178	27	3324	159	184	1348	164	59	1153	522
Grp Volume(v), veh/h	198	0	206	127	0	115	279	0	0	329	0	0
Grp Sat Flow(s),veh/h/ln	1430	0	1664	1843	0	1667	1697	0	0	1733	0	0
Q Serve(g_s), s	2.9	0.0	5.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	5.2	3.8	0.0	3.8	10.3	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.45		0.11	0.04		0.10	0.15		0.10	0.07		0.30
Lane Grp Cap(c), veh/h	746	0	807	931	0	808	762	0	0	775	0	0
V/C Ratio(X)	0.27	0.00	0.25	0.14	0.00	0.14	0.37	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	746	0	807	931	0	808	762	0	0	775	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.3	0.0	10.1	14.2	0.0	14.2	19.5	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.3	0.0	0.4	1.4	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.5	2.0	0.0	1.8	5.5	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	11.1	0.0	10.8	14.5	0.0	14.6	20.9	0.0	0.0	6.3	0.0	0.0
LnGrp LOS	B		B	B		B	C			A		
Approach Vol, veh/h		404			242			279			329	
Approach Delay, s/veh		11.0			14.6			20.9			6.3	
Approach LOS		B			B			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.8		12.3		8.7		6.4
Green Ext Time (p_c), s		0.7		0.7		0.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	83	595	603	135
Future Volume (vph)	160	150	83	595	603	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.89	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2940		1443	3252	2999	
Flt Permitted	0.97		0.33	1.00	1.00	
Satd. Flow (perm)	2940		496	3252	2999	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	86	620	628	141
RTOR Reduction (vph)	0	0	0	0	19	0
Lane Group Flow (vph)	323	0	86	620	750	0
Confl. Peds. (#/hr)	6	3	383			383
Confl. Bikes (#/hr)						11
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	29.5		60.0	60.0	60.0	
Effective Green, g (s)	29.5		60.0	60.0	60.0	
Actuated g/C Ratio	0.29		0.60	0.60	0.60	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	867		297	1951	1799	
v/s Ratio Prot	c0.11			0.19	c0.25	
v/s Ratio Perm			0.17			
v/c Ratio	0.37		0.29	0.32	0.42	
Uniform Delay, d1	27.9		9.7	9.9	10.7	
Progression Factor	0.71		0.32	0.31	0.47	
Incremental Delay, d2	1.2		2.1	0.4	0.7	
Delay (s)	21.1		5.2	3.5	5.7	
Level of Service	C		A	A	A	
Approach Delay (s)	21.1			3.7	5.7	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	136.9
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	287	0	152	315	0	408	208
Future Vol, veh/h	0	330	287	0	152	315	0	408	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	312	0	165	342	0	443	226
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	156.1	71.5	167.2
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	66%	0%	33%
Vol Thru, %	0%	53%	67%
Vol Right, %	34%	47%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	616	617	467
LT Vol	408	0	152
Through Vol	0	330	315
RT Vol	208	287	0
Lane Flow Rate	670	671	508
Geometry Grp	1	1	1
Degree of Util (X)	1.288	1.258	0.997
Departure Headway (Hd)	7.374	7.564	8.265
Convergence, Y/N	Yes	Yes	Yes
Cap	495	483	442
Service Time	5.374	5.564	6.265
HCM Lane V/C Ratio	1.354	1.389	1.149
HCM Control Delay	167.2	156.1	71.5
HCM Lane LOS	F	F	F
HCM 95th-tile Q	26.5	24.5	12.7

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	97	55	57	0	50	42	50	0	36	266	25
Future Vol, veh/h	0	97	55	57	0	50	42	50	0	36	266	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	109	62	64	0	56	47	56	0	40	299	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.6	12	17.6
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	46%	35%	3%
Vol Thru, %	81%	26%	30%	76%
Vol Right, %	8%	27%	35%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	327	209	142	293
LT Vol	36	97	50	10
Through Vol	266	55	42	224
RT Vol	25	57	50	59
Lane Flow Rate	367	235	160	329
Geometry Grp	1	1	1	1
Degree of Util (X)	0.605	0.409	0.284	0.534
Departure Headway (Hd)	5.926	6.266	6.41	5.834
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	610	573	558	619
Service Time	3.941	4.32	4.47	3.851
HCM Lane V/C Ratio	0.602	0.41	0.287	0.532
HCM Control Delay	17.6	13.6	12	15.4
HCM Lane LOS	C	B	B	C
HCM 95th-tile Q	4	2	1.2	3.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	10	224	59
Future Vol, veh/h	0	10	224	59
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	252	66
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15.4
HCM LOS	C

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	70	10	0	35	112	25	0	5	217	16
Future Vol, veh/h	0	20	70	10	0	35	112	25	0	5	217	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	80	11	0	40	129	29	0	6	249	18
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

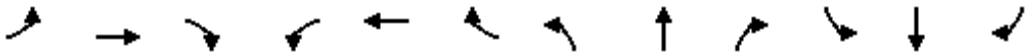
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.9	10.8	11.6
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	20%	20%	2%
Vol Thru, %	91%	70%	65%	89%
Vol Right, %	7%	10%	15%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	100	172	221
LT Vol	5	20	35	5
Through Vol	217	70	112	196
RT Vol	16	10	25	20
Lane Flow Rate	274	115	198	254
Geometry Grp	1	1	1	1
Degree of Util (X)	0.394	0.18	0.3	0.363
Departure Headway (Hd)	5.182	5.63	5.469	5.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	637	656	699
Service Time	3.216	3.672	3.506	3.184
HCM Lane V/C Ratio	0.394	0.181	0.302	0.363
HCM Control Delay	11.6	9.9	10.8	11.1
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.9	0.7	1.3	1.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	196	20
Future Vol, veh/h	0	5	196	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	225	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.1
HCM LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	32	28	109	109	149	24	498	54	92	622	34
Future Volume (vph)	31	32	28	109	109	149	24	498	54	92	622	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.83			1.00	0.56	1.00	0.97		1.00	0.98	
Flpb, ped/bikes		0.91			0.78	1.00	0.91	1.00		0.88	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1330			1316	828	1508	3153		1463	3232	
Flt Permitted		0.86			0.82	1.00	0.23	1.00		0.30	1.00	
Satd. Flow (perm)		1169			1102	828	366	3153		465	3232	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	34	29	115	115	157	25	524	57	97	655	36
RTOR Reduction (vph)	0	16	0	0	0	111	0	8	0	0	4	0
Lane Group Flow (vph)	0	80	0	0	230	46	25	573	0	97	687	0
Confl. Peds. (#/hr)	825		1636	1636		825	184		194	194		184
Confl. Bikes (#/hr)			223			90			26			12
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Effective Green, g (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Actuated g/C Ratio		0.29			0.29	0.29	0.32	0.32		0.32	0.32	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		339			319	240	115	993		146	1018	
v/s Ratio Prot								0.18			c0.21	
v/s Ratio Perm		0.07			c0.21	0.06	0.07			0.21		
v/c Ratio		0.24			0.72	0.19	0.22	0.58		0.66	0.67	
Uniform Delay, d1		27.1			31.9	26.7	25.2	28.7		29.7	29.8	
Progression Factor		1.00			1.00	1.00	1.21	1.19		0.71	0.70	
Incremental Delay, d2		1.6			13.2	1.7	3.0	1.7		20.0	3.3	
Delay (s)		28.7			45.1	28.4	33.6	35.9		41.1	24.2	
Level of Service		C			D	C	C	D		D	C	
Approach Delay (s)		28.7			38.3			35.8			26.3	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	153	0	15	20	0	257	5
Future Vol, veh/h	0	5	153	0	15	20	0	257	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	178	0	17	23	0	299	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	11.2
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	3%	57%
Vol Right, %	2%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	262	158	35
LT Vol	257	0	15
Through Vol	0	5	20
RT Vol	5	153	0
Lane Flow Rate	305	184	41
Geometry Grp	1	1	1
Degree of Util (X)	0.408	0.222	0.056
Departure Headway (Hd)	4.827	4.343	4.982
Convergence, Y/N	Yes	Yes	Yes
Cap	746	829	718
Service Time	2.859	2.364	3.015
HCM Lane V/C Ratio	0.409	0.222	0.057
HCM Control Delay	11.2	8.6	8.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2	0.8	0.2

Intersection	
Intersection Delay, s/veh	106.8
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	519	481	0	135	595	0	379	60
Future Vol, veh/h	0	519	481	0	135	595	0	379	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	546	506	0	142	626	0	399	63
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	110.7	129.4	60.3
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	595	519	481	379	60
LT Vol	0	0	519	0	379	0
Through Vol	135	0	0	0	0	60
RT Vol	0	595	0	481	0	0
Lane Flow Rate	142	626	546	506	399	63
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.313	1.258	1.243	0.983	0.964	0.144
Departure Headway (Hd)	8.219	7.494	8.621	7.38	9.272	8.752
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	441	489	426	496	395	412
Service Time	5.919	5.194	6.321	5.08	6.972	6.452
HCM Lane V/C Ratio	0.322	1.28	1.282	1.02	1.01	0.153
HCM Control Delay	14.6	155.5	154.4	63.5	67.8	12.9
HCM Lane LOS	B	F	F	F	F	B
HCM 95th-tile Q	1.3	24.7	21.7	12.9	11	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	934	5	0	964	5	0
Future Volume (vph)	934	5	0	964	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	1.00	
Flt Protected	1.00			1.00	0.95	
Satd. Flow (prot)	1861			1881	1770	
Flt Permitted	1.00			1.00	0.95	
Satd. Flow (perm)	1861			1881	1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1004	5	0	1037	5	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1009	0	0	1037	5	0
Confl. Peds. (#/hr)		34	34		28	18
Confl. Bikes (#/hr)		5				17
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	74.0			74.0	16.0	
Effective Green, g (s)	74.0			74.0	16.0	
Actuated g/C Ratio	0.74			0.74	0.16	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	0.2			0.2	2.0	
Lane Grp Cap (vph)	1377			1391	283	
v/s Ratio Prot	0.54			c0.55	c0.00	
v/s Ratio Perm						
v/c Ratio	0.73			0.75	0.02	
Uniform Delay, d1	7.4			7.5	35.4	
Progression Factor	1.00			1.06	1.00	
Incremental Delay, d2	3.5			3.0	0.0	
Delay (s)	10.9			11.0	35.4	
Level of Service	B			B	D	
Approach Delay (s)	10.9			11.0	35.4	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

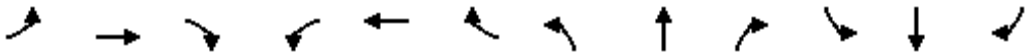
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	1037	53	30	755	88	86	80	25	94	30	213
Future Volume (veh/h)	189	1037	53	30	755	88	86	80	25	94	30	213
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.89	1.00		0.79	1.00		0.82
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	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	205	1127	58	33	821	96	93	87	27	102	33	232
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	345	1603	82	137	1128	132	126	178	55	233	34	238
Arrive On Green	0.20	0.47	0.47	0.15	0.71	0.71	0.07	0.14	0.14	0.13	0.20	0.20
Sat Flow, veh/h	1757	3374	174	1792	3177	371	1707	1226	380	1740	165	1162
Grp Volume(v), veh/h	205	585	600	33	462	455	93	0	114	102	0	265
Grp Sat Flow(s),veh/h/ln	1757	1752	1795	1792	1787	1762	1707	0	1606	1740	0	1327
Q Serve(g_s), s	10.6	26.3	26.4	1.6	15.5	15.5	5.3	0.0	6.5	5.4	0.0	19.8
Cycle Q Clear(g_c), s	10.6	26.3	26.4	1.6	15.5	15.5	5.3	0.0	6.5	5.4	0.0	19.8
Prop In Lane	1.00		0.10	1.00		0.21	1.00		0.24	1.00		0.88
Lane Grp Cap(c), veh/h	345	832	853	137	634	625	126	0	233	233	0	272
V/C Ratio(X)	0.59	0.70	0.70	0.24	0.73	0.73	0.74	0.00	0.49	0.44	0.00	0.97
Avail Cap(c_a), veh/h	345	832	853	137	634	625	171	0	329	233	0	272
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	0.86	0.86	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.6	20.7	20.7	39.8	11.6	11.6	45.4	0.0	39.4	39.8	0.0	39.5
Incr Delay (d2), s/veh	1.2	3.2	3.1	0.3	6.2	6.3	6.3	0.0	0.6	0.5	0.0	47.0
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	5.2	13.4	13.7	0.8	8.3	8.2	2.7	0.0	3.0	2.6	0.0	10.8
LnGrp Delay(d),s/veh	37.8	23.8	23.8	40.1	17.8	17.9	51.6	0.0	40.0	40.3	0.0	86.5
LnGrp LOS	D	C	C	D	B	B	D		D	D		F
Approach Vol, veh/h		1390			950			207			367	
Approach Delay, s/veh		25.9			18.6			45.2			73.7	
Approach LOS		C			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.6	40.0	17.4	19.0	11.6	52.0	11.4	25.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	17.0	35.5	10.0	20.5	5.0	47.5	10.0	20.5
Max Q Clear Time (g_c+I1), s	12.6	17.5	7.4	8.5	3.6	28.4	7.3	21.8
Green Ext Time (p_c), s	0.1	3.8	0.1	0.3	0.1	5.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	1071	0	5	779	64	40	60	70	185	5	59
Future Volume (vph)	90	1071	0	5	779	64	40	60	70	185	5	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.89		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.94	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3325			1839	1445		1622	
Flt Permitted	0.95	1.00		0.95	1.00			0.84	1.00		0.72	
Satd. Flow (perm)	1787	3574		1752	3325			1569	1445		1205	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	92	1093	0	5	795	65	41	61	71	189	5	60
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	51	0	12	0
Lane Group Flow (vph)	92	1093	0	5	855	0	0	102	20	0	242	0
Confl. Peds. (#/hr)	263		207	207		263	54		95	95		54
Confl. Bikes (#/hr)						6						2
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	10.3	57.9		1.0	48.6			28.1	28.1		28.1	
Effective Green, g (s)	10.3	57.9		1.0	48.6			28.1	28.1		28.1	
Actuated g/C Ratio	0.10	0.58		0.01	0.49			0.28	0.28		0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	184	2069		17	1615			440	406		338	
v/s Ratio Prot	c0.05	c0.31		0.00	0.26							
v/s Ratio Perm								0.06	0.01		c0.20	
v/c Ratio	0.50	0.53		0.29	0.53			0.23	0.05		0.72	
Uniform Delay, d1	42.4	12.8		49.1	17.8			27.6	26.2		32.4	
Progression Factor	0.65	0.65		0.92	0.27			1.00	1.00		1.00	
Incremental Delay, d2	0.6	0.8		1.9	0.7			0.3	0.1		7.0	
Delay (s)	28.0	9.0		46.9	5.4			27.9	26.3		39.4	
Level of Service	C	A		D	A			C	C		D	
Approach Delay (s)		10.5			5.6			27.2			39.4	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	1173	60	132	635	235	125	243	376	478	188	88
Future Volume (vph)	93	1173	60	132	635	235	125	243	376	478	188	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.89		0.83		1.00	0.93	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.92		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.99	
Satd. Flow (prot)	1787	3436		1703	3406	1353		2726		1573	1471	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.99	
Satd. Flow (perm)	1787	3436		1703	3406	1353		2726		1573	1471	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	99	1248	64	140	676	250	133	259	400	509	200	94
RTOR Reduction (vph)	0	4	0	0	0	35	0	120	0	0	11	0
Lane Group Flow (vph)	99	1308	0	140	676	215	0	672	0	402	390	0
Confl. Peds. (#/hr)	141		435	435		141	199		265	265		199
Confl. Bikes (#/hr)			2			28			37			18
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	8.5	29.0		6.5	27.0	50.5		23.0		23.5	23.5	
Effective Green, g (s)	8.5	29.0		6.5	27.0	50.5		23.0		23.5	23.5	
Actuated g/C Ratio	0.08	0.29		0.06	0.27	0.50		0.23		0.24	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	151	996		110	919	744		626		369	345	
v/s Ratio Prot	0.06	c0.38		c0.08	0.20	0.07		c0.25		0.26	c0.27	
v/s Ratio Perm						0.09						
v/c Ratio	0.66	1.31		1.27	0.74	0.29		1.07		1.09	1.13	
Uniform Delay, d1	44.3	35.5		46.8	33.2	14.3		38.5		38.2	38.2	
Progression Factor	0.94	0.93		1.00	1.00	1.00		1.00		0.86	0.86	
Incremental Delay, d2	6.8	147.7		176.0	5.2	0.2		57.2		66.8	82.8	
Delay (s)	48.4	180.6		222.7	38.5	14.6		95.7		99.5	115.7	
Level of Service	D	F		F	D	B		F		F	F	
Approach Delay (s)		171.3			57.1			95.7			107.6	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	114.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	0	176	113	0
Future Vol, veh/h	0	10	0	176	113	0
Conflicting Peds, #/hr	77	0	0	54	54	77
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	0	11	0	193	124	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	270	0	-	0	239	251
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	65	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1288	-	-	-	745	783
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	953	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1205	-	-	-	652	686
Mov Cap-2 Maneuver	-	-	-	-	652	-
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	892	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS			B

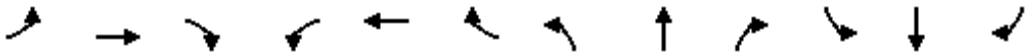
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1205	-	-	-	652
HCM Lane V/C Ratio	-	-	-	-	0.19
HCM Control Delay (s)	0	-	-	-	11.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Intersection	
Intersection Delay, s/veh	57.2
Intersection LOS	F

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	50	73	0	136	599	0	295	40
Future Vol, veh/h	0	50	73	0	136	599	0	295	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	56	81	0	151	666	0	328	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.5	84.4	14.3
HCM LOS	B	F	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	19%	41%	0%
Vol Thru, %	81%	0%	88%
Vol Right, %	0%	59%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	735	123	335
LT Vol	136	50	0
Through Vol	599	0	295
RT Vol	0	73	40
Lane Flow Rate	817	137	372
Geometry Grp	1	1	1
Degree of Util (X)	1.099	0.235	0.534
Departure Headway (Hd)	4.846	6.494	5.368
Convergence, Y/N	Yes	Yes	Yes
Cap	743	556	677
Service Time	2.933	4.494	3.368
HCM Lane V/C Ratio	1.1	0.246	0.549
HCM Control Delay	84.4	11.5	14.3
HCM Lane LOS	F	B	B
HCM 95th-tile Q	22.4	0.9	3.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	313	10	5	720	5	0	0	5	0	0	10
Future Volume (vph)	10	313	10	5	720	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	329	11	5	758	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	340	768	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.10	0.08	-0.60	-0.60
Departure Headway (s)	5.7	5.2	4.5	5.8	5.8
Degree Utilization, x	0.02	0.49	0.97	0.01	0.02
Capacity (veh/h)	630	693	791	585	582
Control Delay (s)	7.6	11.8	45.0	8.8	8.9
Approach Delay (s)	11.7		45.0	8.8	8.9
Approach LOS	B		E	A	A

Intersection Summary				
Delay	34.2			
Level of Service	D			
Intersection Capacity Utilization	62.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	325.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	101	2316	65	64	1060
Future Vol, veh/h	71	101	2316	65	64	1060
Conflicting Peds, #/hr	0	3	0	0	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	75	106	2438	68	67	1116

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3168	1259	0	0	2509	0
Stage 1	2475	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 8	165	-	-	178	-
Stage 1	~ 50	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	164	-	-	178	-
Mov Cap-2 Maneuver	~ 5	-	-	-	-	-
Stage 1	~ 50	-	-	-	-	-
Stage 2	~ 5	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 6951	0	2.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	12	178	-
HCM Lane V/C Ratio	-	-	15.088	0.378	-
HCM Control Delay (s)	-	-	$ 6951	37	-
HCM Lane LOS	-	-	F	E	-
HCM 95th %tile Q(veh)	-	-	24	1.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2316	20	0	1136
Future Vol, veh/h	5	40	2316	20	0	1136
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2438	21	0	1196

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3052	1235	0	0	-	-
Stage 1	2451	-	-	-	-	-
Stage 2	601	-	-	-	-	-
Critical Hdwy	7.54	6.94	-	-	-	-
Critical Hdwy Stg 1	6.54	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	~ 5	168	-	-	0	-
Stage 1	31	-	-	-	0	-
Stage 2	454	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 5	167	-	-	-	-
Mov Cap-2 Maneuver	29	-	-	-	-	-
Stage 1	31	-	-	-	-	-
Stage 2	453	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	61.3	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	109	-
HCM Lane V/C Ratio	-	-	0.435	-
HCM Control Delay (s)	-	-	61.3	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	1.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

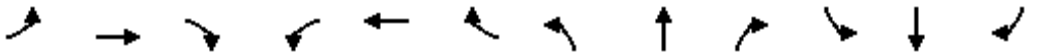
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2341	25	10	1126
Future Vol, veh/h	0	5	2341	25	10	1126
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2439	26	10	1173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1242	0	0	2470	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	169	-	-	184	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	168	-	-	183	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

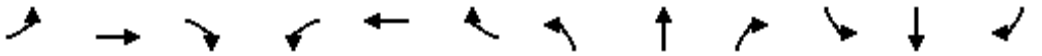
Approach	WB	NB	SB
HCM Control Delay, s	27.1	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	168	183	-
HCM Lane V/C Ratio	-	-	0.031	0.057	-
HCM Control Delay (s)	-	-	27.1	25.9	-
HCM Lane LOS	-	-	D	D	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	545	22	80	156	0	53	0	1708	5	6	929	191
Future Volume (vph)	545	22	80	156	0	53	0	1708	5	6	929	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.86	1.00		0.99		1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.97	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1692	1363	1703		1594		3568			3343	
Flt Permitted	0.95	0.96	1.00	0.32		1.00		1.00			0.94	
Satd. Flow (perm)	1681	1692	1363	578		1594		3568			3153	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	568	23	83	162	0	55	0	1779	5	6	968	199
RTOR Reduction (vph)	0	0	61	0	0	10	0	0	0	0	12	0
Lane Group Flow (vph)	295	296	22	163	0	45	0	1784	0	0	1161	0
Confl. Peds. (#/hr)			76	76			37		176	176		37
Confl. Bikes (#/hr)			8			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4				2		
Actuated Green, G (s)	32.0	32.0	32.0	32.0		32.0		79.0			79.0	
Effective Green, g (s)	32.0	32.0	32.0	32.0		32.0		79.0			79.0	
Actuated g/C Ratio	0.27	0.27	0.27	0.27		0.27		0.66			0.66	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	448	451	363	154		425		2348			2075	
v/s Ratio Prot								c0.50				
v/s Ratio Perm	0.18	0.17	0.02	c0.28		0.03					0.37	
v/c Ratio	0.66	0.66	0.06	1.06		0.11		0.76			0.56	
Uniform Delay, d1	39.1	39.1	32.8	44.0		33.2		14.0			11.1	
Progression Factor	0.73	0.73	1.53	1.00		1.00		0.68			1.00	
Incremental Delay, d2	1.7	1.6	0.0	88.9		0.0		1.2			1.1	
Delay (s)	30.3	30.3	50.4	132.9		33.2		10.7			12.2	
Level of Service	C	C	D	F		C		B			B	
Approach Delay (s)		32.8			107.8			10.7			12.2	
Approach LOS		C			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



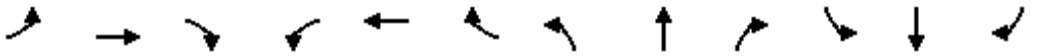
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	532	1420	60	45	756	40	0	0	0	0	0	246
Future Volume (vph)	532	1420	60	45	756	40	0	0	0	0	0	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.62	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1009	1805	3522							1565
Flt Permitted	0.95	1.00	1.00	0.14	1.00							1.00
Satd. Flow (perm)	1805	3610	1009	261	3522							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	572	1527	65	48	813	43	0	0	0	0	0	265
RTOR Reduction (vph)	0	0	33	0	6	0	0	0	0	0	0	23
Lane Group Flow (vph)	572	1527	32	48	850	0	0	0	0	0	0	242
Confl. Peds. (#/hr)			215	215		448			748	748		
Confl. Bikes (#/hr)			8			9		9				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	20.9	29.1	29.1	29.1	29.1							20.9
Effective Green, g (s)	20.9	29.1	29.1	29.1	29.1							20.9
Actuated g/C Ratio	0.35	0.49	0.49	0.49	0.49							0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	628	1750	489	126	1708							545
v/s Ratio Prot	c0.32	c0.42			0.24							0.15
v/s Ratio Perm			0.03	0.18								
v/c Ratio	0.91	0.87	0.06	0.38	0.50							0.44
Uniform Delay, d1	18.7	13.8	8.2	9.8	10.5							15.1
Progression Factor	1.00	1.00	1.00	0.62	0.64							1.21
Incremental Delay, d2	17.2	6.3	0.3	8.2	1.0							0.2
Delay (s)	35.8	20.1	8.5	14.2	7.7							18.4
Level of Service	D	C	A	B	A							B
Approach Delay (s)		23.9			8.1			0.0			18.4	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1405	15	40	836	65	65
Future Volume (vph)	1405	15	40	836	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.75	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1150	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1150	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1495	16	43	889	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1495	15	43	889	69	5
Confl. Peds. (#/hr)		78	78		44	
Confl. Bikes (#/hr)		8				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	798	194	2674	136	120
v/s Ratio Prot	c0.43		c0.03	0.27	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.63	0.02	0.22	0.33	0.51	0.04
Uniform Delay, d1	9.9	5.7	48.0	3.0	53.3	51.4
Progression Factor	1.31	1.57	0.70	2.66	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.0	1.1	0.1
Delay (s)	13.6	8.9	33.6	8.1	54.4	51.5
Level of Service	B	A	C	A	D	D
Approach Delay (s)	13.6			9.3	52.9	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1470	0	57	20	794	1693	18	5	1130	20
Future Volume (vph)	0	0	1470	0	57	20	794	1693	18	5	1130	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.66
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3510		1752	3505	1030
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3510		1752	3505	1030
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1515	0	59	21	819	1745	19	5	1165	21
RTOR Reduction (vph)	0	0	293	0	0	19	0	1	0	0	0	12
Lane Group Flow (vph)	0	0	1222	0	59	2	819	1763	0	5	1165	9
Confl. Peds. (#/hr)							255		334	334		255
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			101.8		12.6	12.6	32.2	64.4		1.0	51.2	51.2
Effective Green, g (s)			96.8		12.6	12.6	32.2	57.4		1.0	51.2	51.2
Actuated g/C Ratio			0.81		0.10	0.10	0.27	0.48		0.01	0.43	0.43
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2248		195	166	921	1678		14	1495	439
v/s Ratio Prot					0.03		c0.24	c0.50		0.00	0.33	
v/s Ratio Perm			c0.44			0.00						0.01
v/c Ratio			0.54		0.30	0.01	0.89	1.05		0.36	0.78	0.02
Uniform Delay, d1			4.0		49.6	48.1	42.2	31.3		59.2	29.5	19.9
Progression Factor			1.00		1.00	1.00	0.72	1.27		0.91	0.77	1.00
Incremental Delay, d2			0.1		0.3	0.0	8.8	35.0		4.6	3.4	0.1
Delay (s)			4.1		50.0	48.1	39.2	74.8		58.5	26.2	20.0
Level of Service			A		D	D	D	E		E	C	B
Approach Delay (s)		4.1			49.5			63.5			26.2	
Approach LOS		A			D			E			C	

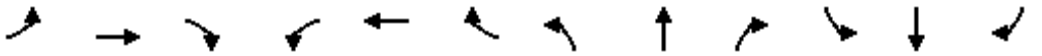
Intersection Summary			
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	873	200	1827	30	30	1968	577	30
Future Volume (vph)	873	200	1827	30	30	1968	577	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4907		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4907		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	909	217	1903	33	33	2050	627	33
RTOR Reduction (vph)	245	0	0	16	0	33	0	0
Lane Group Flow (vph)	664	217	1903	17	33	2644	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	36.8	10.0	61.1	61.1	17.8	87.9		5.6
Effective Green, g (s)	36.8	10.0	61.1	61.1	17.8	87.9		5.6
Actuated g/C Ratio	0.31	0.08	0.51	0.51	0.15	0.73		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	854	286	1801	806	262	3594		75
v/s Ratio Prot	c0.24	0.06	c0.54		0.02	c0.42		c0.02
v/s Ratio Perm				0.01		0.12		
v/c Ratio	0.78	0.76	1.06	0.02	0.13	0.74		0.44
Uniform Delay, d1	37.9	53.8	29.4	14.6	44.3	9.3		55.7
Progression Factor	1.00	0.97	0.96	1.00	0.84	2.57		1.00
Incremental Delay, d2	4.5	8.2	35.3	0.0	0.2	0.7		4.1
Delay (s)	42.4	60.4	63.6	14.6	37.5	24.6		59.8
Level of Service	D	E	E	B	D	C		E
Approach Delay (s)			62.5			24.8		
Approach LOS			E			C		

Intersection Summary			
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	593	25	60	115	5	425	90	804	5	165	960	843
Future Volume (vph)	593	25	60	115	5	425	90	804	5	165	960	843
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1436	1752	1845	1568	3367	3463		1752	3505	1416
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1436	1752	1845	1568	3367	3463		1752	3505	1416
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	624	26	63	121	5	447	95	846	5	174	1011	887
RTOR Reduction (vph)	0	0	49	0	0	63	0	0	0	0	0	526
Lane Group Flow (vph)	324	326	14	121	5	384	95	851	0	174	1011	361
Confl. Peds. (#/hr)	3		60	60		3	111		170	170		111
Confl. Bikes (#/hr)						5			8			10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.1	26.1	26.1	21.0	21.0	40.0	6.0	40.4		14.5	48.9	48.9
Effective Green, g (s)	26.1	26.1	26.1	21.0	21.0	40.0	6.0	40.4		14.5	48.9	48.9
Actuated g/C Ratio	0.22	0.22	0.22	0.18	0.18	0.33	0.05	0.34		0.12	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	365	368	312	306	322	522	168	1165		211	1428	577
v/s Ratio Prot	c0.19	0.19		0.07	0.00	c0.24	0.03	c0.25		0.10	0.29	
v/s Ratio Perm			0.01									0.26
v/c Ratio	0.89	0.89	0.04	0.40	0.02	0.73	0.57	0.73		0.82	0.71	0.63
Uniform Delay, d1	45.5	45.5	37.1	43.9	40.9	35.3	55.7	35.0		51.5	29.6	28.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.94	0.92	2.98
Incremental Delay, d2	21.5	21.1	0.0	0.8	0.0	5.3	2.6	4.1		15.7	2.1	3.5
Delay (s)	67.0	66.6	37.1	44.7	41.0	40.6	58.3	39.1		64.3	29.4	87.8
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		64.2			41.5			41.0			57.3	
Approach LOS		E			D			D			E	

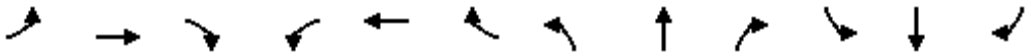
Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	170	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	170	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				173	128	179
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1345	562	300	2713	0				501	263	220
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2530	1017	1774	3632	0				3619	1900	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				173	128	179
Grp Sat Flow(s),veh/h/ln	0	1787	1666	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				4.3	6.2	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				4.3	6.2	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	987	920	300	2713	0				501	263	220
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.35	0.49	0.82
Avail Cap(c_a), veh/h	0	987	920	452	2713	0				651	342	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				39.0	39.8	41.8
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.3	1.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.2	3.3	5.5
LnGrp Delay(d),s/veh	0.0	16.1	16.3	41.6	0.3	0.0				39.3	40.8	53.7
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						480	
Approach Delay, s/veh		16.2			7.7						45.1	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.7		18.8		81.2		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.8		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	570	0	0	830	332	605	230	365	0	0	0
Future Volume (vph)	305	570	0	0	830	332	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.87	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1381	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1381	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	594	0	0	865	346	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	80	0	0	178	0	0	0
Lane Group Flow (vph)	318	594	0	0	865	266	428	442	202	0	0	0
Confl. Peds. (#/hr)	24		22	22		24			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	459	551	567	507			
v/s Ratio Prot	c0.18	0.17			c0.24		0.25	c0.25				
v/s Ratio Perm						0.19			0.13			
v/c Ratio	0.86	0.28			0.73	0.58	0.78	0.78	0.40			
Uniform Delay, d1	38.3	10.3			29.4	27.6	30.5	30.5	26.2			
Progression Factor	0.82	0.70			0.53	0.44	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.6	4.6	10.3	10.2	2.3			
Delay (s)	48.0	7.5			19.2	16.6	40.8	40.7	28.5			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		21.6			18.5			37.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	815	30	5	1077	5	40	20	30	15	10	15
Future Volume (veh/h)	20	815	30	5	1077	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.96		0.94	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	832	31	5	1099	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	59	2005	74	38	2134	10	233	115	150	209	143	182
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	35	3314	122	4	3528	16	583	372	485	515	461	586
Grp Volume(v), veh/h	455	0	428	580	0	529	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1683	1856	0	1691	1440	0	0	1562	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.04		0.07	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1119	0	1018	1159	0	1023	498	0	0	534	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.50	0.00	0.52	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1119	0	1018	1159	0	1023	498	0	0	534	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.3	1.5	0.0	1.9	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.5	0.0	0.5	2.0	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.3	1.5	0.0	1.9	26.1	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		883			1109			92			40	
Approach Delay, s/veh		1.2			1.7			26.1			24.6	
Approach LOS		A			A			C			C	

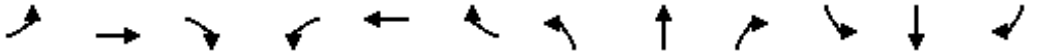
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		35.0		65.0		35.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		60.5		31.0		60.5		31.0
Max Q Clear Time (g_c+I1), s		2.0		6.3		2.0		3.6
Green Ext Time (p_c), s		2.5		0.1		2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	3.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	785	85	105	962	0	0	0	0	131	680	130
Future Volume (veh/h)	0	785	85	105	962	0	0	0	0	131	680	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	809	88	108	992	0				135	701	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1763	192	0	1967	0				205	1124	526
Arrive On Green	0.00	0.55	0.55	0.00	1.00	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	3330	352	0	3705	0				562	3078	1442
Grp Volume(v), veh/h	0	447	450	0	992	0				445	391	134
Grp Sat Flow(s),veh/h/ln	0	1787	1800	0	1805	0				1853	1787	1442
Q Serve(g_s), s	0.0	15.2	15.2	0.0	0.0	0.0				20.1	17.8	6.5
Cycle Q Clear(g_c), s	0.0	15.2	15.2	0.0	0.0	0.0				20.1	17.8	6.5
Prop In Lane	0.00		0.20	0.00		0.00				0.30		1.00
Lane Grp Cap(c), veh/h	0	974	981	0	1967	0				676	652	526
V/C Ratio(X)	0.00	0.46	0.46	0.00	0.50	0.00				0.66	0.60	0.25
Avail Cap(c_a), veh/h	0	974	981	0	1967	0				676	652	526
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	0.0	0.0	0.0				26.5	25.8	22.2
Incr Delay (d2), s/veh	0.0	1.6	1.5	0.0	0.9	0.0				5.0	4.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.9	7.9	0.0	0.3	0.0				11.2	9.4	2.7
LnGrp Delay(d),s/veh	0.0	15.4	15.3	0.0	0.9	0.0				31.5	29.8	23.4
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		897			992						970	
Approach Delay, s/veh		15.4			0.9						29.7	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.0			0.0	59.0		41.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			13.9	36.1		36.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	17.2		22.1
Green Ext Time (p_c), s		2.7			0.0	2.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

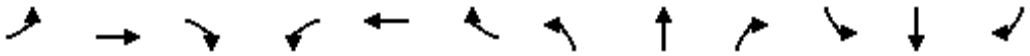


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	686	0	0	820	103	237	761	70	0	0	0
Future Volume (veh/h)	210	686	0	0	820	103	237	761	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	730	0	0	872	110	252	810	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	63	868	0	0	1349	170	289	979	93			
Arrive On Green	0.36	0.36	0.00	0.00	0.85	0.85	0.12	0.12	0.12			
Sat Flow, veh/h	2	1715	0	0	3253	398	765	2598	247			
Grp Volume(v), veh/h	317	636	0	0	493	489	601	0	535			
Grp Sat Flow(s),veh/h/ln	5	1627	0	0	1787	1770	1824	0	1786			
Q Serve(g_s), s	39.4	34.1	0.0	0.0	9.0	9.0	32.3	0.0	29.1			
Cycle Q Clear(g_c), s	39.4	34.1	0.0	0.0	9.0	9.0	32.3	0.0	29.1			
Prop In Lane	0.70		0.00	0.00		0.23	0.42		0.14			
Lane Grp Cap(c), veh/h	0	867	0	0	763	756	688	0	673			
V/C Ratio(X)	0.00	0.73	0.00	0.00	0.65	0.65	0.87	0.00	0.80			
Avail Cap(c_a), veh/h	0	867	0	0	763	756	688	0	673			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	26.0	0.0	0.0	4.8	4.8	41.4	0.0	40.0			
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	4.2	4.2	14.4	0.0	9.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	16.6	0.0	0.0	5.0	5.0	19.1	0.0	16.2			
LnGrp Delay(d),s/veh	0.0	31.5	0.0	0.0	9.0	9.1	55.8	0.0	49.4			
LnGrp LOS		C			A	A	E		D			
Approach Vol, veh/h		953			982			1136				
Approach Delay, s/veh		21.0			9.1			52.8				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		47.2		42.2		57.8		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 43		37.7		53.3		
Max Q Clear Time (g_c+I1), s		11.0		34.3		41.4		
Green Ext Time (p_c), s		1.1		0.7		2.0		

Intersection Summary		
HCM 2010 Ctrl Delay		29.0
HCM 2010 LOS		C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	516	118	25	743	50	30	50	15	10	90	75
Future Volume (vph)	80	516	118	25	743	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.98			0.98			0.97	
Flpb, ped/bikes		0.99			1.00			0.99			0.99	
Frt		0.98			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3105			3372			1767			1686	
Flt Permitted		0.70			0.92			0.89			0.99	
Satd. Flow (perm)		2180			3092			1599			1671	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	538	123	26	774	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	16	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	728	0	0	847	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	120		200	200		120	92		159	159		92
Confl. Bikes (#/hr)			1			3			14			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1035			1468			703			735	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.27			0.06			c0.09	
v/c Ratio		0.70			0.58			0.13			0.21	
Uniform Delay, d1		20.7			19.0			16.6			17.3	
Progression Factor		1.07			0.37			0.92			1.00	
Incremental Delay, d2		1.9			1.5			0.3			0.7	
Delay (s)		24.0			8.5			15.6			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		24.0			8.5			15.6			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	433	53	20	666	20	77	160	30	10	165	70
Future Volume (veh/h)	85	433	53	20	666	20	77	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.79	0.92		0.78	0.92		0.84	0.90		0.85
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	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	461	56	21	709	21	82	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	214	1043	127	59	1556	45	203	401	71	48	474	192
Arrive On Green	0.95	0.95	0.95	0.95	0.95	0.95	0.87	0.87	0.87	0.44	0.44	0.44
Sat Flow, veh/h	351	2196	267	45	3275	96	361	921	163	25	1090	441
Grp Volume(v), veh/h	279	0	328	393	0	358	284	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1250	0	1563	1785	0	1631	1444	0	0	1556	0	0
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	1.8	1.9	0.0	2.0	3.2	0.0	0.0	11.2	0.0	0.0
Prop In Lane	0.32		0.17	0.05		0.06	0.29		0.11	0.04		0.28
Lane Grp Cap(c), veh/h	641	0	743	886	0	775	675	0	0	714	0	0
V/C Ratio(X)	0.43	0.00	0.44	0.44	0.00	0.46	0.42	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	641	0	743	886	0	775	675	0	0	714	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.3	0.0	1.4	1.4	0.0	1.4	3.9	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	1.9	1.6	0.0	2.0	1.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.9	1.1	0.0	1.0	1.8	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	3.5	0.0	3.3	3.0	0.0	3.3	5.8	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	A		A	A		A	A			C		
Approach Vol, veh/h		607			751			284			261	
Approach Delay, s/veh		3.4			3.1			5.8			20.6	
Approach LOS		A			A			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.0		48.0		52.0		48.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.5		43.5		47.5		43.5
Max Q Clear Time (g_c+I1), s		4.0		5.2		3.8		13.2
Green Ext Time (p_c), s		1.9		0.8		1.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	361	42	50	493	25	193	420	40	20	330	20
Future Volume (veh/h)	70	361	42	50	493	25	193	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.75	0.97		0.85	0.99		0.92	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	380	44	53	519	26	203	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	141	749	94	108	1031	53	459	967	93	63	886	52
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	1.00	1.00	1.00	0.55	0.55	0.55
Sat Flow, veh/h	256	2052	257	180	2825	145	730	1775	171	46	1626	95
Grp Volume(v), veh/h	239	0	259	301	0	297	289	0	398	389	0	0
Grp Sat Flow(s),veh/h/ln	1049	0	1516	1495	0	1655	1060	0	1616	1767	0	0
Q Serve(g_s), s	9.5	0.0	13.1	4.6	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	23.3	0.0	13.1	17.7	0.0	13.9	0.0	0.0	0.0	12.4	0.0	0.0
Prop In Lane	0.31		0.17	0.18		0.09	0.70		0.11	0.05		0.05
Lane Grp Cap(c), veh/h	430	0	553	588	0	604	639	0	881	1001	0	0
V/C Ratio(X)	0.56	0.00	0.47	0.51	0.00	0.49	0.45	0.00	0.45	0.39	0.00	0.00
Avail Cap(c_a), veh/h	430	0	553	588	0	604	639	0	881	1001	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.0	0.0	24.3	24.9	0.0	24.6	0.0	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	5.1	0.0	2.8	3.2	0.0	2.8	2.3	0.0	1.7	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	5.9	7.2	0.0	6.8	0.4	0.0	0.4	6.5	0.0	0.0
LnGrp Delay(d),s/veh	33.1	0.0	27.2	28.1	0.0	27.4	2.3	0.0	1.7	14.3	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		498			598			687			389	
Approach Delay, s/veh		30.0			27.8			1.9			14.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.0		59.0		41.0		59.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		36.5		54.5		36.5		54.5
Max Q Clear Time (g_c+I1), s		19.7		2.0		25.3		14.4
Green Ext Time (p_c), s		6.8		9.6		5.3		9.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	403	113	25	385	10	243	95	25	15	80	20
Future Volume (vph)	25	403	113	25	385	10	243	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3281			1839			1785			1773	
Flt Permitted		0.92			0.95			0.97			0.99	
Satd. Flow (perm)		3026			1743			1785			1773	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	443	124	27	423	11	267	104	27	16	88	22
RTOR Reduction (vph)	0	22	0	0	1	0	0	2	0	0	7	0
Lane Group Flow (vph)	0	572	0	0	460	0	0	396	0	0	119	0
Confl. Peds. (#/hr)	56		83	83		56	87		66	66		87
Confl. Bikes (#/hr)						2			42			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		42.4			42.4			33.5			21.1	
Effective Green, g (s)		42.4			42.4			33.5			21.1	
Actuated g/C Ratio		0.38			0.38			0.30			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1161			668			541			338	
v/s Ratio Prot								c0.22			c0.07	
v/s Ratio Perm		0.19			c0.26							
v/c Ratio		0.49			0.69			0.73			0.35	
Uniform Delay, d1		25.9			28.5			34.5			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.5			5.7			8.5			2.9	
Delay (s)		27.4			34.3			43.0			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		27.4			34.3			43.0			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	19.3
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	73	0	5	30	5	0	140	65	5
Future Vol, veh/h	0	315	30	73	0	5	30	5	0	140	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	82	0	6	34	6	0	157	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

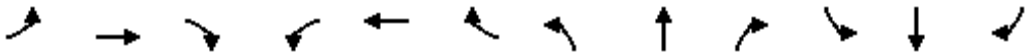
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	25.1	10.5	13.9
HCM LOS	D	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	75%	12%	1%
Vol Thru, %	31%	7%	75%	16%
Vol Right, %	2%	17%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	418	40	340
LT Vol	140	315	5	5
Through Vol	65	30	30	55
RT Vol	5	73	5	280
Lane Flow Rate	236	470	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.418	0.758	0.085	0.593
Departure Headway (Hd)	6.378	5.92	6.816	5.587
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	566	615	526	649
Service Time	4.396	3.92	4.857	3.587
HCM Lane V/C Ratio	0.417	0.764	0.086	0.589
HCM Control Delay	13.9	25.1	10.5	16.4
HCM Lane LOS	B	D	B	C
HCM 95th-tile Q	2.1	6.8	0.3	3.9

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

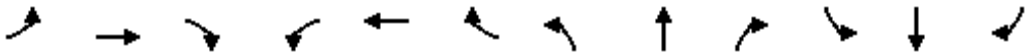
Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	16.4
HCM LOS	C



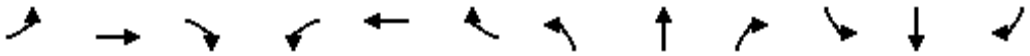
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	850	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	850	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1742			1737						3469	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1742			1326						3469	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	904	37
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	120	0	0	175	0	0	0	0	0	974	0
Confl. Peds. (#/hr)	78		113	113		78	114		59	59		114
Confl. Bikes (#/hr)			6			23						11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		400			304						2012	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.28	
v/c Ratio		0.30			0.58						0.48	
Uniform Delay, d1		15.9			17.1						6.1	
Progression Factor		1.00			0.90						2.22	
Incremental Delay, d2		0.6			2.8						0.6	
Delay (s)		16.5			18.2						14.2	
Level of Service		B			B						B	
Approach Delay (s)		16.5			18.2			0.0			14.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	908	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	908	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.93			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1622			3494				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1622			3494				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	976	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	55	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	181	0	0	1082	0	0	0	0
Confl. Peds. (#/hr)	89		93	93		89	44		48	48		44
Confl. Bikes (#/hr)			14			30			81			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.4			10.4			29.6				
Effective Green, g (s)		10.4			10.4			29.6				
Actuated g/C Ratio		0.21			0.21			0.59				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		395			337			2068				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.31				
v/c Ratio		0.30			0.54			0.52				
Uniform Delay, d1		16.7			17.6			6.0				
Progression Factor		1.18			0.92			0.99				
Incremental Delay, d2		0.2			0.8			0.7				
Delay (s)		19.8			17.0			6.7				
Level of Service		B			B			A				
Approach Delay (s)		19.8			17.0			6.7			0.0	
Approach LOS		B			B			A			A	

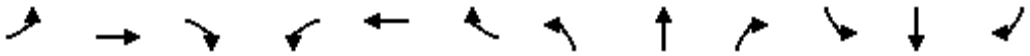
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	533	40	25	392	35
Future Volume (vph)	75	70	60	25	35	65	115	533	40	25	392	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.95			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			1.00	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1623			1551			3302			1708	
Flt Permitted		0.85			0.92			0.81			0.95	
Satd. Flow (perm)		1398			1438			2688			1619	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	573	43	27	422	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	9	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	731	0	0	481	0
Confl. Peds. (#/hr)	140		146	146		140	175		131	131		175
Confl. Bikes (#/hr)			6			4			24			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		419			431			1424			858	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.27			c0.30	
v/c Ratio		0.46			0.20			0.51			0.56	
Uniform Delay, d1		14.2			13.0			7.6			7.9	
Progression Factor		1.53			1.00			1.00			0.58	
Incremental Delay, d2		3.5			1.0			0.7			2.5	
Delay (s)		25.2			14.1			8.3			7.0	
Level of Service		C			B			A			A	
Approach Delay (s)		25.2			14.1			8.3			7.0	
Approach LOS		C			B			A			A	

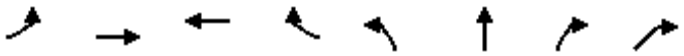
Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	701	250	543	895	0	0	0	0	301	220	220
Future Volume (vph)	0	701	250	543	895	0	0	0	0	301	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3296		3433	3539					1579	2997	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		3296		3433	3539					1579	2997	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	730	260	566	932	0	0	0	0	314	229	229
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	952	0	566	932	0	0	0	0	264	430	0
Confl. Peds. (#/hr)	128		138	138		128	35					35
Confl. Bikes (#/hr)			2			8						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		33.8		28.2	66.5					24.0	24.0	
Effective Green, g (s)		33.8		28.2	66.5					24.0	24.0	
Actuated g/C Ratio		0.34		0.28	0.66					0.24	0.24	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1114		968	2353					378	719	
v/s Ratio Prot		c0.29		c0.16	0.26					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.85		0.58	0.40					0.70	0.60	
Uniform Delay, d1		30.8		30.9	7.6					34.7	33.7	
Progression Factor		1.00		1.07	1.36					1.29	1.38	
Incremental Delay, d2		6.6		1.1	0.2					9.3	3.3	
Delay (s)		37.4		34.2	10.6					54.0	49.8	
Level of Service		D		C	B					D	D	
Approach Delay (s)		37.4			19.5			0.0			51.3	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	762	955	397	493	440	527	60
Future Volume (vph)	235	762	955	397	493	440	527	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	2991		3400	1702	1430	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	2991		3400	1702	1430	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	802	1005	418	519	463	555	63
RTOR Reduction (vph)	0	0	46	0	0	6	81	0
Lane Group Flow (vph)	247	802	1377	0	519	540	391	63
Confl. Peds. (#/hr)	294			294	95		24	
Confl. Bikes (#/hr)				24				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	15.1	56.1	41.9		29.5	29.5	29.5	58.5
Effective Green, g (s)	15.1	56.1	41.9		29.5	29.5	29.5	58.5
Actuated g/C Ratio	0.15	0.56	0.42		0.29	0.29	0.29	0.58
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	262	1947	1253		1003	502	421	933
v/s Ratio Prot	c0.14	0.23	c0.46		0.15	c0.32		0.00
v/s Ratio Perm							0.27	0.04
v/c Ratio	0.94	0.41	1.10		0.52	1.08	0.93	0.07
Uniform Delay, d1	42.0	12.5	29.1		29.3	35.2	34.2	9.0
Progression Factor	1.18	1.52	1.10		1.00	1.00	1.00	1.00
Incremental Delay, d2	29.8	0.4	55.7		1.9	61.8	29.1	0.0
Delay (s)	79.3	19.5	87.5		31.2	97.1	63.4	9.0
Level of Service	E	B	F		C	F	E	A
Approach Delay (s)		33.6	87.5			64.5		
Approach LOS		C	F			E		

Intersection Summary			
HCM 2000 Control Delay	63.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1215	10	10	1337	5	95
Future Vol, veh/h	1215	10	10	1337	5	95
Conflicting Peds, #/hr	0	224	224	0	224	224
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1306	11	11	1438	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1541	0	2500	1107
Stage 1	-	-	-	-	1536	-
Stage 2	-	-	-	-	964	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	422	-	24	208
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	335	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	343	-	15	138
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	264	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	82.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	343	-
HCM Lane V/C Ratio	0.74	-	-	0.031	-
HCM Control Delay (s)	82.7	-	-	15.8	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

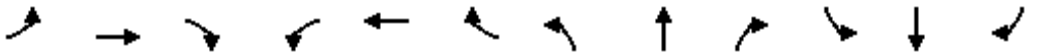
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1220	1322	30	5	25
Future Vol, veh/h	95	1220	1322	30	5	25
Conflicting Peds, #/hr	150	0	0	148	148	150
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1284	1392	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1573	0	-	0	2547	1012
Stage 1	-	-	-	-	1557	-
Stage 2	-	-	-	-	990	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	410	-	-	-	23	241
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	325	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	359	-	-	-	13	185
Mov Cap-2 Maneuver	-	-	-	-	82	-
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	205	-

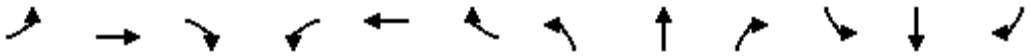
Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	34.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	359	-	-	-	153
HCM Lane V/C Ratio	0.279	-	-	-	0.206
HCM Control Delay (s)	18.9	-	-	-	34.5
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	0.7



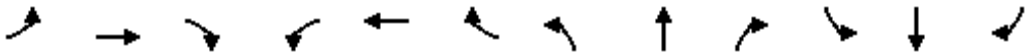
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1012	228	232	1212	0	0	0	0	45	805	130
Future Volume (vph)	0	1012	228	232	1212	0	0	0	0	45	805	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.65
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3210		1736	3471						3505	1033
Flt Permitted		1.00		0.09	1.00						1.00	1.00
Satd. Flow (perm)		3210		157	3471						3505	1033
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1054	238	242	1262	0	0	0	0	47	839	135
RTOR Reduction (vph)	0	19	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1273	0	242	1263	0	0	0	0	0	886	88
Confl. Peds. (#/hr)	269		232	232		269	298		90	90		298
Confl. Bikes (#/hr)			2			17						35
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.6		59.2	63.7						27.3	27.3
Effective Green, g (s)		46.6		59.2	63.7						27.3	27.3
Actuated g/C Ratio		0.47		0.59	0.64						0.27	0.27
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1495		291	2211						956	282
v/s Ratio Prot		c0.40		c0.10	0.36							
v/s Ratio Perm				0.39							0.25	0.08
v/c Ratio		0.85		0.83	0.57						0.93	0.31
Uniform Delay, d1		23.6		32.8	10.4						35.4	28.9
Progression Factor		0.87		0.91	0.67						1.40	1.97
Incremental Delay, d2		5.4		13.5	0.2						13.3	0.2
Delay (s)		26.0		43.5	7.1						62.8	57.2
Level of Service		C		D	A						E	E
Approach Delay (s)		26.0			12.9			0.0			62.1	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



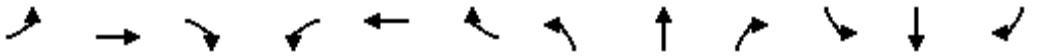
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	977	0	0	1011	30	413	923	152	0	0	0
Future Volume (vph)	5	977	0	0	1011	30	413	923	152	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.77			
Flpb, ped/bikes		1.00			1.00		0.91	1.00	1.00			
Frt		1.00			1.00		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3504			3422		1623	3574	1232			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3330			3422		1623	3574	1232			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1039	0	0	1076	32	439	982	162	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	18	0	0	0
Lane Group Flow (vph)	0	1044	0	0	1106	0	439	982	144	0	0	0
Confl. Peds. (#/hr)	243		130	130		243	55		112	112		55
Confl. Bikes (#/hr)						16			93			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		49.5			49.5		41.5	41.5	41.5			
Effective Green, g (s)		49.5			49.5		41.5	41.5	41.5			
Actuated g/C Ratio		0.50			0.50		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1648			1693		673	1483	511			
v/s Ratio Prot					c0.32			c0.27				
v/s Ratio Perm		0.31					0.27		0.12			
v/c Ratio		0.63			0.65		0.65	0.66	0.28			
Uniform Delay, d1		18.6			18.8		23.5	23.6	19.4			
Progression Factor		0.20			0.56		0.83	0.83	0.84			
Incremental Delay, d2		0.9			1.7		2.7	1.3	0.8			
Delay (s)		4.6			12.3		22.2	20.8	17.1			
Level of Service		A			B		C	C	B			
Approach Delay (s)		4.6			12.3			20.8			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	999	60	48	971	15	40	60	45	20	52	35
Future Volume (vph)	85	999	60	48	971	15	40	60	45	20	52	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3313		1703	3367			1601			1582	
Flt Permitted	0.95	1.00		0.95	1.00			0.88			0.93	
Satd. Flow (perm)	1736	3313		1703	3367			1431			1482	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	1063	64	51	1033	16	43	64	48	21	55	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	90	1124	0	51	1048	0	0	138	0	0	94	0
Confl. Peds. (#/hr)	214		302	302		214	72		98	98		72
Confl. Bikes (#/hr)			2			9			30			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Effective Green, g (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Actuated g/C Ratio	0.10	0.65		0.05	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2160		86	2006			238			247	
v/s Ratio Prot	c0.05	c0.34		0.03	0.31							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.51	0.52		0.59	0.52			0.58			0.38	
Uniform Delay, d1	42.5	9.2		46.4	11.9			38.4			37.0	
Progression Factor	0.70	0.25		0.79	0.71			1.00			1.00	
Incremental Delay, d2	0.7	0.7		5.3	0.7			2.1			0.4	
Delay (s)	30.5	3.1		42.0	9.2			40.5			37.4	
Level of Service	C	A		D	A			D			D	
Approach Delay (s)		5.1			10.7			40.5			37.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	967	37	85	891	30	83	50	10	60	38	130
Future Volume (vph)	100	967	37	85	891	30	83	50	10	60	38	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.97			0.98			1.00	0.68		1.00	0.74
Flpb, ped/bikes	1.00	1.00			0.99			0.87	1.00		0.86	1.00
Frt	1.00	0.99			1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1736	3338			3298			1595	1104		1564	1179
Flt Permitted	0.95	1.00			0.74			0.72	1.00		0.63	1.00
Satd. Flow (perm)	1736	3338			2439			1184	1104		1009	1179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1029	39	90	948	32	88	53	11	64	40	138
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	1066	0	0	1068	0	0	141	2	0	104	22
Confl. Peds. (#/hr)	337		693	693		337	152		193	193		152
Confl. Bikes (#/hr)			9			12			9			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	9.0	74.8			61.8			16.2	16.2		16.2	16.2
Effective Green, g (s)	9.0	74.8			61.8			16.2	16.2		16.2	16.2
Actuated g/C Ratio	0.09	0.75			0.62			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	156	2496			1507			191	178		163	190
v/s Ratio Prot	c0.06	0.32										
v/s Ratio Perm					c0.44			c0.12	0.00		0.10	0.02
v/c Ratio	0.68	0.43			0.71			0.74	0.01		0.64	0.12
Uniform Delay, d1	44.1	4.7			13.0			39.9	35.2		39.2	35.8
Progression Factor	0.86	0.19			0.40			1.00	1.00		0.72	0.88
Incremental Delay, d2	7.9	0.5			2.5			12.1	0.0		5.2	0.1
Delay (s)	45.9	1.4			7.7			51.9	35.2		33.2	31.7
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.4			7.7			50.7			32.4	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	858	124	5	890	50	31	192	117	5	243	60
Future Volume (vph)	5	858	124	5	890	50	31	192	117	5	243	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.89			0.96			0.84			0.90	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3031			3398			1396			1586	
Flt Permitted		0.95			0.95			0.94			0.99	
Satd. Flow (perm)		2883			3232			1323			1579	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	913	132	5	947	53	33	204	124	5	259	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	1049	0	0	1002	0	0	359	0	0	325	0
Confl. Peds. (#/hr)	493		608	608		493	754		597	597		754
Confl. Bikes (#/hr)			1			7			71			20
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		59.9			59.9			31.1			31.1	
Effective Green, g (s)		59.9			59.9			31.1			31.1	
Actuated g/C Ratio		0.60			0.60			0.31			0.31	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1726			1935			411			491	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.31			c0.27			0.21	
v/c Ratio		0.61			0.52			0.87			0.66	
Uniform Delay, d1		12.6			11.7			32.6			29.9	
Progression Factor		0.86			0.83			1.18			1.35	
Incremental Delay, d2		1.5			0.8			16.6			2.5	
Delay (s)		12.3			10.4			55.2			42.9	
Level of Service		B			B			E			D	
Approach Delay (s)		12.3			10.4			55.2			42.9	
Approach LOS		B			B			E			D	

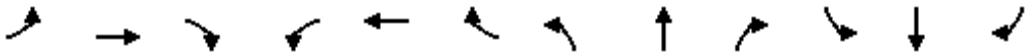
Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	822	93	175	861	70	49	553	213	100	397	40
Future Volume (veh/h)	70	822	93	175	861	70	49	553	213	100	397	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.83	1.00		0.79	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	856	97	182	897	73	51	576	222	104	414	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	131	1106	125	231	1312	107	64	622	238	121	988	99
Arrive On Green	0.15	0.71	0.71	0.27	0.83	0.83	0.01	0.09	0.09	0.14	0.64	0.64
Sat Flow, veh/h	1774	3116	353	1723	3162	257	1691	2200	843	1723	3089	310
Grp Volume(v), veh/h	73	486	467	182	488	482	51	441	357	104	228	228
Grp Sat Flow(s),veh/h/ln	1774	1770	1699	1723	1719	1701	1691	1687	1356	1723	1719	1679
Q Serve(g_s), s	3.8	17.7	17.7	9.8	11.1	11.1	3.0	25.9	26.2	5.9	6.5	6.7
Cycle Q Clear(g_c), s	3.8	17.7	17.7	9.8	11.1	11.1	3.0	25.9	26.2	5.9	6.5	6.7
Prop In Lane	1.00		0.21	1.00		0.15	1.00		0.62	1.00		0.18
Lane Grp Cap(c), veh/h	131	628	603	231	713	706	64	477	383	121	550	537
V/C Ratio(X)	0.56	0.77	0.77	0.79	0.68	0.68	0.79	0.92	0.93	0.86	0.42	0.42
Avail Cap(c_a), veh/h	131	628	603	231	713	706	118	481	386	121	550	537
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.76	0.76	0.76	0.79	0.79	0.79	0.85	0.85	0.85	0.80	0.80	0.80
Uniform Delay (d), s/veh	41.1	11.9	11.9	35.3	5.9	5.9	49.0	44.3	44.4	42.5	13.4	13.5
Incr Delay (d2), s/veh	2.4	7.0	7.3	12.5	4.2	4.2	6.9	20.7	25.6	35.6	0.1	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	2.0	9.3	9.0	5.4	5.7	5.7	1.5	14.9	12.5	4.0	3.1	3.1
LnGrp Delay(d),s/veh	43.5	18.9	19.2	47.8	10.1	10.2	55.9	65.0	69.9	78.1	13.6	13.6
LnGrp LOS	D	B	B	D	B	B	E	E	E	E	B	B
Approach Vol, veh/h		1026			1152			849			560	
Approach Delay, s/veh		20.8			16.1			66.5			25.6	
Approach LOS		C			B			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	46.0	11.5	32.8	17.4	40.0	7.8	36.5
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	41.5	7.0	* 29	12.0	35.5	7.0	28.5
Max Q Clear Time (g_c+I1), s	5.8	13.1	7.9	28.2	11.8	19.7	5.0	8.7
Green Ext Time (p_c), s	0.0	2.4	0.0	0.1	0.0	2.2	0.0	0.9

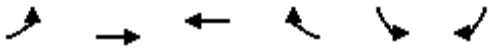
Intersection Summary	
HCM 2010 Ctrl Delay	30.8
HCM 2010 LOS	C

Notes



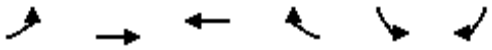
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	887	288	55	940	50	136	233	52	45	78	25
Future Volume (vph)	20	887	288	55	940	50	136	233	52	45	78	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.97		1.00	1.00	0.55		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1752	3151		1770	3419		1770	1863	866		1698	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1752	3151		1770	3419		1770	1863	866		1698	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	954	310	59	1011	54	146	251	56	48	84	27
RTOR Reduction (vph)	0	29	0	0	3	0	0	0	48	0	8	0
Lane Group Flow (vph)	22	1235	0	59	1062	0	146	251	8	0	151	0
Confl. Peds. (#/hr)	218		185	185		218	329		437	437		329
Confl. Bikes (#/hr)			2			3			75			10
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	49.3		4.2	51.5		14.9	14.9	14.9		15.1	
Effective Green, g (s)	2.0	49.3		4.2	51.5		14.9	14.9	14.9		15.1	
Actuated g/C Ratio	0.02	0.49		0.04	0.52		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1553		74	1760		263	277	129		256	
v/s Ratio Prot	0.01	c0.39		c0.03	0.31		0.08	c0.13			c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.79		0.80	0.60		0.56	0.91	0.06		0.59	
Uniform Delay, d1	48.6	21.1		47.5	17.1		39.5	41.9	36.6		39.6	
Progression Factor	1.18	0.33		1.14	0.84		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.7	2.9		38.7	1.4		1.4	30.1	0.1		2.4	
Delay (s)	73.0	10.0		92.7	15.7		40.9	71.9	36.6		42.0	
Level of Service	E	A		F	B		D	E	D		D	
Approach Delay (s)		11.1			19.7			57.6			42.0	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



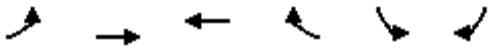
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	974	1015	0	15	25
Future Volume (vph)	0	974	1015	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.86	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1470	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1059	1103	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	1059	1103	0	21	0
Confl. Peds. (#/hr)	209			209	123	121
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		249	
v/s Ratio Prot		0.30	c0.31		c0.01	
v/s Ratio Perm						
v/c Ratio		0.40	0.42		0.08	
Uniform Delay, d1		4.6	4.7		34.9	
Progression Factor		0.15	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.1	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	954	1020	35	0	0
Future Volume (vph)	25	954	1020	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	1.00			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3458			
Flt Permitted	0.10	1.00	1.00			
Satd. Flow (perm)	185	1881	3458			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1037	1109	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	1037	1145	0	0	0
Confl. Peds. (#/hr)	144			144	305	125
Confl. Bikes (#/hr)				8		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	40.7			
Effective Green, g (s)	71.5	74.5	40.7			
Actuated g/C Ratio	0.72	0.74	0.41			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	625	1401	1407			
v/s Ratio Prot	0.01	c0.55	c0.33			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.74	0.81			
Uniform Delay, d1	7.5	7.2	26.3			
Progression Factor	1.44	1.67	0.31			
Incremental Delay, d2	0.0	2.0	3.4			
Delay (s)	10.9	14.1	11.6			
Level of Service	B	B	B			
Approach Delay (s)		14.0	11.6		0.0	
Approach LOS		B	B		A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	904	1030	140	53	30
Future Volume (vph)	40	904	1030	140	53	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3467		1724	
Flt Permitted	0.10	1.00	1.00		0.97	
Satd. Flow (perm)	184	1881	3467		1724	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	972	1108	151	57	32
RTOR Reduction (vph)	0	0	0	0	21	0
Lane Group Flow (vph)	43	972	1259	0	68	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	47.1		17.0	
Effective Green, g (s)	71.5	74.5	47.1		17.0	
Actuated g/C Ratio	0.72	0.74	0.47		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	522	1401	1632		293	
v/s Ratio Prot	0.02	c0.52	c0.36		c0.04	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.69	0.77		0.23	
Uniform Delay, d1	8.0	6.7	22.0		35.9	
Progression Factor	0.04	0.07	1.00		1.00	
Incremental Delay, d2	0.0	0.8	3.6		0.1	
Delay (s)	0.4	1.3	25.6		36.0	
Level of Service	A	A	C		D	
Approach Delay (s)		1.3	25.6		36.0	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	573	74	584	914	241	1548
Future Volume (vph)	573	74	584	914	241	1548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.89	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1419	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1419	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	610	79	621	972	256	1647
RTOR Reduction (vph)	0	12	0	0	0	2
Lane Group Flow (vph)	610	67	621	972	256	1645
Confl. Peds. (#/hr)		46	46			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	25.5	25.5	78.5	78.5	22.5	105.5
Effective Green, g (s)	25.5	25.5	78.5	78.5	22.5	105.5
Actuated g/C Ratio	0.18	0.18	0.56	0.56	0.16	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	650	258	1906	1034	284	2100
v/s Ratio Prot	c0.17		0.18	c0.53	c0.14	0.59
v/s Ratio Perm		0.05				
v/c Ratio	0.94	0.26	0.33	0.94	0.90	0.78
Uniform Delay, d1	56.5	49.1	16.5	28.6	57.7	10.4
Progression Factor	1.00	1.00	0.44	0.51	0.97	1.02
Incremental Delay, d2	21.5	0.6	0.3	13.0	26.4	1.7
Delay (s)	77.9	49.8	7.6	27.7	82.4	12.3
Level of Service	E	D	A	C	F	B
Approach Delay (s)	74.7			19.8	21.7	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1276	220	28	893	190	25	165	105	30	34
Future Volume (vph)	35	280	1276	220	28	893	190	25	165	105	30	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.92	1.00	0.98		0.95	1.00	1.00	0.92	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1446	1736	4510		1263	1698	1766	1474	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	187	3505	1446	215	4510		1263	1698	1766	1474	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1315	227	29	921	196	26	170	108	31	35
RTOR Reduction (vph)	0	0	0	86	0	0	0	17	0	0	56	0
Lane Group Flow (vph)	36	289	1315	141	29	1120	0	6	136	142	10	0
Confl. Peds. (#/hr)	19	19		16	16		19	19	35		19	18
Confl. Bikes (#/hr)				3				1				4
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Effective Green, g (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Actuated g/C Ratio	0.08	0.44	0.36	0.36	0.24	0.24		0.24	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	143	329	1276	526	52	1095		306	265	276	230	
v/s Ratio Prot	0.02	c0.14	c0.38			0.25			0.08	c0.08		
v/s Ratio Perm		0.25		0.10	0.13			0.00			0.01	
v/c Ratio	0.25	0.88	1.03	0.27	0.56	1.02		0.02	0.51	0.51	0.04	
Uniform Delay, d1	60.2	40.3	44.5	31.3	46.4	53.0		40.3	54.2	54.2	50.2	
Progression Factor	0.94	0.88	0.85	0.76	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	13.4	26.8	0.7	36.8	33.1		0.1	0.7	0.7	0.0	
Delay (s)	56.8	48.8	64.9	24.6	83.2	86.1		40.4	54.9	54.8	50.2	
Level of Service	E	D	E	C	F	F		D	D	D	D	
Approach Delay (s)			57.3			85.2				54.0		
Approach LOS			E			F				D		

Intersection Summary			
HCM 2000 Control Delay	66.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1687			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1687			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	126	0
Lane Group Flow (vph)	0	218	210	0	0	62	95	0
Confl. Peds. (#/hr)	18	19		35	18	16	35	19
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.0	20.6	
Effective Green, g (s)		24.5	24.5			6.0	20.6	
Actuated g/C Ratio		0.18	0.18			0.04	0.15	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	295			76	414	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.82	0.23	
Uniform Delay, d1		54.7	54.4			66.5	52.7	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.6			45.8	0.2	
Delay (s)		62.5	61.0			112.3	52.9	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.9		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	8.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	47	1313
Future Vol, veh/h	120	0	0	0	47	1313
Conflicting Peds, #/hr	75	153	0	75	153	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	52	1443

Major/Minor	Minor1		Major2	
Conflicting Flow All	1053	-	153	0
Stage 1	153	-	-	-
Stage 2	900	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	215	0	1433	-
Stage 1	-	0	-	-
Stage 2	348	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	153	-	1433	-
Mov Cap-2 Maneuver	153	-	-	-
Stage 1	-	-	-	-
Stage 2	284	-	-	-

Approach	WB	SB
HCM Control Delay, s	97.9	0.8
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	153	1433	-
HCM Lane V/C Ratio	0.862	0.036	-
HCM Control Delay (s)	97.9	7.6	0.6
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	5.8	0.1	-

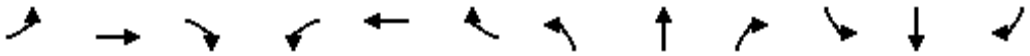
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	0	1393	40
Future Vol, veh/h	0	69	0	0	1393	40
Conflicting Peds, #/hr	277	151	151	0	0	277
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	75	0	0	1514	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1207	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	175	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	135	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	60.8	0
HCM LOS	F	

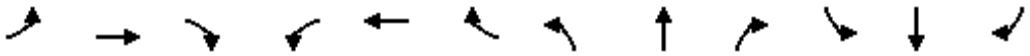
Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	135	-	-
HCM Lane V/C Ratio	0.556	-	-
HCM Control Delay (s)	60.8	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	2.7	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	37	0	0	90	110	20	1188	60	0	0	0
Future Volume (vph)	45	37	0	0	90	110	20	1188	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1771			1537			3473				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1465			1537			3473				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	40	0	0	98	120	22	1291	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	89	0	0	213	0	0	1371	0	0	0	0
Confl. Peds. (#/hr)	117		79	79		117	55		61	61		55
Confl. Bikes (#/hr)			7			10			79			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			645			1423				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.06						0.39				
v/c Ratio		0.14			0.33			0.96				
Uniform Delay, d1		9.0			9.8			14.4				
Progression Factor		0.81			0.87			0.74				
Incremental Delay, d2		0.5			1.4			14.4				
Delay (s)		7.7			9.9			24.9				
Level of Service		A			A			C				
Approach Delay (s)		7.7			9.9			24.9			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

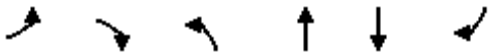
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	7	70	5	65	10	215	80	75	267	30
Future Volume (vph)	60	15	7	70	5	65	10	215	80	75	267	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.84			0.83			0.95	
Flpb, ped/bikes		0.82			0.78			0.99			0.93	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1392			1137			1396			1546	
Flt Permitted		0.75			0.83			0.99			0.88	
Satd. Flow (perm)		1084			967			1379			1367	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	8	75	5	70	11	231	86	81	287	32
RTOR Reduction (vph)	0	5	0	0	17	0	0	25	0	0	6	0
Lane Group Flow (vph)	0	84	0	0	133	0	0	303	0	0	394	0
Confl. Peds. (#/hr)	179		298	298		179	690		591	591		690
Confl. Bikes (#/hr)			2			3			63			25
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		16.0			16.0			25.5			25.5	
Effective Green, g (s)		16.0			16.0			25.5			25.5	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		346			309			703			697	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.14			0.22			c0.29	
v/c Ratio		0.24			0.43			0.43			0.56	
Uniform Delay, d1		12.5			13.4			7.7			8.4	
Progression Factor		0.76			0.55			0.97			1.12	
Incremental Delay, d2		1.2			4.2			1.8			2.8	
Delay (s)		10.7			11.6			9.3			12.3	
Level of Service		B			B			A			B	
Approach Delay (s)		10.7			11.6			9.3			12.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

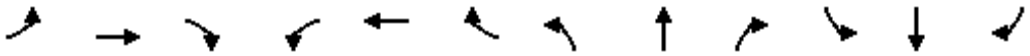
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	690	600	85
Future Volume (vph)	110	75	55	690	600	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.87			1.00	1.00	0.64
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1493			3327	3343	950
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1493			2914	3343	950
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	726	632	89
RTOR Reduction (vph)	49	0	0	0	0	45
Lane Group Flow (vph)	146	0	0	784	632	44
Confl. Peds. (#/hr)	262	361	182			182
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	492			1427	1638	465
v/s Ratio Prot	c0.10				0.19	
v/s Ratio Perm				c0.27		0.05
v/c Ratio	0.30			0.55	0.39	0.09
Uniform Delay, d1	12.4			8.9	8.0	6.8
Progression Factor	1.15			1.35	1.11	1.35
Incremental Delay, d2	1.4			1.4	0.6	0.3
Delay (s)	15.7			13.4	9.4	9.6
Level of Service	B			B	A	A
Approach Delay (s)	15.7			13.4	9.5	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	117	12	5	10	22	249	0	55	15	258	65	108
Future Volume (vph)	117	12	5	10	22	249	0	55	15	258	65	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	127	13	5	11	24	271	0	60	16	280	71	117

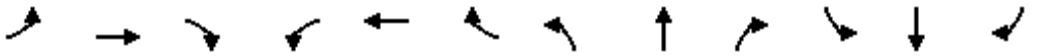
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	145	306	30	46	316	153
Volume Left (vph)	127	11	0	0	280	0
Volume Right (vph)	5	271	0	16	0	117
Hadj (s)	0.15	-0.52	0.44	0.20	0.53	-0.45
Departure Headway (s)	6.0	5.1	7.0	6.7	6.4	5.4
Degree Utilization, x	0.24	0.43	0.06	0.09	0.56	0.23
Capacity (veh/h)	553	666	457	481	540	635
Control Delay (s)	10.9	11.9	9.2	9.1	16.2	8.9
Approach Delay (s)	10.9	11.9	9.2		13.8	
Approach LOS	B	B	A		B	

Intersection Summary				
Delay	12.4			
Level of Service	B			
Intersection Capacity Utilization	69.2%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	115	104	5	67	215	102	839	5	67	594	139
Future Volume (veh/h)	178	115	104	5	67	215	102	839	5	67	594	139
Number	3	8	18	7	4	14	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		0.90	0.97		0.84	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	187	121	109	5	71	226	107	883	5	71	625	146
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	227	529	413	38	315	216	364	2013	11	90	1136	265
Arrive On Green	0.10	0.31	0.31	0.18	0.18	0.18	0.20	0.55	0.55	0.05	0.40	0.40
Sat Flow, veh/h	1707	1728	1348	57	1732	1187	1810	3680	21	1792	2865	668
Grp Volume(v), veh/h	187	119	111	76	0	226	107	433	455	71	389	382
Grp Sat Flow(s),veh/h/ln	1707	1703	1374	1788	0	1187	1810	1805	1896	1792	1787	1746
Q Serve(g_s), s	12.1	7.3	8.5	0.0	0.0	25.5	7.0	20.0	20.0	5.5	23.5	23.6
Cycle Q Clear(g_c), s	12.1	7.3	8.5	4.9	0.0	25.5	7.0	20.0	20.0	5.5	23.5	23.6
Prop In Lane	1.00		0.98	0.07		1.00	1.00		0.01	1.00		0.38
Lane Grp Cap(c), veh/h	227	521	421	575	0	216	364	987	1037	90	708	692
V/C Ratio(X)	0.83	0.23	0.26	0.13	0.00	1.05	0.29	0.44	0.44	0.79	0.55	0.55
Avail Cap(c_a), veh/h	320	614	495	575	0	216	364	987	1037	198	708	692
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	0.98	0.00	0.98	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	36.2	36.7	48.8	0.0	57.3	47.5	18.9	18.9	65.7	32.6	32.6
Incr Delay (d2), s/veh	11.4	0.2	0.3	0.0	0.0	72.9	0.1	1.2	1.2	5.6	3.1	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.5	3.3	2.1	0.0	12.7	3.5	10.3	10.8	2.9	12.2	11.9
LnGrp Delay(d),s/veh	52.8	36.4	37.0	48.9	0.0	130.2	47.6	20.1	20.0	71.3	35.7	35.8
LnGrp LOS	D	D	D	D		F	D	C	C	E	D	D
Approach Vol, veh/h		417			302			995			842	
Approach Delay, s/veh		43.9			109.7			23.0			38.7	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	81.1	17.4	30.0	32.6	60.0		47.4
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	60.5	22.0	25.5	20.5	55.5		50.5
Max Q Clear Time (g_c+I1), s	7.5	22.0	14.1	27.5	9.0	25.6		10.5
Green Ext Time (p_c), s	0.0	5.8	0.3	0.0	3.3	0.7		3.3

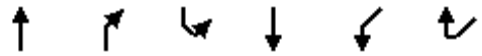
Intersection Summary	
HCM 2010 Ctrl Delay	41.8
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	20	0	44	28	71	0	1506	62	19	545	274
Future Volume (vph)	152	20	0	44	28	71	0	1506	62	19	545	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		0.99			1.00	0.85
Flt Protected	0.95	0.96			0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1640			3274	1509		3549			3533	1537
Flt Permitted	0.70	0.72			0.70	1.00		1.00			0.85	1.00
Satd. Flow (perm)	1199	1229			2351	1509		3549			2999	1537
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	162	21	0	47	30	76	0	1602	66	20	580	291
RTOR Reduction (vph)	0	0	0	0	0	54	0	1	0	0	0	50
Lane Group Flow (vph)	91	92	0	0	77	22	0	1667	0	0	600	241
Confl. Peds. (#/hr)							7		2	2		7
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2				1		1
Actuated Green, G (s)	15.0	15.0			15.0	15.0		116.0			116.0	116.0
Effective Green, g (s)	15.0	15.0			15.0	15.0		116.0			116.0	116.0
Actuated g/C Ratio	0.11	0.11			0.11	0.11		0.83			0.83	0.83
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	128	131			251	161		2940			2484	1273
v/s Ratio Prot								c0.47				
v/s Ratio Perm	c0.08	0.07			0.03	0.01					0.20	0.16
v/c Ratio	0.71	0.70			0.31	0.13		0.57			0.24	0.19
Uniform Delay, d1	60.4	60.3			57.7	56.6		3.9			2.6	2.4
Progression Factor	0.55	0.55			1.00	1.00		1.05			0.49	0.48
Incremental Delay, d2	14.1	12.7			0.3	0.1		0.6			0.2	0.3
Delay (s)	47.3	46.1			58.0	56.8		4.7			1.5	1.5
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		46.7			57.4			4.7			1.5	
Approach LOS		D			E			A			A	

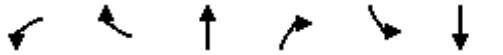
Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	921	1508	0	698	629	0
Future Volume (vph)	921	1508	0	698	629	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	949	1555	0	720	648	0
RTOR Reduction (vph)	0	741	0	0	0	0
Lane Group Flow (vph)	949	814	0	720	648	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	73.3	73.3		73.3	57.7	
Effective Green, g (s)	73.3	73.3		73.3	57.7	
Actuated g/C Ratio	0.52	0.52		0.52	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1871	1473		1890	1414	
v/s Ratio Prot	0.27			0.20	c0.19	
v/s Ratio Perm		c0.29				
v/c Ratio	0.51	0.55		0.38	0.46	
Uniform Delay, d1	21.6	22.4		19.8	29.8	
Progression Factor	1.00	1.00		0.37	0.62	
Incremental Delay, d2	0.1	0.3		0.0	1.1	
Delay (s)	21.7	22.6		7.5	19.6	
Level of Service	C	C		A	B	
Approach Delay (s)	22.3			7.5	19.6	
Approach LOS	C			A	B	

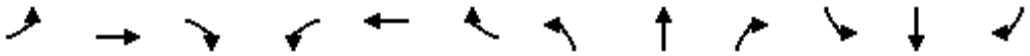
Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	153	1359
Future Volume (veh/h)	100	0	0	0	153	1359
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			166	1477
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			346	2916
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				318	3139
Grp Volume(v), veh/h	0.0				871	772
Grp Sat Flow(s),veh/h/ln					1761	1610
Q Serve(g_s), s					35.4	39.0
Cycle Q Clear(g_c), s					40.3	39.0
Prop In Lane					0.19	
Lane Grp Cap(c), veh/h					1725	1538
V/C Ratio(X)					0.50	0.50
Avail Cap(c_a), veh/h					1725	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					15.2	14.9
Incr Delay (d2), s/veh					1.1	1.2
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					20.2	17.9
LnGrp Delay(d),s/veh					16.3	16.1
LnGrp LOS					B	B
Approach Vol, veh/h						1643
Approach Delay, s/veh						16.2
Approach LOS						B

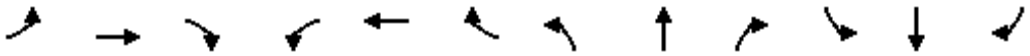
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		42.3						
Green Ext Time (p_c), s		2.1						

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	98	0	0	70	182	25	1006	90	0	0	0
Future Volume (vph)	60	98	0	0	70	182	25	1006	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.85			0.98				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.90			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1782			1438			3430				
Flt Permitted		0.71			1.00			1.00				
Satd. Flow (perm)		1281			1438			3430				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	108	0	0	77	200	27	1105	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	30	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	174	0	0	247	0	0	1220	0	0	0	0
Confl. Peds. (#/hr)	200		131	131		200	28		72	72		28
Confl. Bikes (#/hr)			9			26			95			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		12.4			12.4			29.1				
Effective Green, g (s)		12.4			12.4			29.1				
Actuated g/C Ratio		0.25			0.25			0.58				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		317			356			1996				
v/s Ratio Prot					c0.17							
v/s Ratio Perm		0.14						0.36				
v/c Ratio		0.55			0.69			0.61				
Uniform Delay, d1		16.4			17.1			6.8				
Progression Factor		1.02			1.14			1.00				
Incremental Delay, d2		0.8			4.6			1.4				
Delay (s)		17.5			24.1			8.2				
Level of Service		B			C			A				
Approach Delay (s)		17.5			24.1			8.2			0.0	
Approach LOS		B			C			A			A	

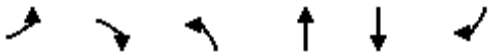
Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	118	23	10	64	25	30	230	15	15	249	40
Future Volume (vph)	35	118	23	10	64	25	30	230	15	15	249	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.84			0.96			0.90	
Flpb, ped/bikes		0.90			0.95			0.95			0.98	
Frt		0.98			0.97			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1524			1465			1609			1561	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1440			1427			1530			1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	126	24	11	68	27	32	245	16	16	265	43
RTOR Reduction (vph)	0	2	0	0	7	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	185	0	0	99	0	0	291	0	0	321	0
Confl. Peds. (#/hr)	607		666	666		607	921		695	695		921
Confl. Bikes (#/hr)			26			34			81			29
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		489			485			749			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.13			0.07			0.19			c0.21	
v/c Ratio		0.38			0.20			0.39			0.43	
Uniform Delay, d1		12.5			11.7			8.0			8.2	
Progression Factor		1.32			0.48			0.82			1.21	
Incremental Delay, d2		1.9			0.9			1.5			1.5	
Delay (s)		18.4			6.5			8.0			11.5	
Level of Service		B			A			A			B	
Approach Delay (s)		18.4			6.5			8.0			11.5	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	88	44	650	630	45
Future Volume (vph)	95	88	44	650	630	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.83		1.00	1.00	0.96	
Flpb, ped/bikes	1.00		0.84	1.00	1.00	
Frt	0.93		1.00	1.00	0.99	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1444		1397	3343	3163	
Flt Permitted	0.97		0.32	1.00	1.00	
Satd. Flow (perm)	1444		475	3343	3163	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	96	48	707	685	49
RTOR Reduction (vph)	14	0	0	0	10	0
Lane Group Flow (vph)	185	0	48	707	724	0
Confl. Peds. (#/hr)	736	522	298			298
Confl. Bikes (#/hr)		6				17
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	19.0		22.5	22.5	22.5	
Effective Green, g (s)	19.0		22.5	22.5	22.5	
Actuated g/C Ratio	0.38		0.45	0.45	0.45	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	548		213	1504	1423	
v/s Ratio Prot	c0.13			0.21	c0.23	
v/s Ratio Perm			0.10			
v/c Ratio	0.34		0.23	0.47	0.51	
Uniform Delay, d1	11.0		8.4	9.6	9.8	
Progression Factor	0.69		0.96	1.05	1.13	
Incremental Delay, d2	1.6		2.4	1.0	1.2	
Delay (s)	9.2		10.5	11.1	12.3	
Level of Service	A		B	B	B	
Approach Delay (s)	9.2			11.0	12.3	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

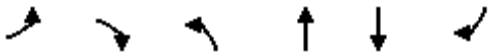
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	150	156	0	65	133	0	94	85
Future Vol, veh/h	0	150	156	0	65	133	0	94	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	170	177	0	74	151	0	107	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	12.2	9.9	11
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	49%	53%
Vol Thru, %	33%	0%	47%
Vol Right, %	67%	51%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	198	306	179
LT Vol	0	150	94
Through Vol	65	0	85
RT Vol	133	156	0
Lane Flow Rate	225	348	203
Geometry Grp	1	1	1
Degree of Util (X)	0.299	0.468	0.307
Departure Headway (Hd)	4.783	4.84	5.44
Convergence, Y/N	Yes	Yes	Yes
Cap	743	737	653
Service Time	2.87	2.914	3.531
HCM Lane V/C Ratio	0.303	0.472	0.311
HCM Control Delay	9.9	12.2	11
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.3	2.5	1.3

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	129	15	85	5	278	128	333	129	240
Future Volume (vph)	129	15	85	5	278	128	333	129	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1517		1742	1780		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1517		1742	1780		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	142	16	93	5	305	141	366	142	264
RTOR Reduction (vph)	0	76	0	0	18	0	0	72	0
Lane Group Flow (vph)	142	33	0	5	428	0	366	334	0
Confl. Peds. (#/hr)			54	13					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	14.1	14.1		24.9	24.9		23.0	23.0	
Effective Green, g (s)	14.1	14.1		24.9	24.9		23.0	23.0	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	324	277		563	575		518	463	
v/s Ratio Prot	c0.08	0.02			c0.24		0.21		
v/s Ratio Perm				0.00				c0.22	
v/c Ratio	0.44	0.12		0.01	0.75		0.71	0.72	
Uniform Delay, d1	27.9	26.3		17.7	23.2		24.0	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.2		0.0	6.2		5.5	6.7	
Delay (s)	28.9	26.5		17.7	29.5		29.5	30.9	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		27.8			29.3		30.2		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	77.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	262	0	0	1349	165
Future Volume (vph)	0	262	0	0	1349	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.74
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1164
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1164
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	273	0	0	1405	172
RTOR Reduction (vph)	0	22	0	0	0	25
Lane Group Flow (vph)	0	251	0	0	1405	147
Confl. Peds. (#/hr)	178		117			117
Confl. Bikes (#/hr)		2				38
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		20.2			70.3	70.3
Effective Green, g (s)		20.2			70.3	70.3
Actuated g/C Ratio		0.20			0.70	0.70
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		319			2487	818
v/s Ratio Prot		c0.16			c0.40	
v/s Ratio Perm						0.13
v/c Ratio		0.79			0.56	0.18
Uniform Delay, d1		37.8			7.3	5.0
Progression Factor		1.00			0.46	0.39
Incremental Delay, d2		11.1			0.7	0.4
Delay (s)		49.0			4.1	2.4
Level of Service		D			A	A
Approach Delay (s)	49.0			0.0	3.9	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	49.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	158	1458
Future Vol, veh/h	115	0	0	0	158	1458
Conflicting Peds, #/hr	15	31	0	15	31	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	166	1535

Major/Minor	Minor1		Major2	
Conflicting Flow All	1146	-	31	0
Stage 1	31	-	-	-
Stage 2	1115	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	196	0	1580	-
Stage 1	-	0	-	-
Stage 2	280	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 55	-	1580	-
Mov Cap-2 Maneuver	~ 55	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 80	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 711.9	2.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	55	1580	-
HCM Lane V/C Ratio	2.201	0.105	-
HCM Control Delay (s)	$ 711.9	7.5	2.2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	12	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	347.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	45	15	20	95	25	22	25	5	20	80	51
Future Vol, veh/h	10	45	15	20	95	25	22	25	5	20	80	51
Conflicting Peds, #/hr	416	0	450	424	0	390	450	0	424	390	0	416
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	12	54	18	24	113	30	26	30	6	24	95	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1196	1135	1026	1168	1163	873	606	0	0	460	0	0
Stage 1	623	623	-	509	509	-	-	-	-	-	-	-
Stage 2	573	512	-	659	654	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	161	201	282	164	188	338	982	-	-	1112	-	-
Stage 1	470	475	-	532	525	-	-	-	-	-	-	-
Stage 2	501	533	-	440	451	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	75	110	~ 22	~ 70	143	614	-	-	727	-	-
Mov Cap-2 Maneuver	-	75	-	~ 22	~ 70	-	-	-	-	-	-	-
Stage 1	281	286	-	329	325	-	-	-	-	-	-	-
Stage 2	162	330	-	180	272	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 1021.1	4.7	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	614	-	-	-	57	727	-	-
HCM Lane V/C Ratio	0.043	-	-	-	2.924	0.033	-	-
HCM Control Delay (s)	11.1	0	-	$ 1021.1	10.1	0	-	
HCM Lane LOS	B	A	-	-	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	17.3	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	50	20	0	35	75	25	0	60	270	15
Future Vol, veh/h	0	5	50	20	0	35	75	25	0	60	270	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	56	22	0	39	84	28	0	67	303	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.5	10.2	13.6
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	7%	26%	11%
Vol Thru, %	78%	67%	56%	80%
Vol Right, %	4%	27%	19%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	345	75	135	178
LT Vol	60	5	35	20
Through Vol	270	50	75	143
RT Vol	15	20	25	15
Lane Flow Rate	388	84	152	200
Geometry Grp	1	1	1	1
Degree of Util (X)	0.537	0.131	0.233	0.296
Departure Headway (Hd)	4.989	5.599	5.52	5.323
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	640	651	676
Service Time	2.989	3.64	3.557	3.353
HCM Lane V/C Ratio	0.532	0.131	0.233	0.296
HCM Control Delay	13.6	9.5	10.2	10.6
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.2	0.4	0.9	1.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	143	15
Future Vol, veh/h	0	20	143	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	161	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.6
HCM LOS	B

Intersection	
Int Delay, s/veh	0

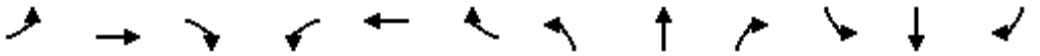
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	50	20	43	75	30	10	240	17	35	242	35
Future Vol, veh/h	10	50	20	43	75	30	10	240	17	35	242	35
Conflicting Peds, #/hr	1155	0	1256	1313	0	1212	1256	0	1313	1212	0	1155
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	56	22	48	84	34	11	270	19	39	272	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3199	3250	2861	3338	3261	2804	1567	0	0	1602	0	0
Stage 1	1626	1626	-	1615	1615	-	-	-	-	-	-	-
Stage 2	1573	1624	-	1723	1646	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	~ 6	~ 9	~ 22	~ 5	~ 9	~ 24	391	-	-	397	-	-
Stage 1	130	162	-	132	164	-	-	-	-	-	-	-
Stage 2	140	163	-	114	159	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	0	-	0	0	~ -37	-	-	~ -4	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 6	~ -8	-	~ 12	~ -15	-	-	-	-	-	-	-
Stage 2	927	~ -15	-	915	~ -7	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	-	-	+	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	15	48	70	35	105	41	553	90	90	565	63
Future Volume (vph)	41	15	48	70	35	105	41	553	90	90	565	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.87			1.00	0.60	1.00	1.00	0.48	1.00	0.94	
Flpb, ped/bikes		0.87			0.87	1.00	0.79	1.00	1.00	0.79	1.00	
Frt		0.94			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1328			1586	955	1316	3343	721	1329	3128	
Flt Permitted		0.85			0.72	1.00	0.38	1.00	1.00	0.42	1.00	
Satd. Flow (perm)		1148			1184	955	527	3343	721	584	3128	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	16	52	76	38	114	45	601	98	98	614	68
RTOR Reduction (vph)	0	37	0	0	0	89	0	0	26	0	2	0
Lane Group Flow (vph)	0	76	0	0	114	25	45	601	72	98	680	0
Confl. Peds. (#/hr)	551		182	182		551	375		217	217		375
Confl. Bikes (#/hr)			11			3			17			11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Effective Green, g (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		212			219	176	384	2440	526	426	2283	
v/s Ratio Prot								0.18			c0.22	
v/s Ratio Perm		0.07			c0.10	0.03	0.09		0.10	0.17		
v/c Ratio		0.36			0.52	0.14	0.12	0.25	0.14	0.23	0.30	
Uniform Delay, d1		35.6			36.8	34.1	4.0	4.4	4.0	4.4	4.7	
Progression Factor		0.95			1.00	1.00	0.57	0.54	0.50	0.62	0.60	
Incremental Delay, d2		1.0			2.2	0.4	0.6	0.2	0.5	1.1	0.3	
Delay (s)		34.9			39.0	34.5	2.9	2.7	2.6	3.8	3.1	
Level of Service		C			D	C	A	A	A	A	A	
Approach Delay (s)		34.9			36.7			2.7			3.2	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	95.3
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	235	340	25	0	5	266	265
Future Vol, veh/h	0	95	185	15	0	235	340	25	0	5	266	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	240	347	26	0	5	271	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	34.6	216.9	26.9
HCM LOS	D	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	6%
Vol Thru, %	98%	0%	63%	57%	53%
Vol Right, %	0%	100%	5%	4%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	271	265	295	600	319
LT Vol	5	0	95	235	20
Through Vol	266	0	185	340	169
RT Vol	0	265	15	25	130
Lane Flow Rate	277	270	301	612	326
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.664	0.596	0.724	1.4	0.76
Departure Headway (Hd)	9.732	8.989	9.771	8.23	9.637
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	373	406	373	441	378
Service Time	7.432	6.689	7.771	6.33	7.637
HCM Lane V/C Ratio	0.743	0.665	0.807	1.388	0.862
HCM Control Delay	29.7	24.1	34.6	216.9	37.5
HCM Lane LOS	D	C	D	F	E
HCM 95th-tile Q	4.6	3.7	5.5	29.3	6.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	169	130
Future Vol, veh/h	0	20	169	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	172	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	37.5
HCM LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	305	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	305	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	79	87	0	79
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	332	0	0	27	0	0

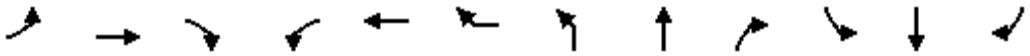
Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	0	411	419	
Stage 1	-	-	-	-	-	-	332	-	
Stage 2	-	-	-	-	-	-	79	-	
Critical Hdwy	-	-	-	-	-	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3	
Pot Cap-1 Maneuver	0	0	-	0	-	0	601	638	
Stage 1	0	0	-	0	-	0	731	-	
Stage 2	0	0	-	0	-	0	-	-	
Platoon blocked, %			-		-				
Mov Cap-1 Maneuver	-	-	-	-	-	-	601	592	
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	-	
Stage 1	-	-	-	-	-	-	731	-	
Stage 2	-	-	-	-	-	-	-	-	

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	592
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	11.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	857	423	86	1457	0	0
Future Volume (vph)	0	0	857	423	86	1457	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.92	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1464	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1464	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	912	450	91	1550	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	912	450	91	1550	0	0
Confl. Peds. (#/hr)	17	15		17	15			
Confl. Bikes (#/hr)				156				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.2	36.2	13.1	58.3		
Effective Green, g (s)			36.2	36.2	13.1	58.3		
Actuated g/C Ratio			0.62	0.62	0.22	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2197	909	393	3505		
v/s Ratio Prot			0.26		0.05	c0.44		
v/s Ratio Perm				0.31				
v/c Ratio			0.42	0.50	0.23	0.44		
Uniform Delay, d1			5.6	6.0	18.5	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.2	0.1	0.0		
Delay (s)			5.7	6.2	18.6	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.9			1.1	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



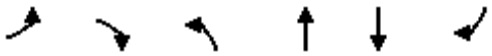
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	341	171	10	320	15	107	280	20	10	113	75
Future Volume (vph)	50	341	171	10	320	15	107	280	20	10	113	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.95			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3363			3512			1826			1763	
Flt Permitted		0.88			0.93			0.85			0.98	
Satd. Flow (perm)		2963			3286			1576			1726	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	375	188	11	352	16	118	308	22	11	124	82
RTOR Reduction (vph)	0	49	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	569	0	0	379	0	0	446	0	0	217	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1111			1232			843			923	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.12			c0.28			0.13	
v/c Ratio		0.51			0.31			0.53			0.24	
Uniform Delay, d1		24.2			22.1			15.1			12.4	
Progression Factor		1.00			0.92			1.00			1.00	
Incremental Delay, d2		1.7			0.6			2.4			0.6	
Delay (s)		25.9			21.0			17.5			13.0	
Level of Service		C			C			B			B	
Approach Delay (s)		25.9			21.0			17.5			13.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	270	19	5	207	10	38	190	25	20	190	90
Future Volume (veh/h)	82	270	19	5	207	10	38	190	25	20	190	90
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	89	293	21	5	225	11	41	207	27	22	207	98
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	1127	83	50	1611	78	119	573	71	63	491	221
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	601	2324	171	27	3322	160	182	1349	167	59	1155	520
Grp Volume(v), veh/h	198	0	205	126	0	115	275	0	0	327	0	0
Grp Sat Flow(s),veh/h/ln	1430	0	1665	1842	0	1667	1698	0	0	1734	0	0
Q Serve(g_s), s	2.9	0.0	5.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	5.2	3.7	0.0	3.8	10.2	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.45		0.10	0.04		0.10	0.15		0.10	0.07		0.30
Lane Grp Cap(c), veh/h	746	0	808	931	0	808	763	0	0	775	0	0
V/C Ratio(X)	0.27	0.00	0.25	0.14	0.00	0.14	0.36	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	746	0	808	931	0	808	763	0	0	775	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	10.1	14.2	0.0	14.2	19.5	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.3	0.0	0.4	1.3	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.5	2.0	0.0	1.8	5.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	11.1	0.0	10.8	14.5	0.0	14.6	20.8	0.0	0.0	6.3	0.0	0.0
LnGrp LOS	B		B	B		B	C			A		
Approach Vol, veh/h		403			241			275			327	
Approach Delay, s/veh		11.0			14.6			20.8			6.3	
Approach LOS		B			B			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.8		12.2		8.7		6.4
Green Ext Time (p_c), s		0.7		0.7		0.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	82	524	553	135
Future Volume (vph)	160	150	82	524	553	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.87	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2940		1423	3252	2975	
Flt Permitted	0.97		0.35	1.00	1.00	
Satd. Flow (perm)	2940		521	3252	2975	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	85	546	576	141
RTOR Reduction (vph)	0	0	0	0	21	0
Lane Group Flow (vph)	323	0	85	546	696	0
Confl. Peds. (#/hr)	6	3	383			383
Confl. Bikes (#/hr)						11
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	30.5		59.0	59.0	59.0	
Effective Green, g (s)	30.5		59.0	59.0	59.0	
Actuated g/C Ratio	0.30		0.59	0.59	0.59	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	896		307	1918	1755	
v/s Ratio Prot	c0.11			0.17	c0.23	
v/s Ratio Perm			0.16			
v/c Ratio	0.36		0.28	0.28	0.40	
Uniform Delay, d1	27.1		10.0	10.1	11.0	
Progression Factor	0.72		0.50	0.53	0.47	
Incremental Delay, d2	1.1		2.0	0.3	0.7	
Delay (s)	20.6		7.0	5.7	5.8	
Level of Service	C		A	A	A	
Approach Delay (s)	20.6			5.8	5.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	131.8
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	287	0	133	315	0	409	206
Future Vol, veh/h	0	330	287	0	133	315	0	409	206
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	312	0	145	342	0	445	224
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	152.2	61.4	162.6
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	67%	0%	30%
Vol Thru, %	0%	53%	70%
Vol Right, %	33%	47%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	615	617	448
LT Vol	409	0	133
Through Vol	0	330	315
RT Vol	206	287	0
Lane Flow Rate	668	671	487
Geometry Grp	1	1	1
Degree of Util (X)	1.277	1.249	0.955
Departure Headway (Hd)	7.319	7.48	8.219
Convergence, Y/N	Yes	Yes	Yes
Cap	501	490	443
Service Time	5.319	5.48	6.219
HCM Lane V/C Ratio	1.333	1.369	1.099
HCM Control Delay	162.6	152.2	61.4
HCM Lane LOS	F	F	F
HCM 95th-tile Q	26.1	24.3	11.4

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	53	56	0	50	41	50	0	35	262	25
Future Vol, veh/h	0	95	53	56	0	50	41	50	0	35	262	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	107	60	63	0	56	46	56	0	39	294	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.3	11.9	17
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	47%	35%	3%
Vol Thru, %	81%	26%	29%	77%
Vol Right, %	8%	27%	35%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	322	204	141	289
LT Vol	35	95	50	10
Through Vol	262	53	41	222
RT Vol	25	56	50	57
Lane Flow Rate	362	229	158	325
Geometry Grp	1	1	1	1
Degree of Util (X)	0.59	0.396	0.279	0.522
Departure Headway (Hd)	5.873	6.213	6.341	5.782
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	578	566	627
Service Time	3.886	4.261	4.395	3.795
HCM Lane V/C Ratio	0.585	0.396	0.279	0.518
HCM Control Delay	17	13.3	11.9	14.9
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.8	1.9	1.1	3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	10	222	57
Future Vol, veh/h	0	10	222	57
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	249	64
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.9
HCM LOS	B

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	68	10	0	35	111	25	0	5	213	16
Future Vol, veh/h	0	20	68	10	0	35	111	25	0	5	213	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	78	11	0	40	128	29	0	6	245	18
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

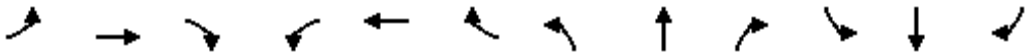
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.8	10.8	11.4
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	20%	20%	2%
Vol Thru, %	91%	69%	65%	89%
Vol Right, %	7%	10%	15%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	234	98	171	219
LT Vol	5	20	35	5
Through Vol	213	68	111	194
RT Vol	16	10	25	20
Lane Flow Rate	269	113	197	252
Geometry Grp	1	1	1	1
Degree of Util (X)	0.386	0.175	0.297	0.358
Departure Headway (Hd)	5.163	5.602	5.441	5.126
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	640	660	702
Service Time	3.193	3.642	3.476	3.159
HCM Lane V/C Ratio	0.386	0.177	0.298	0.359
HCM Control Delay	11.4	9.8	10.8	11
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.8	0.6	1.2	1.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	194	20
Future Vol, veh/h	0	5	194	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	223	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11
HCM LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	32	26	112	109	149	23	426	54	92	572	34
Future Volume (vph)	31	32	26	112	109	149	23	426	54	92	572	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.84			1.00	0.57	1.00	0.96		1.00	0.98	
Flpb, ped/bikes		0.91			0.78	1.00	0.90	1.00		0.86	1.00	
Frt		0.96			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1344			1307	836	1489	3126		1427	3224	
Flt Permitted		0.86			0.82	1.00	0.26	1.00		0.35	1.00	
Satd. Flow (perm)		1179			1096	836	401	3126		527	3224	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	34	27	118	115	157	24	448	57	97	602	36
RTOR Reduction (vph)	0	15	0	0	0	110	0	10	0	0	4	0
Lane Group Flow (vph)	0	79	0	0	233	47	24	495	0	97	634	0
Confl. Peds. (#/hr)	825		1636	1636		825	184		194	194		184
Confl. Bikes (#/hr)			223			90			26			12
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		30.0			30.0	30.0	30.5	30.5		30.5	30.5	
Effective Green, g (s)		30.0			30.0	30.0	30.5	30.5		30.5	30.5	
Actuated g/C Ratio		0.30			0.30	0.30	0.30	0.30		0.30	0.30	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		353			328	250	122	953		160	983	
v/s Ratio Prot								0.16			c0.20	
v/s Ratio Perm		0.07			c0.21	0.06	0.06			0.18		
v/c Ratio		0.22			0.71	0.19	0.20	0.52		0.61	0.64	
Uniform Delay, d1		26.3			31.1	26.0	25.7	28.7		29.6	30.1	
Progression Factor		1.00			1.00	1.00	1.19	1.14		0.71	0.70	
Incremental Delay, d2		1.5			12.3	1.7	3.0	1.7		15.0	3.1	
Delay (s)		27.7			43.4	27.6	33.7	34.5		36.1	24.2	
Level of Service		C			D	C	C	C		D	C	
Approach Delay (s)		27.7			37.1			34.5			25.7	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	153	0	15	20	0	260	5
Future Vol, veh/h	0	5	153	0	15	20	0	260	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	178	0	17	23	0	302	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	11.2
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	3%	57%
Vol Right, %	2%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	265	158	35
LT Vol	260	0	15
Through Vol	0	5	20
RT Vol	5	153	0
Lane Flow Rate	308	184	41
Geometry Grp	1	1	1
Degree of Util (X)	0.413	0.222	0.056
Departure Headway (Hd)	4.827	4.351	4.99
Convergence, Y/N	Yes	Yes	Yes
Cap	746	825	717
Service Time	2.859	2.374	3.025
HCM Lane V/C Ratio	0.413	0.223	0.057
HCM Control Delay	11.2	8.6	8.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2	0.8	0.2

Intersection	
Intersection Delay, s/veh	101.6
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	519	480	0	135	591	0	360	60
Future Vol, veh/h	0	519	480	0	135	591	0	360	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	546	505	0	142	622	0	379	63
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	106.2	124.4	51.2
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	591	519	480	360	60
LT Vol	0	0	519	0	360	0
Through Vol	135	0	0	0	0	60
RT Vol	0	591	0	480	0	0
Lane Flow Rate	142	622	546	505	379	63
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.312	1.243	1.231	0.966	0.916	0.144
Departure Headway (Hd)	8.184	7.458	8.561	7.322	9.251	8.731
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	442	491	426	500	394	413
Service Time	5.884	5.158	6.261	5.022	6.951	6.431
HCM Lane V/C Ratio	0.321	1.267	1.282	1.01	0.962	0.153
HCM Control Delay	14.6	149.5	149.5	59.3	57.6	12.9
HCM Lane LOS	B	F	F	F	F	B
HCM 95th-tile Q	1.3	24	21.3	12.3	9.7	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	911	5	0	964	5	0
Future Volume (vph)	911	5	0	964	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	1.00	
Flt Protected	1.00			1.00	0.95	
Satd. Flow (prot)	1860			1881	1770	
Flt Permitted	1.00			1.00	0.95	
Satd. Flow (perm)	1860			1881	1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	980	5	0	1037	5	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	985	0	0	1037	5	0
Confl. Peds. (#/hr)		34	34		28	18
Confl. Bikes (#/hr)		5				17
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	74.0			74.0	16.0	
Effective Green, g (s)	74.0			74.0	16.0	
Actuated g/C Ratio	0.74			0.74	0.16	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	0.2			0.2	2.0	
Lane Grp Cap (vph)	1376			1391	283	
v/s Ratio Prot	0.53			c0.55	c0.00	
v/s Ratio Perm						
v/c Ratio	0.72			0.75	0.02	
Uniform Delay, d1	7.2			7.5	35.4	
Progression Factor	1.00			1.21	1.00	
Incremental Delay, d2	3.2			3.0	0.0	
Delay (s)	10.4			12.1	35.4	
Level of Service	B			B	D	
Approach Delay (s)	10.4			12.1	35.4	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

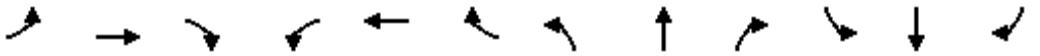
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	1054	12	30	789	88	51	80	25	93	30	210
Future Volume (veh/h)	184	1054	12	30	789	88	51	80	25	93	30	210
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.89	1.00		0.79	1.00		0.83
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	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	200	1146	13	33	858	96	55	87	27	101	33	228
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	346	1734	20	138	1180	132	88	177	55	208	36	248
Arrive On Green	0.20	0.49	0.49	0.15	0.74	0.74	0.05	0.14	0.14	0.12	0.21	0.21
Sat Flow, veh/h	1757	3546	40	1792	3197	358	1707	1226	380	1740	169	1167
Grp Volume(v), veh/h	200	566	593	33	480	474	55	0	114	101	0	261
Grp Sat Flow(s),veh/h/ln	1757	1752	1833	1792	1787	1768	1707	0	1606	1740	0	1336
Q Serve(g_s), s	10.3	24.4	24.4	1.6	15.2	15.2	3.2	0.0	6.5	5.4	0.0	19.1
Cycle Q Clear(g_c), s	10.3	24.4	24.4	1.6	15.2	15.2	3.2	0.0	6.5	5.4	0.0	19.1
Prop In Lane	1.00		0.02	1.00		0.20	1.00		0.24	1.00		0.87
Lane Grp Cap(c), veh/h	346	857	896	138	659	652	88	0	232	208	0	284
V/C Ratio(X)	0.58	0.66	0.66	0.24	0.73	0.73	0.62	0.00	0.49	0.49	0.00	0.92
Avail Cap(c_a), veh/h	346	857	896	138	659	652	119	0	307	208	0	295
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.4	19.3	19.3	39.7	10.3	10.3	46.5	0.0	39.4	41.2	0.0	38.5
Incr Delay (d2), s/veh	1.0	2.6	2.5	0.3	5.9	5.9	2.7	0.0	0.6	0.7	0.0	30.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	12.4	13.0	0.8	8.3	8.2	1.6	0.0	3.0	2.6	0.0	9.5
LnGrp Delay(d),s/veh	37.4	21.9	21.8	40.0	16.1	16.2	49.1	0.0	40.0	41.8	0.0	69.4
LnGrp LOS	D	C	C	D	B	B	D		D	D		E
Approach Vol, veh/h		1359			987			169			362	
Approach Delay, s/veh		24.2			17.0			42.9			61.7	
Approach LOS		C			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	41.4	15.9	19.0	11.7	53.4	9.2	25.7
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	17.0	36.9	10.0	19.1	5.0	48.9	7.0	22.1
Max Q Clear Time (g_c+I1), s	12.3	17.2	7.4	8.5	3.6	26.4	5.2	21.1
Green Ext Time (p_c), s	0.1	4.1	0.1	0.3	0.1	5.4	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1089	0	5	814	63	40	60	70	183	5	58
Future Volume (vph)	88	1089	0	5	814	63	40	60	70	183	5	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.89		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.94	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3334			1839	1445		1622	
Flt Permitted	0.95	1.00		0.95	1.00			0.84	1.00		0.72	
Satd. Flow (perm)	1787	3574		1752	3334			1571	1445		1205	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	90	1111	0	5	831	64	41	61	71	187	5	59
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	51	0	12	0
Lane Group Flow (vph)	90	1111	0	5	890	0	0	102	20	0	239	0
Confl. Peds. (#/hr)	263		207	207		263	54		95	95		54
Confl. Bikes (#/hr)						6						2
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	10.2	58.1		1.0	48.9			27.9	27.9		27.9	
Effective Green, g (s)	10.2	58.1		1.0	48.9			27.9	27.9		27.9	
Actuated g/C Ratio	0.10	0.58		0.01	0.49			0.28	0.28		0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	182	2076		17	1630			438	403		336	
v/s Ratio Prot	c0.05	c0.31		0.00	0.27							
v/s Ratio Perm								0.06	0.01		c0.20	
v/c Ratio	0.49	0.54		0.29	0.55			0.23	0.05		0.71	
Uniform Delay, d1	42.5	12.7		49.1	17.8			27.8	26.4		32.4	
Progression Factor	0.65	0.58		0.91	0.25			1.00	1.00		1.00	
Incremental Delay, d2	0.6	0.8		2.1	0.8			0.3	0.1		6.9	
Delay (s)	28.4	8.2		46.7	5.2			28.1	26.4		39.3	
Level of Service	C	A		D	A			C	C		D	
Approach Delay (s)		9.7			5.5			27.4			39.3	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	1190	60	58	667	234	125	172	247	477	138	90
Future Volume (vph)	92	1190	60	58	667	234	125	172	247	477	138	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.89		0.85		1.00	0.93	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.93		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1787	3438		1703	3406	1355		2794		1573	1450	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1787	3438		1703	3406	1355		2794		1573	1450	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	98	1266	64	62	710	249	133	183	263	507	147	96
RTOR Reduction (vph)	0	3	0	0	0	37	0	96	0	0	12	0
Lane Group Flow (vph)	98	1327	0	62	710	212	0	483	0	375	363	0
Confl. Peds. (#/hr)	141		435	435		141	199		265	265		199
Confl. Bikes (#/hr)			2			28			37			18
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	9.4	32.5		4.0	27.1	51.2		21.4		24.1	24.1	
Effective Green, g (s)	9.4	32.5		4.0	27.1	51.2		21.4		24.1	24.1	
Actuated g/C Ratio	0.09	0.32		0.04	0.27	0.51		0.21		0.24	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	167	1117		68	923	754		597		379	349	
v/s Ratio Prot	0.05	c0.39		0.04	c0.21	0.07		c0.17		0.24	c0.25	
v/s Ratio Perm						0.09						
v/c Ratio	0.59	1.19		0.91	0.77	0.28		0.81		0.99	1.04	
Uniform Delay, d1	43.4	33.8		47.8	33.6	13.9		37.4		37.8	38.0	
Progression Factor	0.90	0.88		1.00	1.00	1.00		1.00		0.92	0.93	
Incremental Delay, d2	3.0	92.7		77.6	6.1	0.2		7.5		37.3	52.8	
Delay (s)	42.1	122.3		125.4	39.7	14.1		44.9		72.0	88.0	
Level of Service	D	F		F	D	B		D		E	F	
Approach Delay (s)		116.8			38.7			44.9			80.0	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	77.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	0	141	72	0
Future Vol, veh/h	0	10	0	141	72	0
Conflicting Peds, #/hr	77	0	0	54	54	77
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	0	11	0	155	79	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	232	0	-	0	219	231
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	65	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1330	-	-	-	765	803
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	953	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1245	-	-	-	670	703
Mov Cap-2 Maneuver	-	-	-	-	670	-
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	892	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

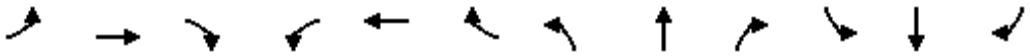
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1245	-	-	-	670
HCM Lane V/C Ratio	-	-	-	-	0.118
HCM Control Delay (s)	0	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	50	32	0	101	399	0	171	40
Future Vol, veh/h	0	50	32	0	101	399	0	171	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	56	36	0	112	443	0	190	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.6	17.1	9.8
HCM LOS	A	C	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	20%	61%	0%
Vol Thru, %	80%	0%	81%
Vol Right, %	0%	39%	19%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	500	82	211
LT Vol	101	50	0
Through Vol	399	0	171
RT Vol	0	32	40
Lane Flow Rate	556	91	234
Geometry Grp	1	1	1
Degree of Util (X)	0.693	0.142	0.305
Departure Headway (Hd)	4.489	5.605	4.687
Convergence, Y/N	Yes	Yes	Yes
Cap	806	636	764
Service Time	2.527	3.677	2.736
HCM Lane V/C Ratio	0.69	0.143	0.306
HCM Control Delay	17.1	9.6	9.8
HCM Lane LOS	C	A	A
HCM 95th-tile Q	5.7	0.5	1.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	148	10	5	485	5	0	0	5	0	0	10
Future Volume (vph)	10	148	10	5	485	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	156	11	5	511	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	167	521	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.07	0.08	-0.60	-0.60
Departure Headway (s)	5.5	5.0	4.3	4.9	4.8
Degree Utilization, x	0.02	0.23	0.62	0.01	0.01
Capacity (veh/h)	642	710	822	642	642
Control Delay (s)	7.4	8.2	14.2	7.9	7.9
Approach Delay (s)	8.2		14.2	7.9	7.9
Approach LOS	A		B	A	A

Intersection Summary				
Delay	12.6			
Level of Service	B			
Intersection Capacity Utilization	49.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	25.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	139	2340	91	91	1096
Future Vol, veh/h	109	139	2340	91	91	1096
Conflicting Peds, #/hr	0	3	0	0	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	115	146	2463	96	96	1154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3282	1285	0	0	2562	0
Stage 1	2514	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 7	158	-	-	170	-
Stage 1	~ 48	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	157	-	-	170	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	~ 48	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 375.5	0	3.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	157	170	-
HCM Lane V/C Ratio	-	-	1.663	0.563	-
HCM Control Delay (s)	-	-	$ 375.5	50.5	-
HCM Lane LOS	-	-	F	F	-
HCM 95th %tile Q(veh)	-	-	18.3	2.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2366	20	0	1210
Future Vol, veh/h	5	40	2366	20	0	1210
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2491	21	0	1274

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3144	1262	0	0	-	-
Stage 1	2504	-	-	-	-	-
Stage 2	640	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	8	161	-	-	0	-
Stage 1	47	-	-	-	0	-
Stage 2	487	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	8	160	-	-	-	-
Mov Cap-2 Maneuver	44	-	-	-	-	-
Stage 1	47	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	50.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	124	-
HCM Lane V/C Ratio	-	-	0.382	-
HCM Control Delay (s)	-	-	50.9	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	1.6	-

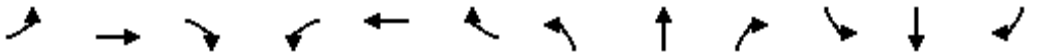
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2391	25	10	1200
Future Vol, veh/h	0	5	2391	25	10	1200
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2491	26	10	1250

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1268	0	0	2522	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	162	-	-	176	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	161	-	-	175	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

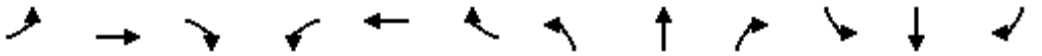
Approach	WB	NB	SB
HCM Control Delay, s	28.1	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	175	-
HCM Lane V/C Ratio	-	-	0.032	0.06	-
HCM Control Delay (s)	-	-	28.1	26.9	-
HCM Lane LOS	-	-	D	D	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	508	31	80	189	0	99	0	1749	5	39	985	176
Future Volume (vph)	508	31	80	189	0	99	0	1749	5	39	985	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.86	1.00		0.99		1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.98	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1695	1364	1695		1594		3568			3360	
Flt Permitted	0.95	0.96	1.00	0.38		1.00		1.00			0.69	
Satd. Flow (perm)	1681	1695	1364	675		1594		3568			2327	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	529	32	83	197	0	103	0	1822	5	41	1026	183
RTOR Reduction (vph)	0	0	59	0	0	10	0	0	0	0	11	0
Lane Group Flow (vph)	280	281	24	197	0	93	0	1827	0	0	1239	0
Confl. Peds. (#/hr)			76	76			37		176	176		37
Confl. Bikes (#/hr)			8			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4				2		
Actuated Green, G (s)	35.1	35.1	35.1	35.1		35.1		75.9			75.9	
Effective Green, g (s)	35.1	35.1	35.1	35.1		35.1		75.9			75.9	
Actuated g/C Ratio	0.29	0.29	0.29	0.29		0.29		0.63			0.63	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	491	495	398	197		466		2256			1471	
v/s Ratio Prot								0.51				
v/s Ratio Perm	0.17	0.17	0.02	c0.29		0.06					c0.53	
v/c Ratio	0.57	0.57	0.06	1.00		0.20		0.81			0.84	
Uniform Delay, d1	36.0	36.0	30.6	42.5		31.9		16.6			17.3	
Progression Factor	0.71	0.71	1.51	1.00		1.00		0.64			1.00	
Incremental Delay, d2	0.7	0.6	0.0	64.1		0.1		1.5			6.0	
Delay (s)	26.4	26.3	46.2	106.6		32.0		12.1			23.4	
Level of Service	C	C	D	F		C		B			C	
Approach Delay (s)		28.9			81.0			12.1			23.4	
Approach LOS		C			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



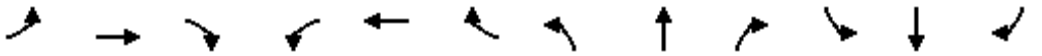
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	504	1335	60	45	728	40	0	0	0	0	0	231
Future Volume (vph)	504	1335	60	45	728	40	0	0	0	0	0	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.62	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.97	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1009	1758	3519							1565
Flt Permitted	0.95	1.00	1.00	0.13	1.00							1.00
Satd. Flow (perm)	1805	3610	1009	249	3519							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	542	1435	65	48	783	43	0	0	0	0	0	248
RTOR Reduction (vph)	0	0	33	0	6	0	0	0	0	0	0	24
Lane Group Flow (vph)	542	1435	32	48	820	0	0	0	0	0	0	224
Confl. Peds. (#/hr)			215	215		448			748	748		
Confl. Bikes (#/hr)			8			9		9				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	20.3	29.7	29.7	29.7	29.7							20.3
Effective Green, g (s)	20.3	29.7	29.7	29.7	29.7							20.3
Actuated g/C Ratio	0.34	0.49	0.49	0.49	0.49							0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	610	1786	499	123	1741							529
v/s Ratio Prot	c0.30	c0.40			0.23							0.14
v/s Ratio Perm			0.03	0.19								
v/c Ratio	0.89	0.80	0.06	0.39	0.47							0.42
Uniform Delay, d1	18.8	12.7	7.9	9.5	10.0							15.3
Progression Factor	1.00	1.00	1.00	0.64	0.69							1.16
Incremental Delay, d2	14.3	3.9	0.2	8.7	0.9							0.2
Delay (s)	33.1	16.6	8.2	14.8	7.8							17.9
Level of Service	C	B	A	B	A							B
Approach Delay (s)		20.7			8.2			0.0			17.9	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1320	15	40	808	65	65
Future Volume (vph)	1320	15	40	808	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.75	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1150	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1150	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1404	16	43	860	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1404	15	43	860	69	5
Confl. Peds. (#/hr)		78	78		44	
Confl. Bikes (#/hr)		8				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	798	194	2674	136	120
v/s Ratio Prot	c0.41		c0.03	0.26	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.59	0.02	0.22	0.32	0.51	0.04
Uniform Delay, d1	9.5	5.7	48.0	3.0	53.3	51.4
Progression Factor	1.35	1.72	0.74	3.23	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.0	1.1	0.1
Delay (s)	13.4	9.8	35.6	9.7	54.4	51.5
Level of Service	B	A	D	A	D	D
Approach Delay (s)	13.4			10.9	52.9	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1385	0	71	20	752	1734	42	5	1219	20
Future Volume (vph)	0	0	1385	0	71	20	752	1734	42	5	1219	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.66
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3476		1752	3505	1030
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3476		1752	3505	1030
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1428	0	73	21	775	1788	43	5	1257	21
RTOR Reduction (vph)	0	0	271	0	0	19	0	2	0	0	0	12
Lane Group Flow (vph)	0	0	1157	0	73	2	775	1829	0	5	1257	9
Confl. Peds. (#/hr)							255		334	334		255
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			102.2		12.6	12.6	30.2	66.0		1.0	53.2	53.2
Effective Green, g (s)			97.2		12.6	12.6	30.2	59.0		1.0	53.2	53.2
Actuated g/C Ratio			0.81		0.10	0.10	0.25	0.49		0.01	0.44	0.44
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2257		195	166	863	1709		14	1553	456
v/s Ratio Prot					0.04		c0.23	c0.53		0.00	0.36	
v/s Ratio Perm			c0.42			0.00						0.01
v/c Ratio			0.51		0.37	0.01	0.90	1.07		0.36	0.81	0.02
Uniform Delay, d1			3.7		50.0	48.1	43.4	30.5		59.2	29.0	18.8
Progression Factor			1.00		1.00	1.00	0.75	1.26		0.85	0.71	1.00
Incremental Delay, d2			0.1		0.4	0.0	10.1	41.8		3.2	2.7	0.0
Delay (s)			3.8		50.5	48.1	42.8	80.2		53.6	23.4	18.8
Level of Service			A		D	D	D	F		D	C	B
Approach Delay (s)		3.8			49.9			69.0			23.4	
Approach LOS		A			D			E			C	

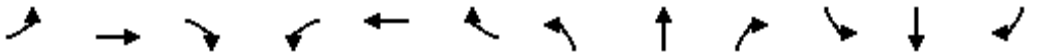
Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	877	200	1846	30	30	1972	577	30
Future Volume (vph)	877	200	1846	30	30	1972	577	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4907		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4907		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	914	217	1923	33	33	2054	627	33
RTOR Reduction (vph)	244	0	0	16	0	33	0	0
Lane Group Flow (vph)	670	217	1923	17	33	2648	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	36.0	10.0	61.9	61.9	18.0	87.9		5.6
Effective Green, g (s)	36.0	10.0	61.9	61.9	18.0	87.9		5.6
Actuated g/C Ratio	0.30	0.08	0.52	0.52	0.15	0.73		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	836	286	1825	816	265	3594		75
v/s Ratio Prot	c0.24	0.06	c0.54		0.02	0.43		c0.02
v/s Ratio Perm				0.01		0.11		
v/c Ratio	0.80	0.76	1.05	0.02	0.12	0.74		0.44
Uniform Delay, d1	38.7	53.8	29.1	14.2	44.2	9.3		55.7
Progression Factor	1.00	0.97	0.96	1.00	0.82	2.62		1.00
Incremental Delay, d2	5.6	8.1	34.0	0.0	0.2	0.7		4.1
Delay (s)	44.3	60.4	62.0	14.3	36.6	25.1		59.8
Level of Service	D	E	E	B	D	C		E
Approach Delay (s)			61.1			25.2		
Approach LOS			E			C		

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	608	25	60	115	5	425	90	808	5	165	960	846
Future Volume (vph)	608	25	60	115	5	425	90	808	5	165	960	846
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1438	1752	1845	1568	3367	3463		1752	3505	1415
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1438	1752	1845	1568	3367	3463		1752	3505	1415
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	640	26	63	121	5	447	95	851	5	174	1011	891
RTOR Reduction (vph)	0	0	49	0	0	64	0	0	0	0	0	530
Lane Group Flow (vph)	333	333	14	121	5	383	95	856	0	174	1011	361
Confl. Peds. (#/hr)	3		60	60		3	111		170	170		111
Confl. Bikes (#/hr)						5			8			10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.6	26.6	26.6	20.7	20.7	39.7	6.1	40.2		14.5	48.6	48.6
Effective Green, g (s)	26.6	26.6	26.6	20.7	20.7	39.7	6.1	40.2		14.5	48.6	48.6
Actuated g/C Ratio	0.22	0.22	0.22	0.17	0.17	0.33	0.05	0.34		0.12	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	372	375	318	302	318	518	171	1160		211	1419	573
v/s Ratio Prot	c0.20	0.20		0.07	0.00	c0.24	0.03	c0.25		0.10	0.29	
v/s Ratio Perm			0.01									0.25
v/c Ratio	0.90	0.89	0.04	0.40	0.02	0.74	0.56	0.74		0.82	0.71	0.63
Uniform Delay, d1	45.3	45.3	36.7	44.1	41.2	35.6	55.6	35.2		51.5	29.9	28.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.94	0.91	3.01
Incremental Delay, d2	22.5	21.0	0.0	0.9	0.0	5.6	2.2	4.2		15.7	2.1	3.6
Delay (s)	67.8	66.3	36.7	45.0	41.2	41.2	57.8	39.5		63.8	29.3	89.5
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		64.4			42.0			41.3			58.1	
Approach LOS		E			D			D			E	

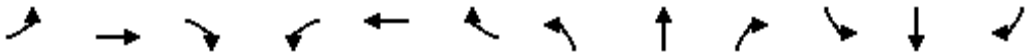
Intersection Summary			
HCM 2000 Control Delay	53.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	174	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	174	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				178	128	179
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1345	562	300	2713	0				501	263	220
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2530	1017	1774	3632	0				3619	1900	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				178	128	179
Grp Sat Flow(s),veh/h/ln	0	1787	1666	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				4.5	6.2	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				4.5	6.2	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	987	920	300	2713	0				501	263	220
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.36	0.49	0.81
Avail Cap(c_a), veh/h	0	987	920	452	2713	0				651	342	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				39.0	39.8	41.8
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.3	1.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.2	3.3	5.5
LnGrp Delay(d),s/veh	0.0	16.2	16.3	41.6	0.3	0.0				39.3	40.8	53.6
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						485	
Approach Delay, s/veh		16.2			7.7						45.0	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.7		18.8		81.2		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.8		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	574	0	0	830	339	605	230	365	0	0	0
Future Volume (vph)	305	574	0	0	830	339	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.87	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1381	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1381	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	598	0	0	865	353	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	81	0	0	176	0	0	0
Lane Group Flow (vph)	318	598	0	0	865	272	428	442	204	0	0	0
Confl. Peds. (#/hr)	24		22	22		24			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	459	551	567	507			
v/s Ratio Prot	c0.18	0.17			c0.24		0.25	c0.25				
v/s Ratio Perm						0.20			0.13			
v/c Ratio	0.86	0.29			0.73	0.59	0.78	0.78	0.40			
Uniform Delay, d1	38.3	10.3			29.4	27.7	30.5	30.5	26.2			
Progression Factor	0.83	0.69			0.54	0.44	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.6	4.8	10.3	10.2	2.4			
Delay (s)	48.1	7.5			19.4	17.1	40.8	40.7	28.6			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		21.6			18.7			37.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	819	30	5	1084	5	40	20	30	15	10	15
Future Volume (veh/h)	20	819	30	5	1084	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.96		0.94	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	836	31	5	1106	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	59	2005	73	38	2134	10	233	115	150	209	143	182
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	35	3314	121	4	3528	16	583	372	485	515	461	586
Grp Volume(v), veh/h	457	0	430	584	0	532	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1684	1856	0	1691	1440	0	0	1562	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.04		0.07	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.50	0.00	0.52	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.3	1.6	0.0	1.9	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.5	0.0	0.5	2.0	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.3	1.6	0.0	1.9	26.1	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		887			1116			92			40	
Approach Delay, s/veh		1.2			1.7			26.1			24.6	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		35.0		65.0		35.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		60.5		31.0		60.5		31.0
Max Q Clear Time (g_c+I1), s		2.0		6.3		2.0		3.6
Green Ext Time (p_c), s		2.5		0.1		2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	3.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	789	85	105	969	0	0	0	0	124	686	130
Future Volume (veh/h)	0	789	85	105	969	0	0	0	0	124	686	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	813	88	108	999	0				128	707	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1764	191	0	1967	0				195	1134	526
Arrive On Green	0.00	0.55	0.55	0.00	1.00	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	3331	350	0	3705	0				534	3108	1442
Grp Volume(v), veh/h	0	449	452	0	999	0				445	390	134
Grp Sat Flow(s),veh/h/ln	0	1787	1801	0	1805	0				1855	1787	1442
Q Serve(g_s), s	0.0	15.3	15.3	0.0	0.0	0.0				20.0	17.7	6.5
Cycle Q Clear(g_c), s	0.0	15.3	15.3	0.0	0.0	0.0				20.0	17.7	6.5
Prop In Lane	0.00		0.19	0.00		0.00				0.29		1.00
Lane Grp Cap(c), veh/h	0	974	981	0	1967	0				677	652	526
V/C Ratio(X)	0.00	0.46	0.46	0.00	0.51	0.00				0.66	0.60	0.25
Avail Cap(c_a), veh/h	0	974	981	0	1967	0				677	652	526
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	0.0	0.0	0.0				26.5	25.8	22.2
Incr Delay (d2), s/veh	0.0	1.6	1.6	0.0	0.9	0.0				4.9	4.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.9	8.0	0.0	0.3	0.0				11.2	9.4	2.7
LnGrp Delay(d),s/veh	0.0	15.4	15.4	0.0	0.9	0.0				31.5	29.8	23.4
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		901			999						969	
Approach Delay, s/veh		15.4			0.9						29.7	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.0			0.0	59.0		41.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			13.7	36.3		36.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	17.3		22.0
Green Ext Time (p_c), s		2.8			0.0	2.7		0.9

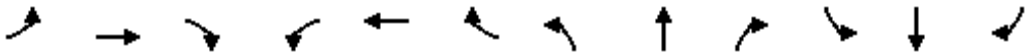
Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	683	0	0	827	93	237	770	70	0	0	0
Future Volume (veh/h)	210	683	0	0	827	93	237	770	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	727	0	0	880	99	252	819	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	63	863	0	0	1360	153	289	991	93			
Arrive On Green	0.36	0.36	0.00	0.00	0.85	0.85	0.13	0.13	0.13			
Sat Flow, veh/h	2	1714	0	0	3301	361	760	2607	245			
Grp Volume(v), veh/h	316	634	0	0	490	489	605	0	540			
Grp Sat Flow(s),veh/h/ln	5	1627	0	0	1787	1780	1825	0	1786			
Q Serve(g_s), s	39.4	34.0	0.0	0.0	9.2	9.2	32.6	0.0	29.3			
Cycle Q Clear(g_c), s	39.4	34.0	0.0	0.0	9.2	9.2	32.6	0.0	29.3			
Prop In Lane	0.71		0.00	0.00		0.20	0.42		0.14			
Lane Grp Cap(c), veh/h	0	862	0	0	758	755	693	0	679			
V/C Ratio(X)	0.00	0.74	0.00	0.00	0.65	0.65	0.87	0.00	0.79			
Avail Cap(c_a), veh/h	0	862	0	0	758	755	693	0	679			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	26.1	0.0	0.0	5.1	5.1	41.4	0.0	39.9			
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	4.2	4.3	14.3	0.0	9.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	16.6	0.0	0.0	5.0	5.0	19.2	0.0	16.3			
LnGrp Delay(d),s/veh	0.0	31.7	0.0	0.0	9.3	9.3	55.6	0.0	49.3			
LnGrp LOS		C			A	A	E		D			
Approach Vol, veh/h		950			979			1145				
Approach Delay, s/veh		21.1			9.3			52.6				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		46.9		42.5		57.5		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 42		38.0		53.0		
Max Q Clear Time (g_c+I1), s		11.2		34.6		41.4		
Green Ext Time (p_c), s		1.1		0.8		2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	513	118	25	740	50	30	50	15	10	90	75
Future Volume (vph)	80	513	118	25	740	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.98			0.98			0.97	
Flpb, ped/bikes		0.99			1.00			0.99			0.99	
Frt		0.98			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3102			3371			1767			1686	
Flt Permitted		0.70			0.92			0.89			0.99	
Satd. Flow (perm)		2180			3092			1599			1671	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	534	123	26	771	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	17	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	723	0	0	844	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	120		200	200		120	92		159	159		92
Confl. Bikes (#/hr)			1			3			14			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1035			1468			703			735	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.27			0.06			c0.09	
v/c Ratio		0.70			0.58			0.13			0.21	
Uniform Delay, d1		20.6			19.0			16.6			17.3	
Progression Factor		1.07			0.37			0.93			1.00	
Incremental Delay, d2		1.9			1.5			0.3			0.7	
Delay (s)		24.0			8.4			15.8			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		24.0			8.4			15.8			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	430	53	20	663	20	77	160	30	10	165	70
Future Volume (veh/h)	85	430	53	20	663	20	77	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.79	0.92		0.78	0.92		0.84	0.90		0.85
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	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	457	56	21	705	21	82	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	215	1040	127	60	1555	46	203	401	71	48	474	192
Arrive On Green	0.95	0.95	0.95	0.95	0.95	0.95	0.87	0.87	0.87	0.44	0.44	0.44
Sat Flow, veh/h	353	2190	268	46	3274	96	361	921	163	25	1090	441
Grp Volume(v), veh/h	277	0	326	391	0	356	284	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1249	0	1563	1785	0	1631	1444	0	0	1556	0	0
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	1.8	1.8	0.0	1.9	3.2	0.0	0.0	11.2	0.0	0.0
Prop In Lane	0.33		0.17	0.05		0.06	0.29		0.11	0.04		0.28
Lane Grp Cap(c), veh/h	641	0	742	886	0	775	675	0	0	714	0	0
V/C Ratio(X)	0.43	0.00	0.44	0.44	0.00	0.46	0.42	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	641	0	742	886	0	775	675	0	0	714	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.3	0.0	1.4	1.4	0.0	1.4	3.9	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	1.9	1.6	0.0	2.0	1.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.9	1.0	0.0	1.0	1.8	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	3.5	0.0	3.2	3.0	0.0	3.3	5.8	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	A		A	A		A	A			C		
Approach Vol, veh/h		603			747			284			261	
Approach Delay, s/veh		3.3			3.1			5.8			20.6	
Approach LOS		A			A			A			C	

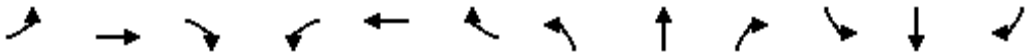
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.0		48.0		52.0		48.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.5		43.5		47.5		43.5
Max Q Clear Time (g_c+I1), s		3.9		5.2		3.8		13.2
Green Ext Time (p_c), s		1.9		0.8		1.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	345	55	50	472	25	211	420	40	20	330	20
Future Volume (veh/h)	70	345	55	50	472	25	211	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.75	0.97		0.85	0.99		0.92	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	363	58	53	497	26	222	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	143	714	123	110	1015	55	482	923	89	63	886	52
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	1.00	1.00	1.00	0.55	0.55	0.55
Sat Flow, veh/h	262	1955	337	186	2782	150	768	1694	163	46	1626	95
Grp Volume(v), veh/h	242	0	253	290	0	286	290	0	416	389	0	0
Grp Sat Flow(s),veh/h/ln	1084	0	1470	1464	0	1653	1008	0	1618	1767	0	0
Q Serve(g_s), s	9.3	0.0	13.2	4.5	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.6	0.0	13.2	17.7	0.0	13.3	0.0	0.0	0.0	12.4	0.0	0.0
Prop In Lane	0.31		0.23	0.18		0.09	0.77		0.10	0.05		0.05
Lane Grp Cap(c), veh/h	443	0	537	577	0	604	613	0	882	1001	0	0
V/C Ratio(X)	0.55	0.00	0.47	0.50	0.00	0.47	0.47	0.00	0.47	0.39	0.00	0.00
Avail Cap(c_a), veh/h	443	0	537	577	0	604	613	0	882	1001	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.7	0.0	24.4	24.9	0.0	24.4	0.0	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.0	3.0	3.1	0.0	2.7	2.6	0.0	1.8	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	5.8	6.9	0.0	6.5	0.4	0.0	0.4	6.5	0.0	0.0
LnGrp Delay(d),s/veh	32.5	0.0	27.3	28.0	0.0	27.1	2.6	0.0	1.8	14.3	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		495			576			706			389	
Approach Delay, s/veh		29.8			27.5			2.1			14.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.0		59.0		41.0		59.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		36.5		54.5		36.5		54.5
Max Q Clear Time (g_c+I1), s		19.7		2.0		24.6		14.4
Green Ext Time (p_c), s		6.6		9.9		5.5		9.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.4
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	389	111	25	370	10	237	95	25	15	80	20
Future Volume (vph)	25	389	111	25	370	10	237	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3277			1838			1785			1773	
Flt Permitted		0.92			0.94			0.97			0.99	
Satd. Flow (perm)		3024			1742			1785			1773	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	427	122	27	407	11	260	104	27	16	88	22
RTOR Reduction (vph)	0	22	0	0	1	0	0	2	0	0	7	0
Lane Group Flow (vph)	0	554	0	0	444	0	0	389	0	0	119	0
Confl. Peds. (#/hr)	56		83	83		56	87		66	66		87
Confl. Bikes (#/hr)						2			42			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		42.4			42.4			33.5			21.1	
Effective Green, g (s)		42.4			42.4			33.5			21.1	
Actuated g/C Ratio		0.38			0.38			0.30			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1160			668			541			338	
v/s Ratio Prot								c0.22			c0.07	
v/s Ratio Perm		0.18			c0.26							
v/c Ratio		0.48			0.67			0.72			0.35	
Uniform Delay, d1		25.7			28.2			34.3			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.4			5.2			8.0			2.9	
Delay (s)		27.1			33.4			42.3			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		27.1			33.4			42.3			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	59	0	5	30	5	0	125	65	5
Future Vol, veh/h	0	315	30	59	0	5	30	5	0	125	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	66	0	6	34	6	0	140	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

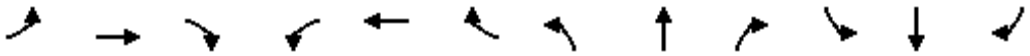
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	22.8	10.3	13
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	64%	78%	12%	1%
Vol Thru, %	33%	7%	75%	16%
Vol Right, %	3%	15%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	404	40	340
LT Vol	125	315	5	5
Through Vol	65	30	30	55
RT Vol	5	59	5	280
Lane Flow Rate	219	454	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.377	0.727	0.083	0.571
Departure Headway (Hd)	6.191	5.764	6.667	5.381
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	576	622	541	665
Service Time	4.289	3.834	4.667	3.467
HCM Lane V/C Ratio	0.38	0.73	0.083	0.574
HCM Control Delay	13	22.8	10.3	15.5
HCM Lane LOS	B	C	B	C
HCM 95th-tile Q	1.7	6.2	0.3	3.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

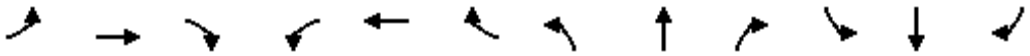
Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15.5
HCM LOS	C



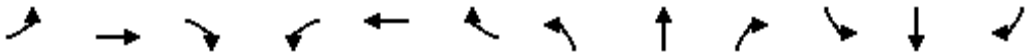
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	856	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	856	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1742			1737						3469	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1742			1326						3469	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	911	37
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	121	0	0	175	0	0	0	0	0	981	0
Confl. Peds. (#/hr)	78		113	113		78	114		59	59		114
Confl. Bikes (#/hr)			6			23						11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		400			304						2012	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.28	
v/c Ratio		0.30			0.58						0.49	
Uniform Delay, d1		15.9			17.1						6.1	
Progression Factor		1.00			0.89						2.22	
Incremental Delay, d2		0.6			2.8						0.6	
Delay (s)		16.5			18.0						14.2	
Level of Service		B			B						B	
Approach Delay (s)		16.5			18.0			0.0			14.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	917	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	917	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.93			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1622			3495				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1622			3495				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	986	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	54	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	182	0	0	1092	0	0	0	0
Confl. Peds. (#/hr)	89		93	93		89	44		48	48		44
Confl. Bikes (#/hr)			14			30			81			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.5			10.5			29.5				
Effective Green, g (s)		10.5			10.5			29.5				
Actuated g/C Ratio		0.21			0.21			0.59				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		399			340			2062				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.31				
v/c Ratio		0.30			0.54			0.53				
Uniform Delay, d1		16.6			17.6			6.1				
Progression Factor		1.18			0.93			1.03				
Incremental Delay, d2		0.1			0.8			0.8				
Delay (s)		19.7			17.0			7.1				
Level of Service		B			B			A				
Approach Delay (s)		19.7			17.0			7.1			0.0	
Approach LOS		B			B			A			A	

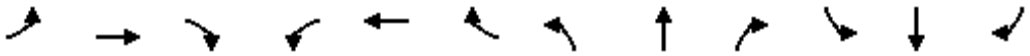
Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	551	40	25	405	35
Future Volume (vph)	75	70	60	25	35	65	115	551	40	25	405	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.95			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			1.00	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1623			1551			3310			1710	
Flt Permitted		0.85			0.92			0.81			0.95	
Satd. Flow (perm)		1398			1438			2691			1621	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	592	43	27	435	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	9	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	750	0	0	494	0
Confl. Peds. (#/hr)	140		146	146		140	175		131	131		175
Confl. Bikes (#/hr)			6			4			24			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		419			431			1426			859	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.28			c0.30	
v/c Ratio		0.46			0.20			0.53			0.57	
Uniform Delay, d1		14.2			13.0			7.7			7.9	
Progression Factor		1.54			1.00			1.02			0.58	
Incremental Delay, d2		3.5			1.0			0.7			2.6	
Delay (s)		25.3			14.1			8.5			7.2	
Level of Service		C			B			A			A	
Approach Delay (s)		25.3			14.1			8.5			7.2	
Approach LOS		C			B			A			A	

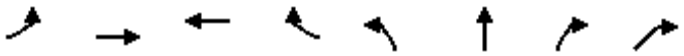
Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	700	250	541	893	0	0	0	0	299	220	220
Future Volume (vph)	0	700	250	541	893	0	0	0	0	299	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3295		3433	3539					1579	2997	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		3295		3433	3539					1579	2997	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	729	260	564	930	0	0	0	0	311	229	229
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	951	0	564	930	0	0	0	0	261	430	0
Confl. Peds. (#/hr)	128		138	138		128	35					35
Confl. Bikes (#/hr)			2			8						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		33.8		28.2	66.5					24.0	24.0	
Effective Green, g (s)		33.8		28.2	66.5					24.0	24.0	
Actuated g/C Ratio		0.34		0.28	0.66					0.24	0.24	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1113		968	2353					378	719	
v/s Ratio Prot		c0.29		c0.16	0.26					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.85		0.58	0.40					0.69	0.60	
Uniform Delay, d1		30.8		30.8	7.6					34.6	33.7	
Progression Factor		1.00		1.07	1.35					1.29	1.38	
Incremental Delay, d2		6.6		1.2	0.2					9.0	3.3	
Delay (s)		37.4		34.0	10.5					53.5	49.9	
Level of Service		D		C	B					D	D	
Approach Delay (s)		37.4			19.4			0.0			51.1	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	759	951	391	493	440	523	60
Future Volume (vph)	235	759	951	391	493	440	523	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	2995		3400	1705	1430	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	2995		3400	1705	1430	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	799	1001	412	519	463	551	63
RTOR Reduction (vph)	0	0	45	0	0	6	82	0
Lane Group Flow (vph)	247	799	1368	0	519	534	392	63
Confl. Peds. (#/hr)	294			294	95		24	
Confl. Bikes (#/hr)				24				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	15.1	56.5	42.3		29.1	29.1	29.1	58.9
Effective Green, g (s)	15.1	56.5	42.3		29.1	29.1	29.1	58.9
Actuated g/C Ratio	0.15	0.56	0.42		0.29	0.29	0.29	0.59
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	262	1961	1266		989	496	416	940
v/s Ratio Prot	c0.14	0.23	c0.46		0.15	c0.31		0.00
v/s Ratio Perm							0.27	0.04
v/c Ratio	0.94	0.41	1.08		0.52	1.08	0.94	0.07
Uniform Delay, d1	42.0	12.3	28.9		29.7	35.5	34.6	8.8
Progression Factor	1.19	1.53	1.08		1.00	1.00	1.00	1.00
Incremental Delay, d2	30.0	0.4	48.6		2.0	62.8	32.0	0.0
Delay (s)	79.9	19.2	79.8		31.7	98.2	66.6	8.8
Level of Service	E	B	E		C	F	E	A
Approach Delay (s)		33.5	79.8			65.9		
Approach LOS		C	E			E		

Intersection Summary			
HCM 2000 Control Delay	61.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1208	10	10	1327	5	95
Future Vol, veh/h	1208	10	10	1327	5	95
Conflicting Peds, #/hr	0	224	224	0	224	224
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1299	11	11	1427	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1534	0	2487	1103
Stage 1	-	-	-	-	1528	-
Stage 2	-	-	-	-	959	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	425	-	25	209
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	337	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	346	-	16	138
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	265	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	82.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	346	-
HCM Lane V/C Ratio	0.74	-	-	0.031	-
HCM Control Delay (s)	82.7	-	-	15.7	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

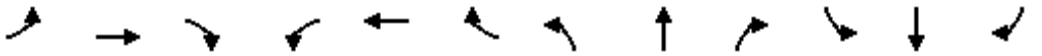
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1213	1312	30	5	25
Future Vol, veh/h	95	1213	1312	30	5	25
Conflicting Peds, #/hr	150	0	0	148	148	150
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1277	1381	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1563	0	-	0	2533	1006
Stage 1	-	-	-	-	1547	-
Stage 2	-	-	-	-	986	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	414	-	-	-	23	243
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	327	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	362	-	-	-	13	186
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	207	-

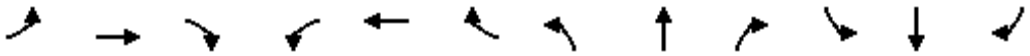
Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	34.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	362	-	-	-	154
HCM Lane V/C Ratio	0.276	-	-	-	0.205
HCM Control Delay (s)	18.7	-	-	-	34.3
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	0.7



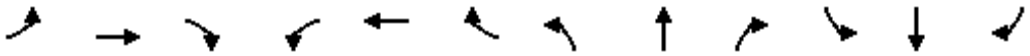
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	998	235	232	1202	0	0	0	0	45	811	130
Future Volume (vph)	0	998	235	232	1202	0	0	0	0	45	811	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.65
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3200		1736	3471						3505	1033
Flt Permitted		1.00		0.09	1.00						1.00	1.00
Satd. Flow (perm)		3200		159	3471						3505	1033
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1040	245	242	1252	0	0	0	0	47	845	135
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1265	0	242	1252	0	0	0	0	0	892	88
Confl. Peds. (#/hr)	269		232	232		269	298		90	90		298
Confl. Bikes (#/hr)			2			17						35
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.5		59.1	63.6						27.4	27.4
Effective Green, g (s)		46.5		59.1	63.6						27.4	27.4
Actuated g/C Ratio		0.46		0.59	0.64						0.27	0.27
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1488		292	2207						960	283
v/s Ratio Prot		c0.40		c0.10	0.36							
v/s Ratio Perm				0.38							0.25	0.09
v/c Ratio		0.85		0.83	0.57						0.93	0.31
Uniform Delay, d1		23.7		32.7	10.4						35.4	28.8
Progression Factor		0.87		0.91	0.65						1.39	1.96
Incremental Delay, d2		5.3		13.0	0.2						13.5	0.2
Delay (s)		26.0		42.7	6.9						62.8	56.7
Level of Service		C		D	A						E	E
Approach Delay (s)		26.0			12.7			0.0			62.0	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



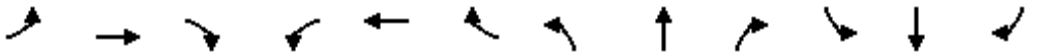
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	963	0	0	993	30	421	932	151	0	0	0
Future Volume (vph)	5	963	0	0	993	30	421	932	151	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.77			
Flpb, ped/bikes		1.00			1.00		0.91	1.00	1.00			
Frt		1.00			1.00		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3504			3421		1623	3574	1234			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3331			3421		1623	3574	1234			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1024	0	0	1056	32	448	991	161	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	1029	0	0	1086	0	448	991	144	0	0	0
Confl. Peds. (#/hr)	243		130	130		243	55		112	112		55
Confl. Bikes (#/hr)						16			93			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		48.5			48.5		42.5	42.5	42.5			
Effective Green, g (s)		48.5			48.5		42.5	42.5	42.5			
Actuated g/C Ratio		0.48			0.48		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1615			1659		689	1518	524			
v/s Ratio Prot					c0.32			c0.28				
v/s Ratio Perm		0.31					0.28		0.12			
v/c Ratio		0.64			0.65		0.65	0.65	0.27			
Uniform Delay, d1		19.2			19.4		22.8	22.9	18.7			
Progression Factor		0.23			0.60		0.83	0.83	0.84			
Incremental Delay, d2		1.0			1.8		2.5	1.2	0.7			
Delay (s)		5.4			13.5		21.5	20.2	16.4			
Level of Service		A			B		C	C	B			
Approach Delay (s)		5.4			13.5			20.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



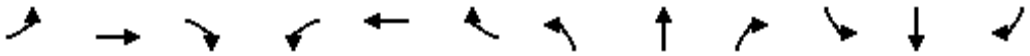
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	984	60	48	953	15	40	60	45	20	52	35
Future Volume (vph)	85	984	60	48	953	15	40	60	45	20	52	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3311		1703	3367			1601			1582	
Flt Permitted	0.95	1.00		0.95	1.00			0.88			0.93	
Satd. Flow (perm)	1736	3311		1703	3367			1431			1482	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	1047	64	51	1014	16	43	64	48	21	55	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	90	1108	0	51	1029	0	0	138	0	0	94	0
Confl. Peds. (#/hr)	214		302	302		214	72		98	98		72
Confl. Bikes (#/hr)			2			9			30			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Effective Green, g (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Actuated g/C Ratio	0.10	0.65		0.05	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2158		86	2006			238			247	
v/s Ratio Prot	c0.05	c0.33		0.03	0.31							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.51	0.51		0.59	0.51			0.58			0.38	
Uniform Delay, d1	42.5	9.1		46.4	11.8			38.4			37.0	
Progression Factor	0.71	0.27		0.81	0.67			1.00			1.00	
Incremental Delay, d2	0.7	0.7		5.4	0.7			2.1			0.4	
Delay (s)	31.1	3.1		42.8	8.6			40.5			37.4	
Level of Service	C	A		D	A			D			D	
Approach Delay (s)		5.2			10.2			40.5			37.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	952	37	85	873	30	83	50	10	60	38	130
Future Volume (vph)	100	952	37	85	873	30	83	50	10	60	38	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.97			0.98			1.00	0.68		1.00	0.74
Flpb, ped/bikes	1.00	1.00			0.99			0.87	1.00		0.86	1.00
Frt	1.00	0.99			1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1736	3336			3294			1595	1104		1564	1179
Flt Permitted	0.95	1.00			0.74			0.72	1.00		0.63	1.00
Satd. Flow (perm)	1736	3336			2442			1184	1104		1009	1179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1013	39	90	929	32	88	53	11	64	40	138
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	1049	0	0	1049	0	0	141	2	0	104	22
Confl. Peds. (#/hr)	337		693	693		337	152		193	193		152
Confl. Bikes (#/hr)			9			12			9			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	9.0	74.8			61.8			16.2	16.2		16.2	16.2
Effective Green, g (s)	9.0	74.8			61.8			16.2	16.2		16.2	16.2
Actuated g/C Ratio	0.09	0.75			0.62			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	156	2495			1509			191	178		163	190
v/s Ratio Prot	c0.06	0.31										
v/s Ratio Perm					c0.43			c0.12	0.00		0.10	0.02
v/c Ratio	0.68	0.42			0.70			0.74	0.01		0.64	0.12
Uniform Delay, d1	44.1	4.6			12.8			39.9	35.2		39.2	35.8
Progression Factor	0.87	0.19			0.40			1.00	1.00		0.72	0.89
Incremental Delay, d2	8.0	0.5			2.3			12.1	0.0		5.2	0.1
Delay (s)	46.5	1.4			7.5			51.9	35.2		33.3	31.9
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.5			7.5			50.7			32.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	843	124	5	872	50	31	192	117	5	243	60
Future Volume (vph)	5	843	124	5	872	50	31	192	117	5	243	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.89			0.96			0.84			0.90	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3024			3393			1396			1586	
Flt Permitted		0.95			0.95			0.94			0.99	
Satd. Flow (perm)		2877			3227			1323			1579	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	897	132	5	928	53	33	204	124	5	259	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	1033	0	0	983	0	0	359	0	0	324	0
Confl. Peds. (#/hr)	493		608	608		493	754		597	597		754
Confl. Bikes (#/hr)			1			7			71			20
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		59.9			59.9			31.1			31.1	
Effective Green, g (s)		59.9			59.9			31.1			31.1	
Actuated g/C Ratio		0.60			0.60			0.31			0.31	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1723			1932			411			491	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.30			c0.27			0.21	
v/c Ratio		0.60			0.51			0.87			0.66	
Uniform Delay, d1		12.5			11.6			32.6			29.9	
Progression Factor		0.82			0.83			1.18			1.36	
Incremental Delay, d2		1.4			0.8			16.6			2.4	
Delay (s)		11.8			10.4			55.0			42.8	
Level of Service		B			B			D			D	
Approach Delay (s)		11.8			10.4			55.0			42.8	
Approach LOS		B			B			D			D	

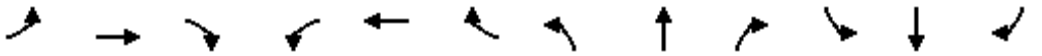
Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	795	105	173	825	70	67	571	212	100	410	40
Future Volume (veh/h)	70	795	105	173	825	70	67	571	212	100	410	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.83	1.00		0.79	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	828	109	180	859	73	70	595	221	104	427	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	137	1081	142	237	1306	111	89	636	235	121	952	93
Arrive On Green	0.15	0.71	0.71	0.27	0.83	0.83	0.02	0.09	0.09	0.14	0.61	0.61
Sat Flow, veh/h	1774	3046	401	1723	3148	268	1691	2230	825	1723	3097	301
Grp Volume(v), veh/h	73	481	456	180	469	463	70	449	367	104	235	234
Grp Sat Flow(s),veh/h/ln	1774	1770	1677	1723	1719	1696	1691	1687	1368	1723	1719	1680
Q Serve(g_s), s	3.8	17.3	17.3	9.6	10.2	10.2	4.1	26.5	26.6	5.9	7.2	7.4
Cycle Q Clear(g_c), s	3.8	17.3	17.3	9.6	10.2	10.2	4.1	26.5	26.6	5.9	7.2	7.4
Prop In Lane	1.00		0.24	1.00		0.16	1.00		0.60	1.00		0.18
Lane Grp Cap(c), veh/h	137	628	595	237	713	704	89	481	390	121	529	516
V/C Ratio(X)	0.53	0.77	0.77	0.76	0.66	0.66	0.79	0.93	0.94	0.86	0.44	0.45
Avail Cap(c_a), veh/h	137	628	595	237	713	704	169	481	390	121	529	516
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.77	0.77	0.77	0.81	0.81	0.81	0.83	0.83	0.83	0.79	0.79	0.79
Uniform Delay (d), s/veh	40.6	11.9	11.9	34.7	5.8	5.8	48.6	44.4	44.5	42.5	14.7	14.8
Incr Delay (d2), s/veh	1.6	6.8	7.1	10.0	3.8	3.9	4.8	22.3	26.9	35.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.2	8.8	5.2	5.2	5.1	2.1	15.3	13.0	4.0	3.4	3.4
LnGrp Delay(d),s/veh	42.1	18.6	19.0	44.7	9.7	9.7	53.4	66.7	71.4	77.7	14.9	14.9
LnGrp LOS	D	B	B	D	A	A	D	E	E	E	B	B
Approach Vol, veh/h		1010			1112			886			573	
Approach Delay, s/veh		20.5			15.4			67.6			26.3	
Approach LOS		C			B			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	46.0	11.5	33.0	17.7	40.0	9.3	35.2
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	41.5	7.0	* 29	12.0	35.5	10.0	25.5
Max Q Clear Time (g_c+I1), s	5.8	12.2	7.9	28.6	11.6	19.3	6.1	9.4
Green Ext Time (p_c), s	0.0	2.3	0.0	0.0	0.0	2.2	0.0	0.9

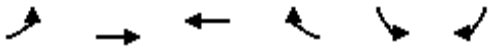
Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Notes



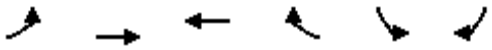
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	868	279	55	910	50	128	227	51	45	76	25
Future Volume (vph)	20	868	279	55	910	50	128	227	51	45	76	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.97		1.00	1.00	0.55		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1752	3154		1770	3415		1770	1863	867		1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1752	3154		1770	3415		1770	1863	867		1696	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	933	300	59	978	54	138	244	55	48	82	27
RTOR Reduction (vph)	0	28	0	0	3	0	0	0	47	0	8	0
Lane Group Flow (vph)	22	1205	0	59	1029	0	138	244	8	0	149	0
Confl. Peds. (#/hr)	218		185	185		218	329		437	437		329
Confl. Bikes (#/hr)			2			3			75			10
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Effective Green, g (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Actuated g/C Ratio	0.02	0.48		0.05	0.51		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1526		84	1748		269	283	131		256	
v/s Ratio Prot	0.01	c0.38		c0.03	c0.30		0.08	c0.13			c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.79		0.70	0.59		0.51	0.86	0.06		0.58	
Uniform Delay, d1	48.6	21.5		46.9	17.0		39.0	41.4	36.3		39.5	
Progression Factor	1.18	0.39		1.13	0.92		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.6	2.8		18.3	1.4		0.7	22.0	0.1		2.2	
Delay (s)	73.2	11.2		71.4	17.1		39.7	63.4	36.4		41.7	
Level of Service	E	B		E	B		D	E	D		D	
Approach Delay (s)		12.3			20.0			52.5			41.7	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



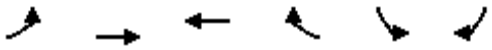
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	954	985	0	15	25
Future Volume (vph)	0	954	985	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.86	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1470	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1037	1071	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	1037	1071	0	21	0
Confl. Peds. (#/hr)	209			209	123	121
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		249	
v/s Ratio Prot		0.29	c0.30		c0.01	
v/s Ratio Perm						
v/c Ratio		0.39	0.41		0.08	
Uniform Delay, d1		4.6	4.7		34.9	
Progression Factor		0.15	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.1	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	934	990	35	0	0
Future Volume (vph)	25	934	990	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	0.99			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3456			
Flt Permitted	0.11	1.00	1.00			
Satd. Flow (perm)	201	1881	3456			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1015	1076	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	1015	1112	0	0	0
Confl. Peds. (#/hr)	144			144	305	125
Confl. Bikes (#/hr)				8		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	41.1			
Effective Green, g (s)	71.5	74.5	41.1			
Actuated g/C Ratio	0.72	0.74	0.41			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	625	1401	1420			
v/s Ratio Prot	0.01	c0.54	c0.32			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.72	0.78			
Uniform Delay, d1	7.2	7.1	25.6			
Progression Factor	1.33	1.71	0.27			
Incremental Delay, d2	0.0	1.8	2.9			
Delay (s)	9.5	13.8	9.9			
Level of Service	A	B	A			
Approach Delay (s)		13.7	9.9		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	884	1000	125	39	30
Future Volume (vph)	40	884	1000	125	39	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.94	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3472		1711	
Flt Permitted	0.11	1.00	1.00		0.97	
Satd. Flow (perm)	202	1881	3472		1711	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	951	1075	134	42	32
RTOR Reduction (vph)	0	0	0	0	27	0
Lane Group Flow (vph)	43	951	1209	0	47	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	46.2		17.0	
Effective Green, g (s)	71.5	74.5	46.2		17.0	
Actuated g/C Ratio	0.72	0.74	0.46		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	545	1401	1604		290	
v/s Ratio Prot	0.02	c0.51	c0.35		c0.03	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.68	0.75		0.16	
Uniform Delay, d1	7.6	6.6	22.2		35.4	
Progression Factor	0.02	0.00	1.00		1.00	
Incremental Delay, d2	0.0	0.7	3.3		0.1	
Delay (s)	0.2	0.7	25.5		35.5	
Level of Service	A	A	C		D	
Approach Delay (s)		0.7	25.5		35.5	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	573	40	586	914	196	1551
Future Volume (vph)	573	40	586	914	196	1551
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.89	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1419	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1419	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	610	43	623	972	209	1650
RTOR Reduction (vph)	0	6	0	0	0	3
Lane Group Flow (vph)	610	37	623	972	209	1647
Confl. Peds. (#/hr)		46	46			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	26.3	26.3	80.5	80.5	19.7	104.7
Effective Green, g (s)	26.3	26.3	80.5	80.5	19.7	104.7
Actuated g/C Ratio	0.19	0.19	0.58	0.58	0.14	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	671	266	1955	1060	249	2084
v/s Ratio Prot	c0.17		0.18	c0.53	0.12	c0.59
v/s Ratio Perm		0.03				
v/c Ratio	0.91	0.14	0.32	0.92	0.84	0.79
Uniform Delay, d1	55.7	47.4	15.5	26.7	58.6	10.9
Progression Factor	1.00	1.00	0.44	0.55	0.98	1.03
Incremental Delay, d2	16.5	0.3	0.3	10.3	19.0	1.9
Delay (s)	72.1	47.7	7.1	24.9	76.3	13.1
Level of Service	E	D	A	C	E	B
Approach Delay (s)	70.5			18.0	20.2	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1279	220	26	895	190	25	165	105	30	32
Future Volume (vph)	35	280	1279	220	26	895	190	25	165	105	30	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.92	1.00	0.98		0.94	1.00	1.00	0.92	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1441	1736	4507		1260	1698	1766	1467	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	187	3505	1441	215	4507		1260	1698	1766	1467	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1319	227	27	923	196	26	170	108	31	33
RTOR Reduction (vph)	0	0	0	86	0	0	0	17	0	0	54	0
Lane Group Flow (vph)	36	289	1319	141	27	1122	0	6	136	142	10	0
Confl. Peds. (#/hr)	20	20		17	17		20	20	38		20	19
Confl. Bikes (#/hr)				3				1				5
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Effective Green, g (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Actuated g/C Ratio	0.08	0.44	0.36	0.36	0.24	0.24		0.24	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	143	329	1276	524	52	1094		306	265	276	229	
v/s Ratio Prot	0.02	c0.14	c0.38			0.25			0.08	c0.08		
v/s Ratio Perm		0.25		0.10	0.13			0.00			0.01	
v/c Ratio	0.25	0.88	1.03	0.27	0.52	1.03		0.02	0.51	0.51	0.04	
Uniform Delay, d1	60.2	40.3	44.5	31.4	45.9	53.0		40.3	54.2	54.2	50.2	
Progression Factor	0.94	0.89	0.86	0.79	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	13.5	27.9	0.7	32.5	33.9		0.1	0.7	0.7	0.0	
Delay (s)	57.2	49.3	66.3	25.5	78.4	86.9		40.4	54.9	54.8	50.2	
Level of Service	E	D	E	C	E	F		D	D	D	D	
Approach Delay (s)			58.6			85.8				54.0		
Approach LOS			E			F				D		

Intersection Summary			
HCM 2000 Control Delay	66.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1686			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1686			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	126	0
Lane Group Flow (vph)	0	218	210	0	0	62	95	0
Confl. Peds. (#/hr)	19	20		38	19	17	38	20
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.0	20.6	
Effective Green, g (s)		24.5	24.5			6.0	20.6	
Actuated g/C Ratio		0.18	0.18			0.04	0.15	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	295			76	414	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.82	0.23	
Uniform Delay, d1		54.7	54.4			66.5	52.7	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.6			45.8	0.2	
Delay (s)		62.5	61.0			112.3	52.9	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.9		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	9.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	47	1326
Future Vol, veh/h	120	0	0	0	47	1326
Conflicting Peds, #/hr	75	153	0	75	153	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	52	1457

Major/Minor	Minor1		Major2	
Conflicting Flow All	1060	-	153	0
Stage 1	153	-	-	-
Stage 2	907	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	213	0	1433	-
Stage 1	-	0	-	-
Stage 2	345	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	150	-	1433	-
Mov Cap-2 Maneuver	150	-	-	-
Stage 1	-	-	-	-
Stage 2	279	-	-	-

Approach	WB	SB
HCM Control Delay, s	103	0.9
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	150	1433	-
HCM Lane V/C Ratio	0.879	0.036	-
HCM Control Delay (s)	103	7.6	0.7
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	6	0.1	-

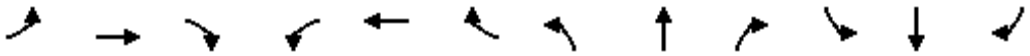
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	0	1406	40
Future Vol, veh/h	0	69	0	0	1406	40
Conflicting Peds, #/hr	277	151	151	0	0	277
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	75	0	0	1528	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1214	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	174	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	134	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	61.6	0
HCM LOS	F	

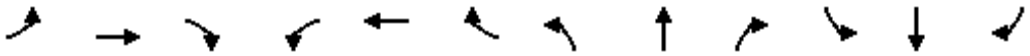
Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	134	-	-
HCM Lane V/C Ratio	0.56	-	-
HCM Control Delay (s)	61.6	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	2.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	37	0	0	90	110	20	1204	60	0	0	0
Future Volume (vph)	45	37	0	0	90	110	20	1204	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1771			1537			3474				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1465			1537			3474				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	40	0	0	98	120	22	1309	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	89	0	0	213	0	0	1389	0	0	0	0
Confl. Peds. (#/hr)	117		79	79		117	55		61	61		55
Confl. Bikes (#/hr)			7			10			79			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			645			1424				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.06						0.40				
v/c Ratio		0.14			0.33			0.98				
Uniform Delay, d1		9.0			9.8			14.5				
Progression Factor		0.82			0.87			0.74				
Incremental Delay, d2		0.5			1.4			16.2				
Delay (s)		7.8			9.9			27.0				
Level of Service		A			A			C				
Approach Delay (s)		7.8			9.9			27.0			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

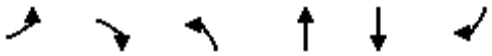
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	7	70	5	65	10	215	80	75	267	30
Future Volume (vph)	60	15	7	70	5	65	10	215	80	75	267	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.84			0.83			0.95	
Flpb, ped/bikes		0.82			0.78			0.99			0.93	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1392			1137			1396			1546	
Flt Permitted		0.75			0.83			0.99			0.88	
Satd. Flow (perm)		1084			967			1379			1367	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	8	75	5	70	11	231	86	81	287	32
RTOR Reduction (vph)	0	5	0	0	17	0	0	25	0	0	6	0
Lane Group Flow (vph)	0	84	0	0	133	0	0	303	0	0	394	0
Confl. Peds. (#/hr)	179		298	298		179	690		591	591		690
Confl. Bikes (#/hr)			2			3			63			25
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		16.0			16.0			25.5			25.5	
Effective Green, g (s)		16.0			16.0			25.5			25.5	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		346			309			703			697	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.14			0.22			c0.29	
v/c Ratio		0.24			0.43			0.43			0.56	
Uniform Delay, d1		12.5			13.4			7.7			8.4	
Progression Factor		0.76			0.52			0.98			1.12	
Incremental Delay, d2		1.2			4.2			1.8			2.8	
Delay (s)		10.7			11.2			9.3			12.3	
Level of Service		B			B			A			B	
Approach Delay (s)		10.7			11.2			9.3			12.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

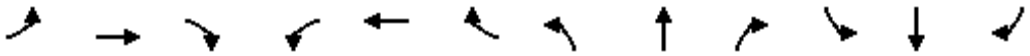
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	725	623	85
Future Volume (vph)	110	75	55	725	623	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.87			1.00	1.00	0.64
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1493			3331	3343	950
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1493			2917	3343	950
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	763	656	89
RTOR Reduction (vph)	46	0	0	0	0	45
Lane Group Flow (vph)	149	0	0	821	656	44
Confl. Peds. (#/hr)	262	361	182			182
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	492			1429	1638	465
v/s Ratio Prot	c0.10				0.20	
v/s Ratio Perm				c0.28		0.05
v/c Ratio	0.30			0.57	0.40	0.09
Uniform Delay, d1	12.5			9.1	8.1	6.8
Progression Factor	1.13			1.34	1.01	1.22
Incremental Delay, d2	1.4			1.5	0.6	0.3
Delay (s)	15.5			13.7	8.8	8.7
Level of Service	B			B	A	A
Approach Delay (s)	15.5			13.7	8.8	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Future Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	118	13	5	11	23	263	0	60	16	274	71	112

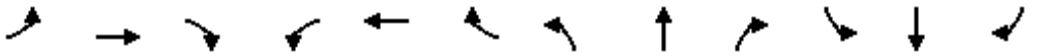
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	136	297	30	46	310	148
Volume Left (vph)	118	11	0	0	274	0
Volume Right (vph)	5	263	0	16	0	112
Hadj (s)	0.15	-0.52	0.44	0.20	0.53	-0.45
Departure Headway (s)	5.9	5.0	6.9	6.6	6.4	5.4
Degree Utilization, x	0.22	0.41	0.06	0.08	0.55	0.22
Capacity (veh/h)	558	673	465	490	545	642
Control Delay (s)	10.6	11.5	9.1	9.0	15.6	8.7
Approach Delay (s)	10.6	11.5	9.0		13.4	
Approach LOS	B	B	A		B	

Intersection Summary				
Delay	12.1			
Level of Service	B			
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	111	98	5	65	210	95	846	5	65	599	137
Future Volume (veh/h)	177	111	98	5	65	210	95	846	5	65	599	137
Number	3	8	18	7	4	14	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		0.90	0.96		0.83	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	186	117	103	5	68	221	100	891	5	68	631	144
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	227	523	398	38	302	206	338	2046	11	87	1204	274
Arrive On Green	0.10	0.30	0.30	0.17	0.17	0.17	0.19	0.56	0.56	0.05	0.42	0.42
Sat Flow, veh/h	1707	1748	1330	60	1728	1179	1810	3680	21	1792	2881	656
Grp Volume(v), veh/h	186	113	107	73	0	221	100	437	459	68	391	384
Grp Sat Flow(s),veh/h/ln	1707	1703	1375	1787	0	1179	1810	1805	1896	1792	1787	1750
Q Serve(g_s), s	12.1	7.0	8.2	0.0	0.0	24.5	6.7	19.9	19.9	5.3	22.8	22.9
Cycle Q Clear(g_c), s	12.1	7.0	8.2	4.7	0.0	24.5	6.7	19.9	19.9	5.3	22.8	22.9
Prop In Lane	1.00		0.97	0.07		1.00	1.00		0.01	1.00		0.38
Lane Grp Cap(c), veh/h	227	509	411	562	0	206	338	1004	1054	87	747	731
V/C Ratio(X)	0.82	0.22	0.26	0.13	0.00	1.07	0.30	0.44	0.44	0.78	0.52	0.53
Avail Cap(c_a), veh/h	307	590	476	562	0	206	338	1004	1054	198	747	731
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	0.99	0.00	0.99	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	36.8	37.3	49.6	0.0	57.8	49.0	18.2	18.2	65.9	30.4	30.4
Incr Delay (d2), s/veh	12.0	0.2	0.3	0.0	0.0	82.4	0.2	1.2	1.1	5.7	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.3	3.2	2.0	0.0	12.7	3.3	10.2	10.7	2.7	11.8	11.6
LnGrp Delay(d),s/veh	53.9	37.1	37.6	49.6	0.0	140.2	49.2	19.4	19.3	71.6	33.0	33.1
LnGrp LOS	D	D	D	D		F	D	B	B	E	C	C
Approach Vol, veh/h		406			294			996			843	
Approach Delay, s/veh		44.9			117.7			22.3			36.1	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.3	82.3	17.4	29.0	30.6	63.0		46.4
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	62.5	21.0	24.5	19.5	58.5		48.5
Max Q Clear Time (g_c+I1), s	7.3	21.9	14.1	26.5	8.7	24.9		10.2
Green Ext Time (p_c), s	0.0	6.0	0.3	0.0	2.5	0.8		3.1

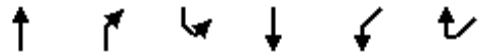
Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	18	0	23	23	57	0	1482	48	8	526	272
Future Volume (vph)	148	18	0	23	23	57	0	1482	48	8	526	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	0.96			0.98	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1639			3292	1509		3554			3536	1537
Flt Permitted	0.72	0.74			0.79	1.00		1.00			0.92	1.00
Satd. Flow (perm)	1233	1258			2664	1509		3554			3250	1537
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	157	19	0	24	24	61	0	1577	51	9	560	289
RTOR Reduction (vph)	0	0	0	0	0	55	0	1	0	0	0	48
Lane Group Flow (vph)	88	88	0	0	48	6	0	1627	0	0	569	241
Confl. Peds. (#/hr)							7		2	2		7
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2				1		1
Actuated Green, G (s)	14.4	14.4			14.4	14.4		116.6			116.6	116.6
Effective Green, g (s)	14.4	14.4			14.4	14.4		116.6			116.6	116.6
Actuated g/C Ratio	0.10	0.10			0.10	0.10		0.83			0.83	0.83
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	126	129			274	155		2959			2706	1280
v/s Ratio Prot								c0.46				
v/s Ratio Perm	c0.07	0.07			0.02	0.00					0.18	0.16
v/c Ratio	0.70	0.68			0.18	0.04		0.55			0.21	0.19
Uniform Delay, d1	60.7	60.6			57.4	56.6		3.6			2.4	2.3
Progression Factor	0.52	0.52			1.00	1.00		1.04			0.43	0.17
Incremental Delay, d2	12.5	11.0			0.1	0.0		0.6			0.2	0.3
Delay (s)	44.1	42.5			57.5	56.6		4.4			1.2	0.7
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		43.3			57.0			4.4			1.0	
Approach LOS		D			E			A			A	

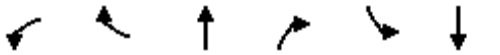
Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	921	1470	0	697	589	0
Future Volume (vph)	921	1470	0	697	589	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	949	1515	0	719	607	0
RTOR Reduction (vph)	0	725	0	0	0	0
Lane Group Flow (vph)	949	790	0	719	607	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	73.0	73.0		73.0	58.0	
Effective Green, g (s)	73.0	73.0		73.0	58.0	
Actuated g/C Ratio	0.52	0.52		0.52	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1863	1467		1882	1422	
v/s Ratio Prot	0.27			0.20	c0.18	
v/s Ratio Perm		c0.28				
v/c Ratio	0.51	0.54		0.38	0.43	
Uniform Delay, d1	21.8	22.3		20.0	29.2	
Progression Factor	1.00	1.00		0.38	0.52	
Incremental Delay, d2	0.1	0.2		0.0	0.9	
Delay (s)	21.9	22.5		7.6	16.0	
Level of Service	C	C		A	B	
Approach Delay (s)	22.3			7.6	16.0	
Approach LOS	C			A	B	

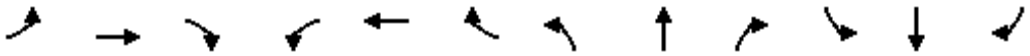
Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	166	1359
Future Volume (veh/h)	100	0	0	0	166	1359
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			180	1477
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			372	2883
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				344	3104
Grp Volume(v), veh/h	0.0				878	779
Grp Sat Flow(s),veh/h/ln					1753	1610
Q Serve(g_s), s					37.1	39.4
Cycle Q Clear(g_c), s					40.9	39.4
Prop In Lane					0.21	
Lane Grp Cap(c), veh/h					1717	1538
V/C Ratio(X)					0.51	0.51
Avail Cap(c_a), veh/h					1717	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					15.5	15.0
Incr Delay (d2), s/veh					1.1	1.2
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					20.5	18.1
LnGrp Delay(d),s/veh					16.6	16.2
LnGrp LOS					B	B
Approach Vol, veh/h						1657
Approach Delay, s/veh						16.4
Approach LOS						B

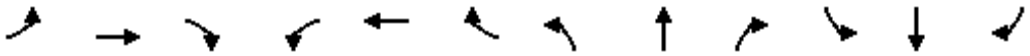
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		42.9						
Green Ext Time (p_c), s		2.1						

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	111	0	0	70	199	25	1005	90	0	0	0
Future Volume (vph)	60	111	0	0	70	199	25	1005	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.84			0.98				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.90			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1794			1429			3430				
Flt Permitted		0.71			1.00			1.00				
Satd. Flow (perm)		1300			1429			3430				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	122	0	0	77	219	27	1104	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	26	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	188	0	0	270	0	0	1219	0	0	0	0
Confl. Peds. (#/hr)	200		131	131		200	28		72	72		28
Confl. Bikes (#/hr)			9			26			95			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		13.1			13.1			28.4				
Effective Green, g (s)		13.1			13.1			28.4				
Actuated g/C Ratio		0.26			0.26			0.57				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		340			374			1948				
v/s Ratio Prot					c0.19							
v/s Ratio Perm		0.14						0.36				
v/c Ratio		0.55			0.72			0.63				
Uniform Delay, d1		15.9			16.8			7.2				
Progression Factor		1.01			1.20			1.00				
Incremental Delay, d2		0.9			5.7			1.5				
Delay (s)		17.0			25.9			8.8				
Level of Service		B			C			A				
Approach Delay (s)		17.0			25.9			8.8			0.0	
Approach LOS		B			C			A			A	

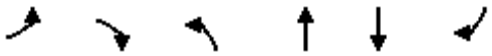
Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	131	23	10	81	25	30	230	15	15	249	40
Future Volume (vph)	35	131	23	10	81	25	30	230	15	15	249	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.86			0.96			0.90	
Flpb, ped/bikes		0.91			0.96			0.95			0.98	
Frt		0.98			0.97			0.99			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1556			1528			1610			1563	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1470			1493			1531			1537	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	139	24	11	86	27	32	245	16	16	265	43
RTOR Reduction (vph)	0	2	0	0	8	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	198	0	0	116	0	0	291	0	0	321	0
Confl. Peds. (#/hr)	596		653	653		596	903		681	681		903
Confl. Bikes (#/hr)			26			33			80			29
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		499			507			750			753	
v/s Ratio Prot												
v/s Ratio Perm		c0.13			0.08			0.19			c0.21	
v/c Ratio		0.40			0.23			0.39			0.43	
Uniform Delay, d1		12.6			11.8			8.0			8.2	
Progression Factor		1.41			0.46			0.81			1.22	
Incremental Delay, d2		2.0			1.0			1.5			1.5	
Delay (s)		19.8			6.4			8.0			11.5	
Level of Service		B			A			A			B	
Approach Delay (s)		19.8			6.4			8.0			11.5	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	101	61	685	653	45
Future Volume (vph)	95	101	61	685	653	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.82		1.00	1.00	0.97	
Flpb, ped/bikes	1.00		0.84	1.00	1.00	
Frt	0.93		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1420		1408	3343	3168	
Flt Permitted	0.98		0.32	1.00	1.00	
Satd. Flow (perm)	1420		469	3343	3168	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	110	66	745	710	49
RTOR Reduction (vph)	17	0	0	0	10	0
Lane Group Flow (vph)	196	0	66	745	749	0
Confl. Peds. (#/hr)	722	512	293			293
Confl. Bikes (#/hr)		6				17
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	18.0		23.5	23.5	23.5	
Effective Green, g (s)	18.0		23.5	23.5	23.5	
Actuated g/C Ratio	0.36		0.47	0.47	0.47	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	511		220	1571	1488	
v/s Ratio Prot	c0.14			0.22	c0.24	
v/s Ratio Perm			0.14			
v/c Ratio	0.38		0.30	0.47	0.50	
Uniform Delay, d1	11.9		8.2	9.0	9.2	
Progression Factor	0.70		1.03	1.12	1.20	
Incremental Delay, d2	2.1		3.4	1.0	1.1	
Delay (s)	10.4		11.8	11.1	12.2	
Level of Service	B		B	B	B	
Approach Delay (s)	10.4			11.2	12.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

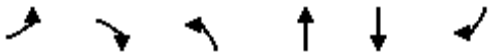
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	147	148	0	65	133	0	89	85
Future Vol, veh/h	0	147	148	0	65	133	0	89	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	167	168	0	74	151	0	101	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	11.8	9.8	10.8
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	50%	51%
Vol Thru, %	33%	0%	49%
Vol Right, %	67%	50%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	198	295	174
LT Vol	0	147	89
Through Vol	65	0	85
RT Vol	133	148	0
Lane Flow Rate	225	335	198
Geometry Grp	1	1	1
Degree of Util (X)	0.296	0.45	0.297
Departure Headway (Hd)	4.741	4.828	5.401
Convergence, Y/N	Yes	Yes	Yes
Cap	749	741	658
Service Time	2.822	2.898	3.487
HCM Lane V/C Ratio	0.3	0.452	0.301
HCM Control Delay	9.8	11.8	10.8
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.2	2.3	1.2

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	128	15	85	5	278	128	332	129	222
Future Volume (vph)	128	15	85	5	278	128	332	129	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1517		1742	1780		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1517		1742	1780		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	141	16	93	5	305	141	365	142	244
RTOR Reduction (vph)	0	76	0	0	18	0	0	66	0
Lane Group Flow (vph)	141	33	0	5	428	0	365	320	0
Confl. Peds. (#/hr)			54	13					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	14.1	14.1		24.9	24.9		22.9	22.9	
Effective Green, g (s)	14.1	14.1		24.9	24.9		22.9	22.9	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	324	278		564	576		516	462	
v/s Ratio Prot	c0.08	0.02			c0.24		c0.21		
v/s Ratio Perm				0.00				0.21	
v/c Ratio	0.44	0.12		0.01	0.74		0.71	0.69	
Uniform Delay, d1	27.9	26.2		17.6	23.2		24.0	23.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.0	6.2		5.5	5.6	
Delay (s)	28.8	26.4		17.6	29.4		29.5	29.5	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		27.8			29.2		29.5		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	262	0	0	1349	165
Future Volume (vph)	0	262	0	0	1349	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.74
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1164
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1164
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	273	0	0	1405	172
RTOR Reduction (vph)	0	22	0	0	0	25
Lane Group Flow (vph)	0	251	0	0	1405	147
Confl. Peds. (#/hr)	178		117			117
Confl. Bikes (#/hr)		2				38
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		20.2			70.3	70.3
Effective Green, g (s)		20.2			70.3	70.3
Actuated g/C Ratio		0.20			0.70	0.70
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		319			2487	818
v/s Ratio Prot		c0.16			c0.40	
v/s Ratio Perm						0.13
v/c Ratio		0.79			0.56	0.18
Uniform Delay, d1		37.8			7.3	5.0
Progression Factor		1.00			0.47	0.41
Incremental Delay, d2		11.1			0.7	0.4
Delay (s)		49.0			4.1	2.5
Level of Service		D			A	A
Approach Delay (s)	49.0			0.0	4.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	49.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	158	1458
Future Vol, veh/h	115	0	0	0	158	1458
Conflicting Peds, #/hr	15	30	0	15	30	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	166	1535

Major/Minor	Minor1		Major2	
Conflicting Flow All	1145	-	30	0
Stage 1	30	-	-	-
Stage 2	1115	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	196	0	1581	-
Stage 1	-	0	-	-
Stage 2	280	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 55	-	1581	-
Mov Cap-2 Maneuver	~ 55	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 81	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 711.9	2.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	55	1581	-
HCM Lane V/C Ratio	2.201	0.105	-
HCM Control Delay (s)	$ 711.9	7.5	2.2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	12	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	308.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	45	15	20	95	25	22	25	5	20	80	51
Future Vol, veh/h	10	45	15	20	95	25	22	25	5	20	80	51
Conflicting Peds, #/hr	408	0	441	416	0	383	441	0	416	383	0	408
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	12	54	18	24	113	30	26	30	6	24	95	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1179	1118	1008	1151	1146	857	597	0	0	452	0	0
Stage 1	614	614	-	501	501	-	-	-	-	-	-	-
Stage 2	565	504	-	650	645	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	166	205	289	169	193	345	989	-	-	1119	-	-
Stage 1	476	480	-	538	530	-	-	-	-	-	-	-
Stage 2	506	538	-	445	455	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	78	116	25	~ 74	149	626	-	-	739	-	-
Mov Cap-2 Maneuver	-	78	-	25	~ 74	-	-	-	-	-	-	-
Stage 1	288	293	-	337	332	-	-	-	-	-	-	-
Stage 2	169	337	-	188	277	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 906.1	4.7	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	626	-	-	-	62	739	-	-
HCM Lane V/C Ratio	0.042	-	-	-	2.688	0.032	-	-
HCM Control Delay (s)	11	0	-	-$	906.1	10	0	-
HCM Lane LOS	B	A	-	-	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	16.8	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	50	20	0	35	75	25	0	60	270	15
Future Vol, veh/h	0	5	50	20	0	35	75	25	0	60	270	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	56	22	0	39	84	28	0	67	303	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.5	10.2	13.6
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	7%	26%	11%
Vol Thru, %	78%	67%	56%	80%
Vol Right, %	4%	27%	19%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	345	75	135	178
LT Vol	60	5	35	20
Through Vol	270	50	75	143
RT Vol	15	20	25	15
Lane Flow Rate	388	84	152	200
Geometry Grp	1	1	1	1
Degree of Util (X)	0.537	0.131	0.233	0.296
Departure Headway (Hd)	4.989	5.599	5.52	5.323
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	640	651	676
Service Time	2.989	3.64	3.557	3.353
HCM Lane V/C Ratio	0.532	0.131	0.233	0.296
HCM Control Delay	13.6	9.5	10.2	10.6
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.2	0.4	0.9	1.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	143	15
Future Vol, veh/h	0	20	143	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	161	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.6
HCM LOS	B

Intersection	
Int Delay, s/veh	247.6

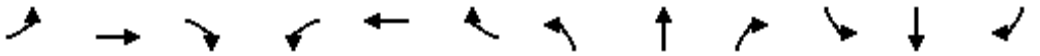
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	50	20	43	75	30	10	240	17	35	242	35
Future Vol, veh/h	10	50	20	43	75	30	10	240	17	35	242	35
Conflicting Peds, #/hr	1133	0	1232	1287	0	1188	1232	0	1287	1188	0	1133
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	56	22	48	84	34	11	270	19	39	272	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3151	3200	2811	3286	3211	2754	1543	0	0	1576	0	0
Stage 1	1602	1602	-	1589	1589	-	-	-	-	-	-	-
Stage 2	1549	1598	-	1697	1622	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	~ 7	~ 10	24	~ 5	~ 10	~ 26	400	-	-	407	-	-
Stage 1	134	167	-	137	169	-	-	-	-	-	-	-
Stage 2	144	167	-	118	163	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	0	-	0	0	~ -29	-	-	~ 4	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 4	0	-	~ 10	~ -12	-	-	-	-	-	-	-
Stage 2	12	~ -12	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				$ 640.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	-	-	~ 4	-	-
HCM Lane V/C Ratio	-	-	-	-	-	9.831	-	-
HCM Control Delay (s)	-	-	-	-	-	$ 5708.1	0	-
HCM Lane LOS	-	-	-	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-	6.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	15	48	70	35	105	41	605	90	90	601	63
Future Volume (vph)	41	15	48	70	35	105	41	605	90	90	601	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.88			1.00	0.60	1.00	1.00	0.48	1.00	0.94	
Flpb, ped/bikes		0.87			0.87	1.00	0.80	1.00	1.00	0.81	1.00	
Frt		0.94			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1332			1590	960	1341	3343	724	1363	3142	
Flt Permitted		0.85			0.72	1.00	0.36	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1152			1187	960	513	3343	724	561	3142	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	16	52	76	38	114	45	658	98	98	653	68
RTOR Reduction (vph)	0	36	0	0	0	82	0	0	26	0	2	0
Lane Group Flow (vph)	0	77	0	0	114	32	45	658	72	98	719	0
Confl. Peds. (#/hr)	540		179	179		540	368		213	213		368
Confl. Bikes (#/hr)			11			3			17			11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Effective Green, g (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		213			219	177	374	2440	528	409	2293	
v/s Ratio Prot								0.20			c0.23	
v/s Ratio Perm		0.07			c0.10	0.03	0.09		0.10	0.17		
v/c Ratio		0.36			0.52	0.18	0.12	0.27	0.14	0.24	0.31	
Uniform Delay, d1		35.6			36.8	34.3	4.0	4.5	4.0	4.4	4.7	
Progression Factor		0.95			1.00	1.00	0.55	0.52	0.44	0.64	0.62	
Incremental Delay, d2		1.0			2.2	0.5	0.6	0.3	0.5	1.2	0.3	
Delay (s)		35.0			39.0	34.8	2.8	2.6	2.3	4.0	3.3	
Level of Service		D			D	C	A	A	A	A	A	
Approach Delay (s)		35.0			36.9			2.6			3.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	100.6
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	235	340	25	0	5	266	265
Future Vol, veh/h	0	95	185	15	0	235	340	25	0	5	266	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	240	347	26	0	5	271	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	35.6	230.6	27.6
HCM LOS	E	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	6%
Vol Thru, %	98%	0%	63%	57%	55%
Vol Right, %	0%	100%	5%	4%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	271	265	295	600	330
LT Vol	5	0	95	235	20
Through Vol	266	0	185	340	180
RT Vol	0	265	15	25	130
Lane Flow Rate	277	270	301	612	337
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.669	0.601	0.73	1.432	0.789
Departure Headway (Hd)	9.876	9.133	9.945	8.418	9.75
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	368	398	367	435	374
Service Time	7.576	6.833	7.945	6.418	7.75
HCM Lane V/C Ratio	0.753	0.678	0.82	1.407	0.901
HCM Control Delay	30.4	24.7	35.6	230.6	40.9
HCM Lane LOS	D	C	E	F	E
HCM 95th-tile Q	4.6	3.8	5.6	30.6	6.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	180	130
Future Vol, veh/h	0	20	180	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	184	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	40.9
HCM LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	305	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	305	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	79	87	0	79
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	332	0	0	27	0	0

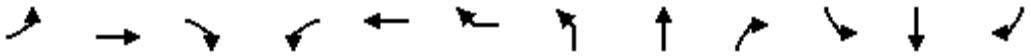
Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	-	0	-	-	0	411	419		
Stage 1	-	-	-	-	-	-	332	-		
Stage 2	-	-	-	-	-	-	79	-		
Critical Hdwy	-	-	-	-	-	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-		
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3		
Pot Cap-1 Maneuver	0	0	-	0	-	0	601	638		
Stage 1	0	0	-	0	-	0	731	-		
Stage 2	0	0	-	0	-	0	-	-		
Platoon blocked, %			-		-					
Mov Cap-1 Maneuver	-	-	-	-	-	-	601	592		
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	-		
Stage 1	-	-	-	-	-	-	731	-		
Stage 2	-	-	-	-	-	-	-	-		

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	592
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	11.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	856	423	86	1457	0	0
Future Volume (vph)	0	0	856	423	86	1457	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.93	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1466	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1466	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	911	450	91	1550	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	911	450	91	1550	0	0
Confl. Peds. (#/hr)	17	15		17	15			
Confl. Bikes (#/hr)				153				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.2	36.2	13.1	58.3		
Effective Green, g (s)			36.2	36.2	13.1	58.3		
Actuated g/C Ratio			0.62	0.62	0.22	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2197	910	393	3505		
v/s Ratio Prot			0.26		0.05	c0.44		
v/s Ratio Perm				0.31				
v/c Ratio			0.41	0.49	0.23	0.44		
Uniform Delay, d1			5.6	6.0	18.5	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.2	0.1	0.0		
Delay (s)			5.7	6.2	18.6	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.9			1.1	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



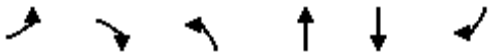
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	341	171	10	320	15	107	280	20	10	113	75
Future Volume (vph)	50	341	171	10	320	15	107	280	20	10	113	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.95			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3363			3512			1826			1763	
Flt Permitted		0.88			0.93			0.85			0.98	
Satd. Flow (perm)		2963			3286			1576			1726	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	375	188	11	352	16	118	308	22	11	124	82
RTOR Reduction (vph)	0	49	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	569	0	0	379	0	0	446	0	0	217	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1111			1232			843			923	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.12			c0.28			0.13	
v/c Ratio		0.51			0.31			0.53			0.24	
Uniform Delay, d1		24.2			22.1			15.1			12.4	
Progression Factor		1.00			0.88			1.00			1.00	
Incremental Delay, d2		1.7			0.6			2.4			0.6	
Delay (s)		25.9			20.2			17.5			13.0	
Level of Service		C			C			B			B	
Approach Delay (s)		25.9			20.2			17.5			13.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	270	19	5	207	10	38	190	25	20	190	90
Future Volume (veh/h)	82	270	19	5	207	10	38	190	25	20	190	90
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	89	293	21	5	225	11	41	207	27	22	207	98
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	1127	83	50	1611	78	119	573	71	63	491	221
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	601	2324	171	27	3322	160	182	1349	167	59	1155	520
Grp Volume(v), veh/h	198	0	205	126	0	115	275	0	0	327	0	0
Grp Sat Flow(s),veh/h/ln	1430	0	1665	1842	0	1667	1698	0	0	1734	0	0
Q Serve(g_s), s	2.9	0.0	5.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	5.2	3.7	0.0	3.8	10.2	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.45		0.10	0.04		0.10	0.15		0.10	0.07		0.30
Lane Grp Cap(c), veh/h	746	0	808	931	0	808	763	0	0	775	0	0
V/C Ratio(X)	0.27	0.00	0.25	0.14	0.00	0.14	0.36	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	746	0	808	931	0	808	763	0	0	775	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	10.1	14.2	0.0	14.2	19.5	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.3	0.0	0.4	1.3	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.5	2.0	0.0	1.8	5.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	11.1	0.0	10.8	14.5	0.0	14.6	20.8	0.0	0.0	6.3	0.0	0.0
LnGrp LOS	B		B	B		B	C			A		
Approach Vol, veh/h		403			241			275			327	
Approach Delay, s/veh		11.0			14.6			20.8			6.3	
Approach LOS		B			B			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.8		12.2		8.7		6.4
Green Ext Time (p_c), s		0.7		0.7		0.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	82	576	589	135
Future Volume (vph)	160	150	82	576	589	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.88	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2940		1439	3252	2995	
Flt Permitted	0.97		0.33	1.00	1.00	
Satd. Flow (perm)	2940		504	3252	2995	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	85	600	614	141
RTOR Reduction (vph)	0	0	0	0	20	0
Lane Group Flow (vph)	323	0	85	600	735	0
Confl. Peds. (#/hr)	6	3	375			375
Confl. Bikes (#/hr)						11
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	29.5		60.0	60.0	60.0	
Effective Green, g (s)	29.5		60.0	60.0	60.0	
Actuated g/C Ratio	0.29		0.60	0.60	0.60	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	867		302	1951	1797	
v/s Ratio Prot	c0.11			0.18	c0.25	
v/s Ratio Perm			0.17			
v/c Ratio	0.37		0.28	0.31	0.41	
Uniform Delay, d1	27.9		9.6	9.8	10.6	
Progression Factor	0.71		0.32	0.32	0.47	
Incremental Delay, d2	1.2		2.0	0.4	0.7	
Delay (s)	21.1		5.1	3.5	5.6	
Level of Service	C		A	A	A	
Approach Delay (s)	21.1			3.7	5.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	134.7
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	287	0	145	315	0	409	206
Future Vol, veh/h	0	330	287	0	145	315	0	409	206
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	312	0	158	342	0	445	224
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	154.4	67.7	165.1
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	67%	0%	32%
Vol Thru, %	0%	53%	68%
Vol Right, %	33%	47%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	615	617	460
LT Vol	409	0	145
Through Vol	0	330	315
RT Vol	206	287	0
Lane Flow Rate	668	671	500
Geometry Grp	1	1	1
Degree of Util (X)	1.283	1.254	0.982
Departure Headway (Hd)	7.355	7.531	8.245
Convergence, Y/N	Yes	Yes	Yes
Cap	501	490	445
Service Time	5.355	5.531	6.245
HCM Lane V/C Ratio	1.333	1.369	1.124
HCM Control Delay	165.1	154.4	67.7
HCM Lane LOS	F	F	F
HCM 95th-tile Q	26.3	24.4	12.2

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	53	56	0	50	41	50	0	35	262	25
Future Vol, veh/h	0	95	53	56	0	50	41	50	0	35	262	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	107	60	63	0	56	46	56	0	39	294	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.3	11.9	17
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	47%	35%	3%
Vol Thru, %	81%	26%	29%	77%
Vol Right, %	8%	27%	35%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	322	204	141	289
LT Vol	35	95	50	10
Through Vol	262	53	41	222
RT Vol	25	56	50	57
Lane Flow Rate	362	229	158	325
Geometry Grp	1	1	1	1
Degree of Util (X)	0.59	0.396	0.279	0.522
Departure Headway (Hd)	5.873	6.213	6.341	5.782
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	578	566	627
Service Time	3.886	4.261	4.395	3.795
HCM Lane V/C Ratio	0.585	0.396	0.279	0.518
HCM Control Delay	17	13.3	11.9	14.9
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.8	1.9	1.1	3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	10	222	57
Future Vol, veh/h	0	10	222	57
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	249	64
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.9
HCM LOS	B

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	68	10	0	35	111	25	0	5	213	16
Future Vol, veh/h	0	20	68	10	0	35	111	25	0	5	213	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	78	11	0	40	128	29	0	6	245	18
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

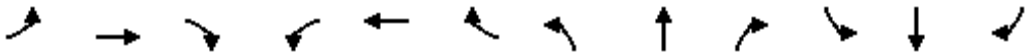
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.8	10.8	11.4
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	20%	20%	2%
Vol Thru, %	91%	69%	65%	89%
Vol Right, %	7%	10%	15%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	234	98	171	219
LT Vol	5	20	35	5
Through Vol	213	68	111	194
RT Vol	16	10	25	20
Lane Flow Rate	269	113	197	252
Geometry Grp	1	1	1	1
Degree of Util (X)	0.386	0.175	0.297	0.358
Departure Headway (Hd)	5.163	5.602	5.441	5.126
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	640	660	702
Service Time	3.193	3.642	3.476	3.159
HCM Lane V/C Ratio	0.386	0.177	0.298	0.359
HCM Control Delay	11.4	9.8	10.8	11
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.8	0.6	1.2	1.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	194	20
Future Vol, veh/h	0	5	194	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	223	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11
HCM LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	32	26	109	109	149	23	478	54	92	608	34
Future Volume (vph)	31	32	26	109	109	149	23	478	54	92	608	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.84			1.00	0.57	1.00	0.97		1.00	0.98	
Flpb, ped/bikes		0.91			0.78	1.00	0.91	1.00		0.88	1.00	
Frt		0.96			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1344			1314	832	1507	3149		1458	3231	
Flt Permitted		0.86			0.82	1.00	0.24	1.00		0.32	1.00	
Satd. Flow (perm)		1179			1103	832	380	3149		486	3231	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	34	27	115	115	157	24	503	57	97	640	36
RTOR Reduction (vph)	0	14	0	0	0	111	0	9	0	0	4	0
Lane Group Flow (vph)	0	80	0	0	230	46	24	551	0	97	672	0
Confl. Peds. (#/hr)	809		1604	1604		809	180		191	191		180
Confl. Bikes (#/hr)			219			89			26			12
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Effective Green, g (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Actuated g/C Ratio		0.29			0.29	0.29	0.32	0.32		0.32	0.32	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		341			319	241	119	991		153	1017	
v/s Ratio Prot								0.18			c0.21	
v/s Ratio Perm		0.07			c0.21	0.05	0.06			0.20		
v/c Ratio		0.23			0.72	0.19	0.20	0.56		0.63	0.66	
Uniform Delay, d1		27.0			31.9	26.7	25.1	28.4		29.3	29.6	
Progression Factor		1.00			1.00	1.00	1.34	1.32		0.71	0.70	
Incremental Delay, d2		1.6			13.2	1.7	2.8	1.7		17.2	3.1	
Delay (s)		28.6			45.1	28.4	36.4	39.3		38.1	24.0	
Level of Service		C			D	C	D	D		D	C	
Approach Delay (s)		28.6			38.3			39.2			25.8	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	153	0	15	20	0	257	5
Future Vol, veh/h	0	5	153	0	15	20	0	257	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	178	0	17	23	0	299	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	11.2
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	3%	57%
Vol Right, %	2%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	262	158	35
LT Vol	257	0	15
Through Vol	0	5	20
RT Vol	5	153	0
Lane Flow Rate	305	184	41
Geometry Grp	1	1	1
Degree of Util (X)	0.408	0.222	0.056
Departure Headway (Hd)	4.827	4.343	4.982
Convergence, Y/N	Yes	Yes	Yes
Cap	746	829	718
Service Time	2.859	2.364	3.015
HCM Lane V/C Ratio	0.409	0.222	0.057
HCM Control Delay	11.2	8.6	8.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2	0.8	0.2

Intersection	
Intersection Delay, s/veh	105.4
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	520	480	0	135	594	0	372	60
Future Vol, veh/h	0	520	480	0	135	594	0	372	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	547	505	0	142	625	0	392	63
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	110.2	127.8	56.7
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	594	520	480	372	60
LT Vol	0	0	520	0	372	0
Through Vol	135	0	0	0	0	60
RT Vol	0	594	0	480	0	0
Lane Flow Rate	142	625	547	505	392	63
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.312	1.253	1.243	0.979	0.946	0.144
Departure Headway (Hd)	8.208	7.482	8.599	7.359	9.266	8.746
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	441	488	427	495	395	412
Service Time	5.908	5.182	6.299	5.059	6.966	6.446
HCM Lane V/C Ratio	0.322	1.281	1.281	1.02	0.992	0.153
HCM Control Delay	14.6	153.5	154.3	62.5	63.8	12.9
HCM Lane LOS	B	F	F	F	F	B
HCM 95th-tile Q	1.3	24.5	21.7	12.8	10.5	0.5

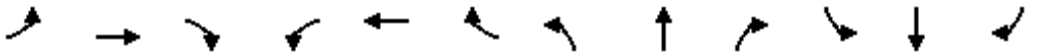
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	764	123	15	823	147	15
Future Volume (vph)	764	123	15	823	147	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	0.99	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	1802		1787	1881	1750	
Flt Permitted	1.00		0.20	1.00	0.96	
Satd. Flow (perm)	1802		377	1881	1750	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	822	132	16	885	158	16
RTOR Reduction (vph)	5	0	0	0	4	0
Lane Group Flow (vph)	949	0	16	885	170	0
Confl. Peds. (#/hr)		33	33		27	18
Confl. Bikes (#/hr)		5				17
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	72.3		72.3	72.3	17.7	
Effective Green, g (s)	72.3		72.3	72.3	17.7	
Actuated g/C Ratio	0.72		0.72	0.72	0.18	
Clearance Time (s)	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	0.2		0.2	0.2	2.0	
Lane Grp Cap (vph)	1302		272	1359	309	
v/s Ratio Prot	c0.53			0.47	c0.10	
v/s Ratio Perm			0.04			
v/c Ratio	0.73		0.06	0.65	0.55	
Uniform Delay, d1	8.1		4.0	7.2	37.5	
Progression Factor	1.00		0.21	0.80	1.00	
Incremental Delay, d2	3.6		0.4	2.1	1.1	
Delay (s)	11.7		1.2	7.9	38.6	
Level of Service	B		A	A	D	
Approach Delay (s)	11.7			7.8	38.6	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	898	5	35	654	87	45	105	30	93	40	210
Future Volume (veh/h)	160	898	5	35	654	87	45	105	30	93	40	210
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.89	1.00		0.80	1.00		0.83
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	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	174	976	5	38	711	95	49	114	33	101	43	228
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	395	1633	8	188	1050	140	85	193	56	200	47	249
Arrive On Green	0.22	0.46	0.46	0.21	0.67	0.67	0.05	0.15	0.15	0.11	0.22	0.22
Sat Flow, veh/h	1757	3574	18	1792	3117	416	1707	1258	364	1740	216	1143
Grp Volume(v), veh/h	174	479	502	38	407	399	49	0	147	101	0	271
Grp Sat Flow(s),veh/h/ln	1757	1752	1839	1792	1787	1745	1707	0	1623	1740	0	1358
Q Serve(g_s), s	8.5	20.4	20.4	1.8	13.7	13.7	2.8	0.0	8.4	5.5	0.0	19.5
Cycle Q Clear(g_c), s	8.5	20.4	20.4	1.8	13.7	13.7	2.8	0.0	8.4	5.5	0.0	19.5
Prop In Lane	1.00		0.01	1.00		0.24	1.00		0.22	1.00		0.84
Lane Grp Cap(c), veh/h	395	801	841	188	602	588	85	0	249	200	0	297
V/C Ratio(X)	0.44	0.60	0.60	0.20	0.68	0.68	0.57	0.00	0.59	0.51	0.00	0.91
Avail Cap(c_a), veh/h	395	801	841	188	602	588	119	0	313	209	0	330
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	20.3	20.3	36.1	13.0	13.0	46.5	0.0	39.4	41.6	0.0	38.2
Incr Delay (d2), s/veh	0.2	2.0	1.9	0.2	5.4	5.6	2.3	0.0	0.8	0.7	0.0	25.9
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	4.2	10.3	10.8	0.9	7.5	7.3	1.4	0.0	3.9	2.7	0.0	9.4
LnGrp Delay(d),s/veh	33.5	22.3	22.2	36.3	18.4	18.6	48.7	0.0	40.2	42.3	0.0	64.1
LnGrp LOS	C	C	C	D	B	B	D		D	D		E
Approach Vol, veh/h		1155			844			196			372	
Approach Delay, s/veh		23.9			19.3			42.4			58.2	
Approach LOS		C			B			D			E	

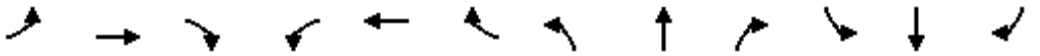
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.5	38.2	15.5	19.8	14.5	50.2	9.0	26.3
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	18.0	33.7	12.0	19.3	6.0	45.7	7.0	24.3
Max Q Clear Time (g_c+I1), s	10.5	15.7	7.5	10.4	3.8	22.4	4.8	21.5
Green Ext Time (p_c), s	0.2	3.3	0.1	0.3	0.1	4.4	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	28.8
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	933	0	5	678	63	40	60	70	183	5	58
Future Volume (vph)	88	933	0	5	678	63	40	60	70	183	5	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.95			1.00	0.90		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.94	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3304			1840	1448		1625	
Flt Permitted	0.95	1.00		0.95	1.00			0.84	1.00		0.72	
Satd. Flow (perm)	1787	3574		1752	3304			1570	1448		1207	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	90	952	0	5	692	64	41	61	71	187	5	59
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	51	0	13	0
Lane Group Flow (vph)	90	952	0	5	750	0	0	102	20	0	238	0
Confl. Peds. (#/hr)	258		203	203		258	53		93	93		53
Confl. Bikes (#/hr)						6						2
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	10.4	57.8		1.0	48.4			28.2	28.2		28.2	
Effective Green, g (s)	10.4	57.8		1.0	48.4			28.2	28.2		28.2	
Actuated g/C Ratio	0.10	0.58		0.01	0.48			0.28	0.28		0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	185	2065		17	1599			442	408		340	
v/s Ratio Prot	c0.05	c0.27		0.00	0.23							
v/s Ratio Perm								0.06	0.01		c0.20	
v/c Ratio	0.49	0.46		0.29	0.47			0.23	0.05		0.70	
Uniform Delay, d1	42.3	12.1		49.1	17.2			27.6	26.1		32.1	
Progression Factor	0.66	0.59		0.81	0.05			1.00	1.00		1.00	
Incremental Delay, d2	0.6	0.7		2.5	0.7			0.3	0.1		6.4	
Delay (s)	28.5	7.8		42.3	1.6			27.8	26.2		38.5	
Level of Service	C	A		D	A			C	C		D	
Approach Delay (s)		9.6			1.9			27.2			38.5	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	1119	15	113	644	233	15	265	399	475	176	87
Future Volume (vph)	52	1119	15	113	644	233	15	265	399	475	176	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.88		0.81		1.00	0.93	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.99	
Satd. Flow (prot)	1787	3537		1703	3406	1347		2624		1573	1469	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.99	
Satd. Flow (perm)	1787	3537		1703	3406	1347		2624		1573	1469	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	55	1190	16	120	685	248	16	282	424	505	187	93
RTOR Reduction (vph)	0	1	0	0	0	31	0	121	0	0	11	0
Lane Group Flow (vph)	55	1205	0	120	685	217	0	601	0	394	380	0
Confl. Peds. (#/hr)	138		426	426		138	195		260	260		195
Confl. Bikes (#/hr)			2			27			36			18
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	4.6	29.0		6.5	30.9	54.4		23.0		23.5	23.5	
Effective Green, g (s)	4.6	29.0		6.5	30.9	54.4		23.0		23.5	23.5	
Actuated g/C Ratio	0.05	0.29		0.06	0.31	0.54		0.23		0.24	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	82	1025		110	1052	793		603		369	345	
v/s Ratio Prot	0.03	c0.34		c0.07	0.20	0.06		c0.23		0.25	c0.26	
v/s Ratio Perm						0.10						
v/c Ratio	0.67	1.18		1.09	0.65	0.27		1.00		1.07	1.10	
Uniform Delay, d1	47.0	35.5		46.8	29.9	12.2		38.5		38.2	38.2	
Progression Factor	0.90	0.88		1.00	1.00	1.00		1.00		0.86	0.87	
Incremental Delay, d2	14.6	88.8		112.4	3.1	0.2		35.6		59.9	72.0	
Delay (s)	56.7	119.9		159.1	33.0	12.4		74.0		92.8	105.2	
Level of Service	E	F		F	C	B		E		F	F	
Approach Delay (s)		117.2			42.5			74.0			99.0	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	84.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	188	142	60	65	15
Future Vol, veh/h	30	188	142	60	65	15
Conflicting Peds, #/hr	75	0	0	53	53	75
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	33	207	156	66	71	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	297	0	-	0	590	339
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	326	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1259	-	-	-	467	699
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	727	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1180	-	-	-	397	614
Mov Cap-2 Maneuver	-	-	-	-	397	-
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	660	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	15.7
HCM LOS			C

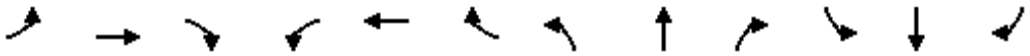
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1180	-	-	-	425
HCM Lane V/C Ratio	0.028	-	-	-	0.207
HCM Control Delay (s)	8.1	0	-	-	15.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection	
Intersection Delay, s/veh	62.4
Intersection LOS	F

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	145	108	0	162	514	0	219	40
Future Vol, veh/h	0	145	108	0	162	514	0	219	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	161	120	0	180	571	0	243	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	15.8	98.5	13.9
HCM LOS	C	F	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	24%	57%	0%
Vol Thru, %	76%	0%	85%
Vol Right, %	0%	43%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	676	253	259
LT Vol	162	145	0
Through Vol	514	0	219
RT Vol	0	108	40
Lane Flow Rate	751	281	288
Geometry Grp	1	1	1
Degree of Util (X)	1.132	0.49	0.456
Departure Headway (Hd)	5.425	6.591	6.003
Convergence, Y/N	Yes	Yes	Yes
Cap	676	551	604
Service Time	3.425	4.591	4.003
HCM Lane V/C Ratio	1.111	0.51	0.477
HCM Control Delay	98.5	15.8	13.9
HCM Lane LOS	F	C	B
HCM 95th-tile Q	23.1	2.7	2.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	272	10	5	661	5	0	0	5	0	0	10
Future Volume (vph)	10	272	10	5	661	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	286	11	5	696	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	297	706	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.09	0.08	-0.60	-0.60
Departure Headway (s)	5.6	5.1	4.5	5.6	5.5
Degree Utilization, x	0.02	0.42	0.88	0.01	0.02
Capacity (veh/h)	626	689	799	596	592
Control Delay (s)	7.5	10.6	30.2	8.6	8.6
Approach Delay (s)	10.5		30.2	8.6	8.6
Approach LOS	B		D	A	A

Intersection Summary				
Delay	24.0			
Level of Service	C			
Intersection Capacity Utilization	59.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	13.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	86	115	2326	75	74	1072
Future Vol, veh/h	86	115	2326	75	74	1072
Conflicting Peds, #/hr	0	3	0	0	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	91	121	2448	79	78	1128

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3211	1270	0	0	2530	0
Stage 1	2491	-	-	-	-	-
Stage 2	720	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 8	162	-	-	175	-
Stage 1	~ 49	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	161	-	-	175	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	~ 49	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	233	0	2.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	175	-
HCM Lane V/C Ratio	-	-	1.314	0.445	-
HCM Control Delay (s)	-	-	233	41.1	-
HCM Lane LOS	-	-	F	E	-
HCM 95th %tile Q(veh)	-	-	12.6	2.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2336	20	0	1163
Future Vol, veh/h	5	40	2336	20	0	1163
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2459	21	0	1224

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3087	1246	0	0	-	-
Stage 1	2472	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	9	165	-	-	0	-
Stage 1	49	-	-	-	0	-
Stage 2	502	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	9	164	-	-	-	-
Mov Cap-2 Maneuver	46	-	-	-	-	-
Stage 1	49	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.8	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	128	-
HCM Lane V/C Ratio	-	-	0.37	-
HCM Control Delay (s)	-	-	48.8	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	1.5	-

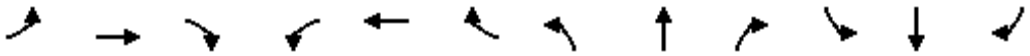
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2361	25	10	1153
Future Vol, veh/h	0	5	2361	25	10	1153
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2459	26	10	1201

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1253	0	0	2490	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	166	-	-	181	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	165	-	-	180	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

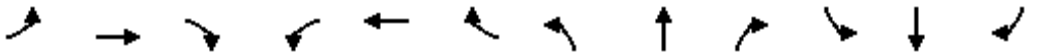
Approach	WB	NB	SB
HCM Control Delay, s	27.5	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	165	180	-
HCM Lane V/C Ratio	-	-	0.032	0.058	-
HCM Control Delay (s)	-	-	27.5	26.2	-
HCM Lane LOS	-	-	D	D	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	534	25	80	168	0	70	0	1722	5	18	949	186
Future Volume (vph)	534	25	80	168	0	70	0	1722	5	18	949	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.86	1.00		0.99		1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.98	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1692	1363	1701		1594		3568			3349	
Flt Permitted	0.95	0.96	1.00	0.34		1.00		1.00			0.86	
Satd. Flow (perm)	1681	1692	1363	610		1594		3568			2889	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	556	26	83	175	0	73	0	1794	5	19	989	194
RTOR Reduction (vph)	0	0	60	0	0	10	0	0	0	0	11	0
Lane Group Flow (vph)	289	293	23	175	0	63	0	1799	0	0	1191	0
Confl. Peds. (#/hr)			76	76			37		176	176		37
Confl. Bikes (#/hr)			8			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4				2		
Actuated Green, G (s)	33.2	33.2	33.2	33.2		33.2		77.8			77.8	
Effective Green, g (s)	33.2	33.2	33.2	33.2		33.2		77.8			77.8	
Actuated g/C Ratio	0.28	0.28	0.28	0.28		0.28		0.65			0.65	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	465	468	377	168		441		2313			1873	
v/s Ratio Prot								c0.50				
v/s Ratio Perm	0.17	0.17	0.02	c0.29		0.04					0.41	
v/c Ratio	0.62	0.63	0.06	1.04		0.14		0.78			0.64	
Uniform Delay, d1	37.9	38.0	31.9	43.4		32.7		15.0			12.6	
Progression Factor	0.73	0.72	1.57	1.00		1.00		0.67			1.00	
Incremental Delay, d2	1.2	1.2	0.0	80.9		0.1		1.3			1.7	
Delay (s)	28.7	28.7	50.2	124.3		32.7		11.3			14.3	
Level of Service	C	C	D	F		C		B			B	
Approach Delay (s)		31.4			97.3			11.3			14.3	
Approach LOS		C			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	524	1394	60	45	749	40	0	0	0	0	0	241
Future Volume (vph)	524	1394	60	45	749	40	0	0	0	0	0	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.64	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1036	1805	3522							1565
Flt Permitted	0.95	1.00	1.00	0.14	1.00							1.00
Satd. Flow (perm)	1805	3610	1036	260	3522							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	563	1499	65	48	805	43	0	0	0	0	0	259
RTOR Reduction (vph)	0	0	33	0	6	0	0	0	0	0	0	24
Lane Group Flow (vph)	563	1499	32	48	842	0	0	0	0	0	0	235
Confl. Peds. (#/hr)			205	205		427			712	712		
Confl. Bikes (#/hr)			7			9		9				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	20.8	29.2	29.2	29.2	29.2							20.8
Effective Green, g (s)	20.8	29.2	29.2	29.2	29.2							20.8
Actuated g/C Ratio	0.35	0.49	0.49	0.49	0.49							0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	625	1756	504	126	1714							542
v/s Ratio Prot	c0.31	c0.42			0.24							0.15
v/s Ratio Perm			0.03	0.18								
v/c Ratio	0.90	0.85	0.06	0.38	0.49							0.43
Uniform Delay, d1	18.6	13.5	8.2	9.7	10.4							15.1
Progression Factor	1.00	1.00	1.00	0.62	0.66							1.22
Incremental Delay, d2	15.8	5.5	0.2	8.2	1.0							0.2
Delay (s)	34.5	19.0	8.4	14.2	7.8							18.6
Level of Service	C	B	A	B	A							B
Approach Delay (s)		22.8			8.2			0.0			18.6	
Approach LOS		C			A			A			B	

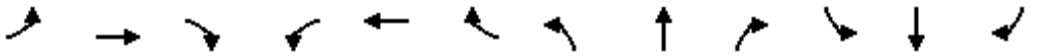
Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1379	15	40	829	65	65
Future Volume (vph)	1379	15	40	829	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.76	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1168	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1168	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1467	16	43	882	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1467	15	43	882	69	5
Confl. Peds. (#/hr)		74	74		41	
Confl. Bikes (#/hr)		7				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	810	194	2674	136	120
v/s Ratio Prot	c0.43		c0.03	0.27	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.61	0.02	0.22	0.33	0.51	0.04
Uniform Delay, d1	9.8	5.7	48.0	3.0	53.3	51.4
Progression Factor	1.31	1.61	0.74	2.80	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.0	1.1	0.1
Delay (s)	13.4	9.2	35.6	8.5	54.4	51.5
Level of Service	B	A	D	A	D	D
Approach Delay (s)	13.4			9.8	52.9	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1444	0	63	20	781	1707	28	5	1162	20
Future Volume (vph)	0	0	1444	0	63	20	781	1707	28	5	1162	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.66
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3496		1752	3505	1037
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3496		1752	3505	1037
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1489	0	65	21	805	1760	29	5	1198	21
RTOR Reduction (vph)	0	0	288	0	0	19	0	1	0	0	0	12
Lane Group Flow (vph)	0	0	1201	0	65	2	805	1788	0	5	1198	9
Confl. Peds. (#/hr)							243		318	318		243
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			101.8		12.9	12.9	31.9	64.4		1.0	51.2	51.2
Effective Green, g (s)			96.8		12.9	12.9	31.9	57.4		1.0	51.2	51.2
Actuated g/C Ratio			0.81		0.11	0.11	0.27	0.48		0.01	0.43	0.43
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2248		200	170	912	1672		14	1495	442
v/s Ratio Prot					0.03		c0.23	c0.51		0.00	0.34	
v/s Ratio Perm			c0.43			0.00						0.01
v/c Ratio			0.53		0.33	0.01	0.88	1.07		0.36	0.80	0.02
Uniform Delay, d1			3.9		49.5	47.9	42.3	31.3		59.2	30.0	19.9
Progression Factor			1.00		1.00	1.00	0.73	1.27		0.87	0.73	1.00
Incremental Delay, d2			0.1		0.3	0.0	8.4	41.6		4.3	3.6	0.1
Delay (s)			4.0		49.9	47.9	39.1	81.3		56.1	25.4	20.0
Level of Service			A		D	D	D	F		E	C	B
Approach Delay (s)		4.0			49.4			68.2			25.4	
Approach LOS		A			D			E			C	

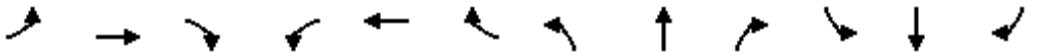
Intersection Summary			
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	877	200	1834	30	30	1972	579	30
Future Volume (vph)	877	200	1834	30	30	1972	579	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4906		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4906		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	914	217	1910	33	33	2054	629	33
RTOR Reduction (vph)	244	0	0	16	0	33	0	0
Lane Group Flow (vph)	670	217	1910	17	33	2650	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	36.9	10.0	61.0	61.0	17.9	87.9		5.6
Effective Green, g (s)	36.9	10.0	61.0	61.0	17.9	87.9		5.6
Actuated g/C Ratio	0.31	0.08	0.51	0.51	0.15	0.73		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	857	286	1798	804	264	3593		75
v/s Ratio Prot	c0.24	0.06	c0.54		0.02	c0.42		c0.02
v/s Ratio Perm				0.01		0.12		
v/c Ratio	0.78	0.76	1.06	0.02	0.12	0.74		0.44
Uniform Delay, d1	37.9	53.8	29.5	14.7	44.3	9.3		55.7
Progression Factor	1.00	0.97	0.96	1.00	0.84	2.63		1.00
Incremental Delay, d2	4.7	8.1	37.3	0.0	0.2	0.7		4.1
Delay (s)	42.5	60.4	65.8	14.7	37.4	25.3		59.8
Level of Service	D	E	E	B	D	C		E
Approach Delay (s)			64.4			25.4		
Approach LOS			E			C		

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	599	25	60	115	5	425	90	805	5	165	961	846
Future Volume (vph)	599	25	60	115	5	425	90	805	5	165	961	846
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1437	1752	1845	1568	3367	3463		1752	3505	1416
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1437	1752	1845	1568	3367	3463		1752	3505	1416
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	631	26	63	121	5	447	95	847	5	174	1012	891
RTOR Reduction (vph)	0	0	49	0	0	64	0	0	0	0	0	527
Lane Group Flow (vph)	328	329	14	121	5	383	95	852	0	174	1012	364
Confl. Peds. (#/hr)	3		60	60		3	111		170	170		111
Confl. Bikes (#/hr)						5			8			10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.3	26.3	26.3	20.7	20.7	39.7	6.0	40.5		14.5	49.0	49.0
Effective Green, g (s)	26.3	26.3	26.3	20.7	20.7	39.7	6.0	40.5		14.5	49.0	49.0
Actuated g/C Ratio	0.22	0.22	0.22	0.17	0.17	0.33	0.05	0.34		0.12	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	368	370	314	302	318	518	168	1168		211	1431	578
v/s Ratio Prot	c0.20	0.19		0.07	0.00	c0.24	0.03	c0.25		0.10	0.29	
v/s Ratio Perm			0.01									0.26
v/c Ratio	0.89	0.89	0.04	0.40	0.02	0.74	0.57	0.73		0.82	0.71	0.63
Uniform Delay, d1	45.5	45.4	36.9	44.1	41.2	35.6	55.7	34.9		51.5	29.5	28.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.95	0.92	2.99
Incremental Delay, d2	22.1	21.4	0.0	0.9	0.0	5.6	2.6	4.0		15.6	2.1	3.6
Delay (s)	67.6	66.8	37.0	45.0	41.2	41.2	58.3	39.0		64.3	29.4	88.0
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		64.6			42.0			40.9			57.5	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	53.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	173	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	173	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				177	128	179
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1345	562	300	2713	0				501	263	220
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2530	1017	1774	3632	0				3619	1900	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				177	128	179
Grp Sat Flow(s),veh/h/ln	0	1787	1666	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				4.4	6.2	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				4.4	6.2	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	987	920	300	2713	0				501	263	220
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.35	0.49	0.81
Avail Cap(c_a), veh/h	0	987	920	452	2713	0				651	342	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				39.0	39.8	41.8
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.3	1.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.2	3.3	5.5
LnGrp Delay(d),s/veh	0.0	16.1	16.3	41.6	0.3	0.0				39.3	40.8	53.6
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						484	
Approach Delay, s/veh		16.2			7.7						45.0	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.7		18.8		81.2		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.8		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	573	0	0	830	337	605	230	365	0	0	0
Future Volume (vph)	305	573	0	0	830	337	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.87	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1381	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1381	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	597	0	0	865	351	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	81	0	0	177	0	0	0
Lane Group Flow (vph)	318	597	0	0	865	270	428	442	203	0	0	0
Confl. Peds. (#/hr)	24		22	22		24			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	459	551	567	507			
v/s Ratio Prot	c0.18	0.17			c0.24		0.25	c0.25				
v/s Ratio Perm						0.20			0.13			
v/c Ratio	0.86	0.29			0.73	0.59	0.78	0.78	0.40			
Uniform Delay, d1	38.3	10.3			29.4	27.7	30.5	30.5	26.2			
Progression Factor	0.83	0.70			0.54	0.44	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.6	4.8	10.3	10.2	2.4			
Delay (s)	48.0	7.5			19.4	16.9	40.8	40.7	28.5			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		21.6			18.7			37.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	818	30	5	1082	5	40	20	30	15	10	15
Future Volume (veh/h)	20	818	30	5	1082	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.96		0.94	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	835	31	5	1104	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	59	2005	74	38	2134	10	233	115	150	209	143	182
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	35	3314	122	4	3528	16	583	372	485	515	461	586
Grp Volume(v), veh/h	457	0	429	583	0	531	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1684	1856	0	1691	1440	0	0	1562	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.04		0.07	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.50	0.00	0.52	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.3	1.6	0.0	1.9	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.5	0.0	0.5	2.0	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.3	1.6	0.0	1.9	26.1	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		886			1114			92			40	
Approach Delay, s/veh		1.2			1.7			26.1			24.6	
Approach LOS		A			A			C			C	

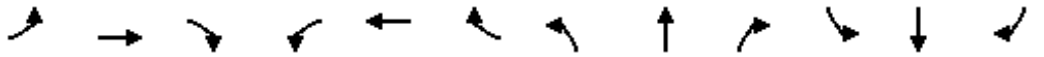
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		35.0		65.0		35.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		60.5		31.0		60.5		31.0
Max Q Clear Time (g_c+I1), s		2.0		6.3		2.0		3.6
Green Ext Time (p_c), s		2.5		0.1		2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	3.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	789	84	105	967	0	0	0	0	128	683	130
Future Volume (veh/h)	0	789	84	105	967	0	0	0	0	128	683	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	813	87	108	997	0				132	704	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1767	189	0	1967	0				201	1128	526
Arrive On Green	0.00	0.55	0.55	0.00	1.00	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	3336	347	0	3705	0				549	3091	1442
Grp Volume(v), veh/h	0	448	452	0	997	0				445	391	134
Grp Sat Flow(s),veh/h/ln	0	1787	1801	0	1805	0				1854	1787	1442
Q Serve(g_s), s	0.0	15.2	15.2	0.0	0.0	0.0				20.1	17.8	6.5
Cycle Q Clear(g_c), s	0.0	15.2	15.2	0.0	0.0	0.0				20.1	17.8	6.5
Prop In Lane	0.00		0.19	0.00		0.00				0.30		1.00
Lane Grp Cap(c), veh/h	0	974	982	0	1967	0				677	652	526
V/C Ratio(X)	0.00	0.46	0.46	0.00	0.51	0.00				0.66	0.60	0.25
Avail Cap(c_a), veh/h	0	974	982	0	1967	0				677	652	526
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	0.0	0.0	0.0				26.5	25.8	22.2
Incr Delay (d2), s/veh	0.0	1.6	1.6	0.0	0.9	0.0				5.0	4.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.9	8.0	0.0	0.3	0.0				11.2	9.4	2.7
LnGrp Delay(d),s/veh	0.0	15.4	15.4	0.0	0.9	0.0				31.5	29.8	23.4
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		900			997						970	
Approach Delay, s/veh		15.4			0.9						29.7	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.0			0.0	59.0		41.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			13.7	36.3		36.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	17.2		22.1
Green Ext Time (p_c), s		2.8			0.0	2.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	687	0	0	828	98	234	765	70	0	0	0
Future Volume (veh/h)	210	687	0	0	828	98	234	765	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	731	0	0	881	104	249	814	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	63	868	0	0	1361	161	285	983	93			
Arrive On Green	0.36	0.36	0.00	0.00	0.85	0.85	0.12	0.12	0.12			
Sat Flow, veh/h	2	1715	0	0	3281	376	756	2608	247			
Grp Volume(v), veh/h	316	638	0	0	494	491	601	0	536			
Grp Sat Flow(s),veh/h/ln	5	1627	0	0	1787	1776	1825	0	1786			
Q Serve(g_s), s	39.6	34.2	0.0	0.0	9.0	9.0	32.4	0.0	29.2			
Cycle Q Clear(g_c), s	39.6	34.2	0.0	0.0	9.0	9.0	32.4	0.0	29.2			
Prop In Lane	0.70		0.00	0.00		0.21	0.41		0.14			
Lane Grp Cap(c), veh/h	0	867	0	0	763	758	688	0	673			
V/C Ratio(X)	0.00	0.74	0.00	0.00	0.65	0.65	0.87	0.00	0.80			
Avail Cap(c_a), veh/h	0	867	0	0	763	758	688	0	673			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	26.0	0.0	0.0	4.8	4.8	41.4	0.0	40.0			
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	4.2	4.2	14.5	0.0	9.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	16.7	0.0	0.0	5.0	5.0	19.1	0.0	16.2			
LnGrp Delay(d),s/veh	0.0	31.5	0.0	0.0	9.1	9.1	55.9	0.0	49.5			
LnGrp LOS		C			A	A	E		D			
Approach Vol, veh/h		954			985			1137				
Approach Delay, s/veh		21.1			9.1			52.9				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		47.2		42.2		57.8		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 43		37.7		53.3		
Max Q Clear Time (g_c+I1), s		11.0		34.4		41.6		
Green Ext Time (p_c), s		1.1		0.7		2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	520	116	25	746	50	30	50	15	10	90	75
Future Volume (vph)	80	520	116	25	746	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.98			0.98			0.97	
Flpb, ped/bikes		0.99			1.00			0.99			0.99	
Frt		0.98			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3112			3372			1767			1686	
Flt Permitted		0.70			0.92			0.89			0.99	
Satd. Flow (perm)		2183			3093			1599			1671	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	542	121	26	777	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	16	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	730	0	0	850	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	120		200	200		120	92		159	159		92
Confl. Bikes (#/hr)			1			3			14			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1036			1469			703			735	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.27			0.06			c0.09	
v/c Ratio		0.70			0.58			0.13			0.21	
Uniform Delay, d1		20.7			19.0			16.6			17.3	
Progression Factor		1.07			0.36			0.94			1.00	
Incremental Delay, d2		1.9			1.5			0.3			0.7	
Delay (s)		24.1			8.4			15.9			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		24.1			8.4			15.9			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	438	52	20	670	20	76	160	30	10	165	70
Future Volume (veh/h)	85	438	52	20	670	20	76	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.79	0.92		0.78	0.92		0.84	0.90		0.85
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	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	466	55	21	713	21	81	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	213	1049	124	59	1556	45	202	403	71	48	474	192
Arrive On Green	0.95	0.95	0.95	0.95	0.95	0.95	0.87	0.87	0.87	0.44	0.44	0.44
Sat Flow, veh/h	349	2208	260	45	3276	95	358	926	164	25	1090	441
Grp Volume(v), veh/h	280	0	331	395	0	360	283	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1250	0	1567	1785	0	1631	1448	0	0	1556	0	0
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	1.8	1.9	0.0	2.0	3.2	0.0	0.0	11.2	0.0	0.0
Prop In Lane	0.32		0.17	0.05		0.06	0.29		0.11	0.04		0.28
Lane Grp Cap(c), veh/h	641	0	744	886	0	775	676	0	0	714	0	0
V/C Ratio(X)	0.44	0.00	0.44	0.45	0.00	0.46	0.42	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	641	0	744	886	0	775	676	0	0	714	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.3	0.0	1.4	1.4	0.0	1.4	3.9	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	1.9	1.6	0.0	2.0	1.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.9	1.1	0.0	1.0	1.8	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	3.5	0.0	3.3	3.0	0.0	3.4	5.8	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	A		A	A		A	A			C		
Approach Vol, veh/h		611			755			283			261	
Approach Delay, s/veh		3.4			3.2			5.8			20.6	
Approach LOS		A			A			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.0		48.0		52.0		48.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.5		43.5		47.5		43.5
Max Q Clear Time (g_c+I1), s		4.0		5.2		3.8		13.2
Green Ext Time (p_c), s		1.9		0.8		1.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	353	55	50	483	25	207	420	40	20	330	20
Future Volume (veh/h)	70	353	55	50	483	25	207	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.75	0.97		0.85	0.99		0.92	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	372	58	53	508	26	218	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	140	718	121	108	1018	54	478	932	90	63	886	52
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	1.00	1.00	1.00	0.55	0.55	0.55
Sat Flow, veh/h	255	1966	331	181	2790	147	761	1710	165	46	1626	95
Grp Volume(v), veh/h	246	0	258	295	0	292	290	0	412	389	0	0
Grp Sat Flow(s),veh/h/ln	1079	0	1474	1464	0	1654	1018	0	1617	1767	0	0
Q Serve(g_s), s	9.5	0.0	13.5	4.6	0.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	23.1	0.0	13.5	18.1	0.0	13.6	0.0	0.0	0.0	12.4	0.0	0.0
Prop In Lane	0.30		0.22	0.18		0.09	0.75		0.10	0.05		0.05
Lane Grp Cap(c), veh/h	441	0	538	577	0	604	618	0	881	1001	0	0
V/C Ratio(X)	0.56	0.00	0.48	0.51	0.00	0.48	0.47	0.00	0.47	0.39	0.00	0.00
Avail Cap(c_a), veh/h	441	0	538	577	0	604	618	0	881	1001	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.9	0.0	24.4	25.0	0.0	24.5	0.0	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	5.0	0.0	3.0	3.2	0.0	2.8	2.5	0.0	1.8	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.0	5.9	7.2	0.0	6.6	0.4	0.0	0.4	6.5	0.0	0.0
LnGrp Delay(d),s/veh	32.9	0.0	27.5	28.2	0.0	27.2	2.5	0.0	1.8	14.3	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		504			587			702			389	
Approach Delay, s/veh		30.1			27.7			2.1			14.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.0		59.0		41.0		59.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		36.5		54.5		36.5		54.5
Max Q Clear Time (g_c+I1), s		20.1		2.0		25.1		14.4
Green Ext Time (p_c), s		6.7		9.9		5.4		9.5

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	397	111	25	381	10	237	95	25	15	80	20
Future Volume (vph)	25	397	111	25	381	10	237	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3281			1838			1785			1773	
Flt Permitted		0.92			0.95			0.97			0.99	
Satd. Flow (perm)		3026			1743			1785			1773	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	436	122	27	419	11	260	104	27	16	88	22
RTOR Reduction (vph)	0	22	0	0	1	0	0	2	0	0	7	0
Lane Group Flow (vph)	0	563	0	0	456	0	0	389	0	0	119	0
Confl. Peds. (#/hr)	56		83	83		56	87		66	66		87
Confl. Bikes (#/hr)						2			42			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		42.4			42.4			33.5			21.1	
Effective Green, g (s)		42.4			42.4			33.5			21.1	
Actuated g/C Ratio		0.38			0.38			0.30			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1161			668			541			338	
v/s Ratio Prot								c0.22			c0.07	
v/s Ratio Perm		0.19			c0.26							
v/c Ratio		0.49			0.68			0.72			0.35	
Uniform Delay, d1		25.8			28.4			34.3			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.5			5.6			8.0			2.9	
Delay (s)		27.2			34.0			42.3			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		27.2			34.0			42.3			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	67	0	5	30	5	0	136	65	5
Future Vol, veh/h	0	315	30	67	0	5	30	5	0	136	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	75	0	6	34	6	0	153	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

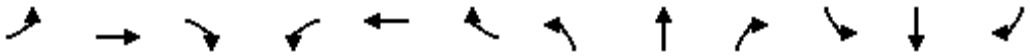
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	24.2	10.4	13.7
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	66%	76%	12%	1%
Vol Thru, %	32%	7%	75%	16%
Vol Right, %	2%	16%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	412	40	340
LT Vol	136	315	5	5
Through Vol	65	30	30	55
RT Vol	5	67	5	280
Lane Flow Rate	231	463	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.408	0.746	0.084	0.589
Departure Headway (Hd)	6.345	5.905	6.765	5.547
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	569	616	529	653
Service Time	4.36	3.905	4.807	3.547
HCM Lane V/C Ratio	0.406	0.752	0.085	0.585
HCM Control Delay	13.7	24.2	10.4	16.2
HCM Lane LOS	B	C	B	C
HCM 95th-tile Q	2	6.6	0.3	3.9

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	16.2
HCM LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	852	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	852	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1742			1737						3469	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1742			1326						3469	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	906	37
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	120	0	0	175	0	0	0	0	0	976	0
Confl. Peds. (#/hr)	78		113	113		78	114		59	59		114
Confl. Bikes (#/hr)			6			23						11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		400			304						2012	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.28	
v/c Ratio		0.30			0.58						0.48	
Uniform Delay, d1		15.9			17.1						6.1	
Progression Factor		1.00			0.90						2.21	
Incremental Delay, d2		0.6			2.8						0.6	
Delay (s)		16.5			18.2						14.2	
Level of Service		B			B						B	
Approach Delay (s)		16.5			18.2			0.0			14.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	909	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	909	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.93			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1622			3494				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1622			3494				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	977	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	55	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	181	0	0	1083	0	0	0	0
Confl. Peds. (#/hr)	89		93	93		89	44		48	48		44
Confl. Bikes (#/hr)			14			30			81			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.4			10.4			29.6				
Effective Green, g (s)		10.4			10.4			29.6				
Actuated g/C Ratio		0.21			0.21			0.59				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		395			337			2068				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.31				
v/c Ratio		0.30			0.54			0.52				
Uniform Delay, d1		16.7			17.6			6.0				
Progression Factor		1.17			0.93			0.99				
Incremental Delay, d2		0.2			0.8			0.8				
Delay (s)		19.8			17.2			6.7				
Level of Service		B			B			A				
Approach Delay (s)		19.8			17.2			6.7			0.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

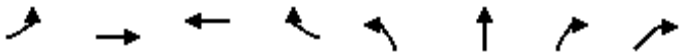
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	547	40	25	405	35
Future Volume (vph)	75	70	60	25	35	65	115	547	40	25	405	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.95			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			1.00	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1623			1551			3308			1710	
Flt Permitted		0.85			0.92			0.81			0.95	
Satd. Flow (perm)		1398			1438			2688			1622	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	588	43	27	435	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	9	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	746	0	0	494	0
Confl. Peds. (#/hr)	140		146	146		140	175		131	131		175
Confl. Bikes (#/hr)			6			4			24			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		419			431			1424			859	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.28			c0.30	
v/c Ratio		0.46			0.20			0.52			0.57	
Uniform Delay, d1		14.2			13.0			7.6			7.9	
Progression Factor		1.53			1.00			1.00			0.58	
Incremental Delay, d2		3.5			1.0			0.7			2.6	
Delay (s)		25.2			14.1			8.4			7.2	
Level of Service		C			B			A			A	
Approach Delay (s)		25.2			14.1			8.4			7.2	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	699	250	531	895	0	0	0	0	303	220	220
Future Volume (vph)	0	699	250	531	895	0	0	0	0	303	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (prot)		3295		3433	3539					1579	2998	
Flt Permitted		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (perm)		3295		3433	3539					1579	2998	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	728	260	553	932	0	0	0	0	316	229	229
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	950	0	553	932	0	0	0	0	262	434	0
Confl. Peds. (#/hr)	128		138	138		128	35					35
Confl. Bikes (#/hr)			2			8						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		33.8		28.2	66.5					24.0	24.0	
Effective Green, g (s)		33.8		28.2	66.5					24.0	24.0	
Actuated g/C Ratio		0.34		0.28	0.66					0.24	0.24	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1113		968	2353					378	719	
v/s Ratio Prot		c0.29		c0.16	0.26					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.85		0.57	0.40					0.69	0.60	
Uniform Delay, d1		30.8		30.7	7.6					34.6	33.8	
Progression Factor		1.00		1.06	1.34					1.29	1.38	
Incremental Delay, d2		6.5		1.1	0.2					9.1	3.4	
Delay (s)		37.3		33.8	10.4					53.6	49.9	
Level of Service		D		C	B					D	D	
Approach Delay (s)		37.3			19.1			0.0			51.2	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	762	945	393	491	438	522	60
Future Volume (vph)	235	762	945	393	491	438	522	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	2991		3400	1705	1430	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	2991		3400	1705	1430	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	802	995	414	517	461	549	63
RTOR Reduction (vph)	0	0	46	0	0	6	82	0
Lane Group Flow (vph)	247	802	1363	0	517	532	390	63
Confl. Peds. (#/hr)	294			294	95		24	
Confl. Bikes (#/hr)				24				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	15.1	56.7	42.5		28.9	28.9	28.9	59.1
Effective Green, g (s)	15.1	56.7	42.5		28.9	28.9	28.9	59.1
Actuated g/C Ratio	0.15	0.57	0.42		0.29	0.29	0.29	0.59
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	262	1968	1271		982	492	413	943
v/s Ratio Prot	c0.14	0.23	c0.46		0.15	c0.31		0.00
v/s Ratio Perm							0.27	0.04
v/c Ratio	0.94	0.41	1.07		0.53	1.08	0.94	0.07
Uniform Delay, d1	42.0	12.2	28.8		29.8	35.5	34.8	8.7
Progression Factor	1.19	1.53	1.07		1.00	1.00	1.00	1.00
Incremental Delay, d2	29.9	0.4	45.6		2.0	64.5	32.4	0.0
Delay (s)	79.8	19.0	76.5		31.8	100.0	67.2	8.7
Level of Service	E	B	E		C	F	E	A
Approach Delay (s)		33.3	76.5			66.8		
Approach LOS		C	E			E		

Intersection Summary			
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1211	10	10	1323	5	95
Future Vol, veh/h	1211	10	10	1323	5	95
Conflicting Peds, #/hr	0	224	224	0	224	224
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1302	11	11	1423	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1537	0	2489	1104
Stage 1	-	-	-	-	1532	-
Stage 2	-	-	-	-	957	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	424	-	25	209
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	338	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	345	-	16	138
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	266	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	82.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	345	-
HCM Lane V/C Ratio	0.74	-	-	0.031	-
HCM Control Delay (s)	82.7	-	-	15.8	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

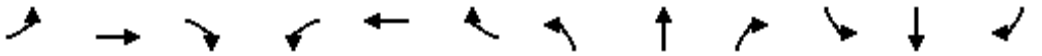
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1216	1308	30	5	25
Future Vol, veh/h	95	1216	1308	30	5	25
Conflicting Peds, #/hr	150	0	0	148	148	150
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1280	1377	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1558	0	-	0	2531	1004
Stage 1	-	-	-	-	1543	-
Stage 2	-	-	-	-	988	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	416	-	-	-	23	244
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	326	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	364	-	-	-	13	187
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	207	-

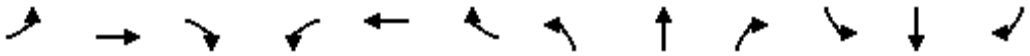
Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	34.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	364	-	-	-	155
HCM Lane V/C Ratio	0.275	-	-	-	0.204
HCM Control Delay (s)	18.6	-	-	-	34.1
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	0.7



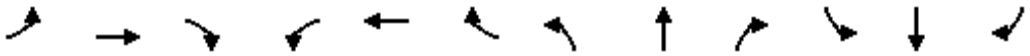
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1002	234	232	1198	0	0	0	0	45	807	130
Future Volume (vph)	0	1002	234	232	1198	0	0	0	0	45	807	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.65
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3201		1736	3471						3505	1033
Flt Permitted		1.00		0.09	1.00						1.00	1.00
Satd. Flow (perm)		3201		159	3471						3505	1033
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1044	244	242	1248	0	0	0	0	47	841	135
RTOR Reduction (vph)	0	19	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1269	0	242	1248	0	0	0	0	0	888	88
Confl. Peds. (#/hr)	269		232	232		269	298		90	90		298
Confl. Bikes (#/hr)			2			17						35
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.6		59.2	63.7						27.3	27.3
Effective Green, g (s)		46.6		59.2	63.7						27.3	27.3
Actuated g/C Ratio		0.47		0.59	0.64						0.27	0.27
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1491		292	2211						956	282
v/s Ratio Prot		c0.40		c0.10	0.36							
v/s Ratio Perm				0.39							0.25	0.08
v/c Ratio		0.85		0.83	0.56						0.93	0.31
Uniform Delay, d1		23.6		32.7	10.3						35.4	28.9
Progression Factor		0.88		0.91	0.66						1.40	1.97
Incremental Delay, d2		5.3		13.1	0.2						13.6	0.2
Delay (s)		26.1		42.9	7.0						63.1	57.1
Level of Service		C		D	A						E	E
Approach Delay (s)		26.1			12.8			0.0			62.3	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



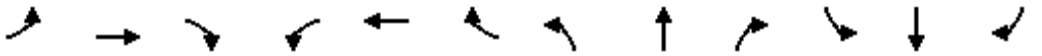
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	967	0	0	1001	30	409	924	151	0	0	0
Future Volume (vph)	5	967	0	0	1001	30	409	924	151	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.77			
Flpb, ped/bikes		1.00			1.00		0.91	1.00	1.00			
Frt		1.00			1.00		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3504			3422		1623	3574	1232			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3331			3422		1623	3574	1232			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1029	0	0	1065	32	435	983	161	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	19	0	0	0
Lane Group Flow (vph)	0	1034	0	0	1095	0	435	983	142	0	0	0
Confl. Peds. (#/hr)	243		130	130		243	55		112	112		55
Confl. Bikes (#/hr)						16			93			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		49.5			49.5		41.5	41.5	41.5			
Effective Green, g (s)		49.5			49.5		41.5	41.5	41.5			
Actuated g/C Ratio		0.50			0.50		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1648			1693		673	1483	511			
v/s Ratio Prot					c0.32			c0.28				
v/s Ratio Perm		0.31					0.27		0.12			
v/c Ratio		0.63			0.65		0.65	0.66	0.28			
Uniform Delay, d1		18.5			18.8		23.4	23.6	19.3			
Progression Factor		0.19			0.56		0.83	0.83	0.84			
Incremental Delay, d2		0.9			1.7		2.7	1.3	0.8			
Delay (s)		4.5			12.2		22.1	20.8	17.1			
Level of Service		A			B		C	C	B			
Approach Delay (s)		4.5			12.2			20.8			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	989	59	48	961	15	40	60	44	20	51	35
Future Volume (vph)	85	989	59	48	961	15	40	60	44	20	51	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3314		1703	3367			1603			1580	
Flt Permitted	0.95	1.00		0.95	1.00			0.88			0.93	
Satd. Flow (perm)	1736	3314		1703	3367			1434			1481	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	1052	63	51	1022	16	43	64	47	21	54	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	90	1112	0	51	1037	0	0	137	0	0	93	0
Confl. Peds. (#/hr)	214		302	302		214	72		98	98		72
Confl. Bikes (#/hr)			2			9			30			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Effective Green, g (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Actuated g/C Ratio	0.10	0.65		0.05	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2160		86	2006			239			247	
v/s Ratio Prot	c0.05	c0.34		0.03	0.31							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.51	0.51		0.59	0.52			0.57			0.38	
Uniform Delay, d1	42.5	9.1		46.4	11.8			38.4			37.0	
Progression Factor	0.70	0.25		0.79	0.69			1.00			1.00	
Incremental Delay, d2	0.7	0.7		5.4	0.7			2.0			0.4	
Delay (s)	30.5	3.0		42.2	8.9			40.4			37.4	
Level of Service	C	A		D	A			D			D	
Approach Delay (s)		5.1			10.4			40.4			37.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	960	33	85	888	30	76	50	10	60	36	130
Future Volume (vph)	100	960	33	85	888	30	76	50	10	60	36	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.97			0.98			1.00	0.68		1.00	0.74
Flpb, ped/bikes	1.00	1.00			0.99			0.87	1.00		0.85	1.00
Frt	1.00	1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1736	3351			3297			1603	1104		1553	1179
Flt Permitted	0.95	1.00			0.74			0.73	1.00		0.64	1.00
Satd. Flow (perm)	1736	3351			2447			1207	1104		1026	1179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1021	35	90	945	32	81	53	11	64	38	138
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	1054	0	0	1065	0	0	134	2	0	102	22
Confl. Peds. (#/hr)	337		693	693		337	152		193	193		152
Confl. Bikes (#/hr)			9			12			9			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	9.0	74.9			61.9			16.1	16.1		16.1	16.1
Effective Green, g (s)	9.0	74.9			61.9			16.1	16.1		16.1	16.1
Actuated g/C Ratio	0.09	0.75			0.62			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	156	2509			1514			194	177		165	189
v/s Ratio Prot	c0.06	0.31										
v/s Ratio Perm					c0.44			c0.11	0.00		0.10	0.02
v/c Ratio	0.68	0.42			0.70			0.69	0.01		0.62	0.12
Uniform Delay, d1	44.1	4.6			12.9			39.6	35.3		39.1	35.9
Progression Factor	0.86	0.19			0.40			1.00	1.00		0.72	0.88
Incremental Delay, d2	8.0	0.5			2.4			8.3	0.0		4.2	0.1
Delay (s)	45.9	1.3			7.6			47.9	35.3		32.2	31.6
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.4			7.6			46.9			31.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	856	119	4	891	50	27	191	116	5	242	60
Future Volume (vph)	5	856	119	4	891	50	27	191	116	5	242	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.89			0.96			0.84			0.90	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3044			3397			1397			1585	
Flt Permitted		0.95			0.95			0.95			0.99	
Satd. Flow (perm)		2896			3234			1337			1577	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	911	127	4	948	53	29	203	123	5	257	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	1042	0	0	1002	0	0	353	0	0	323	0
Confl. Peds. (#/hr)	493		608	608		493	754		597	597		754
Confl. Bikes (#/hr)			1			7			71			20
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		60.5			60.5			30.5			30.5	
Effective Green, g (s)		60.5			60.5			30.5			30.5	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1752			1956			407			480	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.31			c0.26			0.20	
v/c Ratio		0.59			0.51			0.87			0.67	
Uniform Delay, d1		12.2			11.3			32.8			30.4	
Progression Factor		0.86			0.84			1.17			1.35	
Incremental Delay, d2		1.4			0.8			15.8			2.8	
Delay (s)		11.8			10.3			54.1			43.7	
Level of Service		B			B			D			D	
Approach Delay (s)		11.8			10.3			54.1			43.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	807	105	171	843	70	67	567	208	100	410	40
Future Volume (veh/h)	70	807	105	171	843	70	67	567	208	100	410	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.83	1.00		0.79	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	841	109	178	878	73	70	591	217	104	427	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	121	1084	140	221	1309	109	89	636	232	121	949	92
Arrive On Green	0.14	0.71	0.71	0.26	0.83	0.83	0.02	0.09	0.09	0.14	0.61	0.61
Sat Flow, veh/h	1774	3053	396	1723	3155	262	1691	2239	818	1723	3097	301
Grp Volume(v), veh/h	73	487	463	178	478	473	70	445	363	104	235	234
Grp Sat Flow(s),veh/h/ln	1774	1770	1679	1723	1719	1699	1691	1687	1370	1723	1719	1679
Q Serve(g_s), s	3.9	17.8	17.8	9.7	10.7	10.7	4.1	26.2	26.4	5.9	7.3	7.5
Cycle Q Clear(g_c), s	3.9	17.8	17.8	9.7	10.7	10.7	4.1	26.2	26.4	5.9	7.3	7.5
Prop In Lane	1.00		0.24	1.00		0.15	1.00		0.60	1.00		0.18
Lane Grp Cap(c), veh/h	121	628	596	221	713	705	89	479	389	121	527	515
V/C Ratio(X)	0.60	0.78	0.78	0.81	0.67	0.67	0.79	0.93	0.93	0.86	0.45	0.45
Avail Cap(c_a), veh/h	121	628	596	221	713	705	169	481	390	121	527	515
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.77	0.77	0.77	0.80	0.80	0.80	0.83	0.83	0.83	0.79	0.79	0.79
Uniform Delay (d), s/veh	41.9	11.9	11.9	36.0	5.9	5.9	48.6	44.3	44.4	42.5	14.8	14.9
Incr Delay (d2), s/veh	4.6	7.2	7.5	14.8	4.0	4.1	4.8	21.1	25.6	35.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.6	9.2	5.5	5.3	5.3	2.1	15.0	12.8	4.0	3.4	3.4
LnGrp Delay(d),s/veh	46.5	19.1	19.5	50.8	9.9	9.9	53.4	65.4	70.0	77.7	15.0	15.1
LnGrp LOS	D	B	B	D	A	A	D	E	E	E	B	B
Approach Vol, veh/h		1023			1129			878			573	
Approach Delay, s/veh		21.2			16.4			66.3			26.4	
Approach LOS		C			B			E			C	

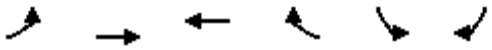
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	46.0	11.5	32.9	16.8	40.0	9.3	35.2
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	41.5	7.0	* 29	12.0	35.5	10.0	25.5
Max Q Clear Time (g_c+I1), s	5.9	12.7	7.9	28.4	11.7	19.8	6.1	9.5
Green Ext Time (p_c), s	0.0	2.3	0.0	0.1	0.0	2.2	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Notes

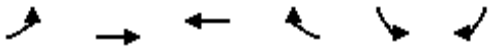
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	876	279	55	926	50	128	227	51	45	76	25
Future Volume (vph)	20	876	279	55	926	50	128	227	51	45	76	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.97		1.00	1.00	0.55		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1752	3156		1770	3417		1770	1863	867		1696	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1752	3156		1770	3417		1770	1863	867		1696	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	942	300	59	996	54	138	244	55	48	82	27
RTOR Reduction (vph)	0	28	0	0	3	0	0	0	47	0	8	0
Lane Group Flow (vph)	22	1214	0	59	1047	0	138	244	8	0	149	0
Confl. Peds. (#/hr)	218		185	185		218	329		437	437		329
Confl. Bikes (#/hr)			2			3			75			10
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Effective Green, g (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Actuated g/C Ratio	0.02	0.48		0.05	0.51		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1527		84	1749		269	283	131		256	
v/s Ratio Prot	0.01	c0.38		c0.03	c0.31		0.08	c0.13			c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.80		0.70	0.60		0.51	0.86	0.06		0.58	
Uniform Delay, d1	48.6	21.6		46.9	17.2		39.0	41.4	36.3		39.5	
Progression Factor	1.18	0.39		1.14	0.94		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.6	2.9		18.2	1.4		0.7	22.0	0.1		2.2	
Delay (s)	72.9	11.4		71.5	17.5		39.7	63.4	36.4		41.7	
Level of Service	E	B		E	B		D	E	D		D	
Approach Delay (s)		12.5			20.4			52.5			41.7	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



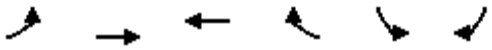
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	962	1001	0	15	25
Future Volume (vph)	0	962	1001	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.86	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1470	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1046	1088	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	1046	1088	0	21	0
Confl. Peds. (#/hr)	209			209	123	121
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		249	
v/s Ratio Prot		0.29	c0.31		c0.01	
v/s Ratio Perm						
v/c Ratio		0.39	0.41		0.08	
Uniform Delay, d1		4.6	4.7		34.9	
Progression Factor		0.15	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.1	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	942	1006	35	0	0
Future Volume (vph)	25	942	1006	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	0.99			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3457			
Flt Permitted	0.10	1.00	1.00			
Satd. Flow (perm)	186	1881	3457			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1024	1093	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	1024	1129	0	0	0
Confl. Peds. (#/hr)	144			144	305	125
Confl. Bikes (#/hr)				8		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	40.8			
Effective Green, g (s)	71.5	74.5	40.8			
Actuated g/C Ratio	0.72	0.74	0.41			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	624	1401	1410			
v/s Ratio Prot	0.01	c0.54	c0.33			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.73	0.80			
Uniform Delay, d1	7.4	7.1	26.0			
Progression Factor	1.33	1.73	0.29			
Incremental Delay, d2	0.0	1.9	3.2			
Delay (s)	9.8	14.2	10.8			
Level of Service	A	B	B			
Approach Delay (s)		14.1	10.8		0.0	
Approach LOS		B	B		A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	892	1016	136	47	30
Future Volume (vph)	40	892	1016	136	47	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3468		1720	
Flt Permitted	0.10	1.00	1.00		0.97	
Satd. Flow (perm)	191	1881	3468		1720	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	959	1092	146	51	32
RTOR Reduction (vph)	0	0	0	0	23	0
Lane Group Flow (vph)	43	959	1238	0	60	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	46.7		17.0	
Effective Green, g (s)	71.5	74.5	46.7		17.0	
Actuated g/C Ratio	0.72	0.74	0.47		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	532	1401	1619		292	
v/s Ratio Prot	0.02	c0.51	c0.36		c0.03	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.68	0.76		0.20	
Uniform Delay, d1	7.8	6.6	22.1		35.7	
Progression Factor	0.03	0.02	1.00		1.00	
Incremental Delay, d2	0.0	0.8	3.5		0.1	
Delay (s)	0.2	0.9	25.6		35.8	
Level of Service	A	A	C		D	
Approach Delay (s)		0.9	25.6		35.8	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	567	62	587	911	226	1556
Future Volume (vph)	567	62	587	911	226	1556
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.88	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1408	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1408	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	603	66	624	969	240	1655
RTOR Reduction (vph)	0	11	0	0	0	2
Lane Group Flow (vph)	603	55	624	969	240	1653
Confl. Peds. (#/hr)		49	49			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	25.5	25.5	79.5	79.5	21.5	105.5
Effective Green, g (s)	25.5	25.5	79.5	79.5	21.5	105.5
Actuated g/C Ratio	0.18	0.18	0.57	0.57	0.15	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	650	256	1930	1047	271	2100
v/s Ratio Prot	c0.17		0.18	c0.53	c0.14	0.59
v/s Ratio Perm		0.04				
v/c Ratio	0.93	0.22	0.32	0.93	0.89	0.79
Uniform Delay, d1	56.3	48.7	16.0	27.6	58.0	10.4
Progression Factor	1.00	1.00	0.44	0.53	0.97	1.02
Incremental Delay, d2	19.7	0.5	0.3	11.2	24.4	1.8
Delay (s)	76.0	49.2	7.3	25.8	81.0	12.4
Level of Service	E	D	A	C	F	B
Approach Delay (s)	73.4			18.6	21.1	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1278	220	27	893	190	25	165	105	30	33
Future Volume (vph)	35	280	1278	220	27	893	190	25	165	105	30	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.91	1.00	0.98		0.94	1.00	1.00	0.91	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1434	1736	4500		1255	1698	1766	1457	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	187	3505	1434	215	4500		1255	1698	1766	1457	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1318	227	28	921	196	26	170	108	31	34
RTOR Reduction (vph)	0	0	0	86	0	0	0	17	0	0	55	0
Lane Group Flow (vph)	36	289	1318	141	28	1120	0	6	136	142	10	0
Confl. Peds. (#/hr)	22	22		18	18		22	22	42		22	21
Confl. Bikes (#/hr)				4				1				5
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Effective Green, g (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Actuated g/C Ratio	0.08	0.44	0.36	0.36	0.24	0.24		0.24	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	143	329	1276	522	52	1092		304	265	276	227	
v/s Ratio Prot	0.02	c0.14	c0.38			0.25			0.08	c0.08		
v/s Ratio Perm		0.25		0.10	0.13			0.00			0.01	
v/c Ratio	0.25	0.88	1.03	0.27	0.54	1.03		0.02	0.51	0.51	0.04	
Uniform Delay, d1	60.2	40.3	44.5	31.4	46.2	53.0		40.3	54.2	54.2	50.2	
Progression Factor	0.94	0.88	0.86	0.77	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	13.4	27.6	0.7	34.6	33.9		0.1	0.7	0.7	0.0	
Delay (s)	56.9	48.9	65.7	24.9	80.8	86.9		40.4	54.9	54.8	50.2	
Level of Service	E	D	E	C	F	F		D	D	D	D	
Approach Delay (s)			58.0			85.9				54.0		
Approach LOS			E			F				D		

Intersection Summary			
HCM 2000 Control Delay	66.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1684			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1684			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	126	0
Lane Group Flow (vph)	0	218	210	0	0	62	95	0
Confl. Peds. (#/hr)	21	22		42	21	18	42	22
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.0	20.6	
Effective Green, g (s)		24.5	24.5			6.0	20.6	
Actuated g/C Ratio		0.18	0.18			0.04	0.15	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	294			76	414	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.82	0.23	
Uniform Delay, d1		54.7	54.5			66.5	52.7	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.7			45.8	0.2	
Delay (s)		62.5	61.1			112.3	52.9	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.9		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	8.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	47	1321
Future Vol, veh/h	120	0	0	0	47	1321
Conflicting Peds, #/hr	75	153	0	75	153	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	52	1452

Major/Minor	Minor1		Major2	
Conflicting Flow All	1057	-	153	0
Stage 1	153	-	-	-
Stage 2	904	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	214	0	1433	-
Stage 1	-	0	-	-
Stage 2	346	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	152	-	1433	-
Mov Cap-2 Maneuver	152	-	-	-
Stage 1	-	-	-	-
Stage 2	281	-	-	-

Approach	WB	SB
HCM Control Delay, s	99.6	0.9
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	152	1433	-
HCM Lane V/C Ratio	0.868	0.036	-
HCM Control Delay (s)	99.6	7.6	0.7
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	5.9	0.1	-

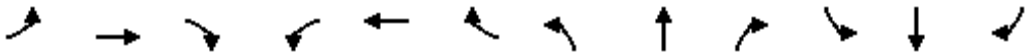
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	0	1401	40
Future Vol, veh/h	0	69	0	0	1401	40
Conflicting Peds, #/hr	277	151	151	0	0	277
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	75	0	0	1523	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1211	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	174	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	134	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	61.6	0
HCM LOS	F	

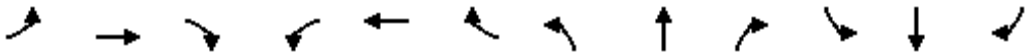
Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	134	-	-
HCM Lane V/C Ratio	0.56	-	-
HCM Control Delay (s)	61.6	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	2.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	37	0	0	90	110	20	1184	60	0	0	0
Future Volume (vph)	45	37	0	0	90	110	20	1184	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1771			1537			3473				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1465			1537			3473				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	40	0	0	98	120	22	1287	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	89	0	0	212	0	0	1367	0	0	0	0
Confl. Peds. (#/hr)	117		79	79		117	55		61	61		55
Confl. Bikes (#/hr)			7			10			79			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			645			1423				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.06						0.39				
v/c Ratio		0.14			0.33			0.96				
Uniform Delay, d1		9.0			9.8			14.4				
Progression Factor		0.81			0.87			0.73				
Incremental Delay, d2		0.5			1.4			13.9				
Delay (s)		7.7			9.9			24.4				
Level of Service		A			A			C				
Approach Delay (s)		7.7			9.9			24.4			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

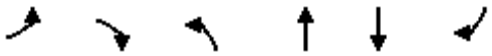
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	7	70	5	65	10	209	80	75	260	30
Future Volume (vph)	60	15	7	70	5	65	10	209	80	75	260	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.84			0.83			0.95	
Flpb, ped/bikes		0.82			0.78			0.99			0.93	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1392			1137			1390			1540	
Flt Permitted		0.75			0.83			0.99			0.88	
Satd. Flow (perm)		1084			967			1372			1361	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	8	75	5	70	11	225	86	81	280	32
RTOR Reduction (vph)	0	5	0	0	18	0	0	26	0	0	6	0
Lane Group Flow (vph)	0	84	0	0	132	0	0	296	0	0	387	0
Confl. Peds. (#/hr)	179		298	298		179	690		591	591		690
Confl. Bikes (#/hr)			2			3			63			25
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		16.0			16.0			25.5			25.5	
Effective Green, g (s)		16.0			16.0			25.5			25.5	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		346			309			699			694	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.14			0.22			c0.28	
v/c Ratio		0.24			0.43			0.42			0.56	
Uniform Delay, d1		12.5			13.4			7.7			8.4	
Progression Factor		0.76			0.51			0.99			1.11	
Incremental Delay, d2		1.2			4.1			1.8			2.8	
Delay (s)		10.7			11.0			9.4			12.1	
Level of Service		B			B			A			B	
Approach Delay (s)		10.7			11.0			9.4			12.1	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

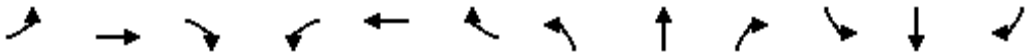
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	717	621	85
Future Volume (vph)	110	75	55	717	621	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.87			1.00	1.00	0.64
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1493			3330	3343	950
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1493			2915	3343	950
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	755	654	89
RTOR Reduction (vph)	46	0	0	0	0	45
Lane Group Flow (vph)	149	0	0	813	654	44
Confl. Peds. (#/hr)	262	361	182			182
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	492			1428	1638	465
v/s Ratio Prot	c0.10				0.20	
v/s Ratio Perm				c0.28		0.05
v/c Ratio	0.30			0.57	0.40	0.09
Uniform Delay, d1	12.5			9.0	8.1	6.8
Progression Factor	1.12			1.35	1.01	1.20
Incremental Delay, d2	1.4			1.5	0.6	0.3
Delay (s)	15.5			13.7	8.8	8.5
Level of Service	B			B	A	A
Approach Delay (s)	15.5			13.7	8.7	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Future Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	118	13	5	11	23	263	0	60	16	274	71	112

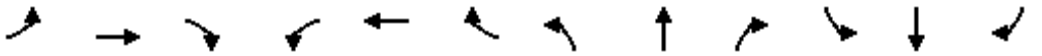
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	136	297	30	46	310	148
Volume Left (vph)	118	11	0	0	274	0
Volume Right (vph)	5	263	0	16	0	112
Hadj (s)	0.15	-0.52	0.44	0.20	0.53	-0.45
Departure Headway (s)	5.9	5.0	6.9	6.6	6.4	5.4
Degree Utilization, x	0.22	0.41	0.06	0.08	0.55	0.22
Capacity (veh/h)	558	673	465	490	545	642
Control Delay (s)	10.6	11.5	9.1	9.0	15.6	8.7
Approach Delay (s)	10.6	11.5	9.0		13.4	
Approach LOS	B	B	A		B	

Intersection Summary				
Delay	12.1			
Level of Service	B			
Intersection Capacity Utilization	68.4%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	111	98	5	65	213	95	847	5	67	601	133
Future Volume (veh/h)	174	111	98	5	65	213	95	847	5	67	601	133
Number	3	8	18	7	4	14	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		0.89	0.96		0.83	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	183	117	103	5	68	224	100	892	5	71	633	140
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	224	520	396	38	302	206	340	2044	11	90	1212	268
Arrive On Green	0.10	0.30	0.30	0.17	0.17	0.17	0.19	0.56	0.56	0.05	0.42	0.42
Sat Flow, veh/h	1707	1748	1329	59	1728	1179	1810	3680	21	1792	2900	640
Grp Volume(v), veh/h	183	114	106	73	0	224	100	438	459	71	390	383
Grp Sat Flow(s),veh/h/ln	1707	1703	1374	1787	0	1179	1810	1805	1896	1792	1787	1753
Q Serve(g_s), s	11.9	7.0	8.3	0.0	0.0	24.5	6.7	19.9	19.9	5.5	22.7	22.8
Cycle Q Clear(g_c), s	11.9	7.0	8.3	4.7	0.0	24.5	6.7	19.9	19.9	5.5	22.7	22.8
Prop In Lane	1.00		0.97	0.07		1.00	1.00		0.01	1.00		0.37
Lane Grp Cap(c), veh/h	224	507	409	560	0	206	340	1003	1053	90	747	732
V/C Ratio(X)	0.82	0.22	0.26	0.13	0.00	1.09	0.29	0.44	0.44	0.79	0.52	0.52
Avail Cap(c_a), veh/h	307	590	476	560	0	206	340	1003	1053	198	747	732
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	0.98	0.00	0.98	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	37.0	37.4	49.6	0.0	57.8	48.9	18.3	18.3	65.7	30.3	30.4
Incr Delay (d2), s/veh	11.4	0.2	0.3	0.0	0.0	86.9	0.2	1.2	1.1	5.6	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	3.3	3.2	2.0	0.0	12.9	3.3	10.2	10.7	2.9	11.7	11.6
LnGrp Delay(d),s/veh	53.4	37.2	37.8	49.6	0.0	144.6	49.0	19.4	19.4	71.3	32.9	33.0
LnGrp LOS	D	D	D	D		F	D	B	B	E	C	C
Approach Vol, veh/h		403			297			997			844	
Approach Delay, s/veh		44.7			121.3			22.4			36.2	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	82.3	17.2	29.0	30.8	63.0		46.2
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	62.5	21.0	24.5	19.5	58.5		48.5
Max Q Clear Time (g_c+I1), s	7.5	21.9	13.9	26.5	8.7	24.8		10.3
Green Ext Time (p_c), s	0.0	6.0	0.3	0.0	2.8	0.7		3.2

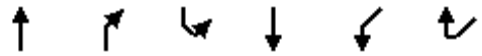
Intersection Summary	
HCM 2010 Ctrl Delay	42.1
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	20	0	37	26	67	0	1507	58	15	542	272
Future Volume (vph)	148	20	0	37	26	67	0	1507	58	15	542	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		0.99			1.00	0.85
Flt Protected	0.95	0.96			0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1640			3278	1509		3551			3534	1537
Flt Permitted	0.71	0.73			0.70	1.00		1.00			0.87	1.00
Satd. Flow (perm)	1211	1243			2375	1509		3551			3092	1537
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	157	21	0	39	28	71	0	1603	62	16	577	289
RTOR Reduction (vph)	0	0	0	0	0	56	0	1	0	0	0	49
Lane Group Flow (vph)	88	90	0	0	67	15	0	1664	0	0	593	240
Confl. Peds. (#/hr)							7		2	2		7
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2				1		1
Actuated Green, G (s)	14.5	14.5			14.5	14.5		116.5			116.5	116.5
Effective Green, g (s)	14.5	14.5			14.5	14.5		116.5			116.5	116.5
Actuated g/C Ratio	0.10	0.10			0.10	0.10		0.83			0.83	0.83
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	125	128			245	156		2954			2572	1279
v/s Ratio Prot								c0.47				
v/s Ratio Perm	c0.07	0.07			0.03	0.01					0.19	0.16
v/c Ratio	0.70	0.70			0.27	0.09		0.56			0.23	0.19
Uniform Delay, d1	60.7	60.7			57.9	56.8		3.7			2.4	2.3
Progression Factor	0.51	0.51			1.00	1.00		1.05			0.47	0.38
Incremental Delay, d2	13.4	13.1			0.2	0.1		0.6			0.2	0.3
Delay (s)	44.2	43.8			58.1	56.9		4.5			1.3	1.2
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		44.0			57.5			4.5			1.3	
Approach LOS		D			E			A			A	

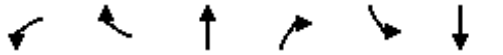
Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	922	1505	0	699	619	0
Future Volume (vph)	922	1505	0	699	619	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	951	1552	0	721	638	0
RTOR Reduction (vph)	0	739	0	0	0	0
Lane Group Flow (vph)	951	813	0	721	638	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	73.3	73.3		73.3	57.7	
Effective Green, g (s)	73.3	73.3		73.3	57.7	
Actuated g/C Ratio	0.52	0.52		0.52	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1871	1473		1890	1414	
v/s Ratio Prot	0.27			0.20	c0.19	
v/s Ratio Perm		c0.29				
v/c Ratio	0.51	0.55		0.38	0.45	
Uniform Delay, d1	21.7	22.3		19.9	29.7	
Progression Factor	1.00	1.00		0.37	0.58	
Incremental Delay, d2	0.1	0.3		0.0	1.0	
Delay (s)	21.7	22.6		7.4	18.4	
Level of Service	C	C		A	B	
Approach Delay (s)	22.3			7.4	18.4	
Approach LOS	C			A	B	

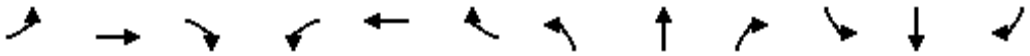
Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	164	1356
Future Volume (veh/h)	100	0	0	0	164	1356
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			178	1474
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			369	2887
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				341	3108
Grp Volume(v), veh/h	0.0				875	777
Grp Sat Flow(s),veh/h/ln					1754	1610
Q Serve(g_s), s					36.8	39.3
Cycle Q Clear(g_c), s					40.7	39.3
Prop In Lane					0.20	
Lane Grp Cap(c), veh/h					1718	1538
V/C Ratio(X)					0.51	0.51
Avail Cap(c_a), veh/h					1718	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					15.4	15.0
Incr Delay (d2), s/veh					1.1	1.2
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					20.4	18.0
LnGrp Delay(d),s/veh					16.5	16.2
LnGrp LOS					B	B
Approach Vol, veh/h						1652
Approach Delay, s/veh						16.3
Approach LOS						B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		42.7						
Green Ext Time (p_c), s		2.1						

Intersection Summary	
HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B



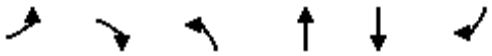
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	109	0	0	70	187	25	997	90	0	0	0
Future Volume (vph)	60	109	0	0	70	187	25	997	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.85			0.98				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.90			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1791			1435			3429				
Flt Permitted		0.70			1.00			1.00				
Satd. Flow (perm)		1283			1435			3429				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	120	0	0	77	205	27	1096	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	31	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	186	0	0	251	0	0	1211	0	0	0	0
Confl. Peds. (#/hr)	200		131	131		200	28		72	72		28
Confl. Bikes (#/hr)			9			26			95			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		12.4			12.4			29.1				
Effective Green, g (s)		12.4			12.4			29.1				
Actuated g/C Ratio		0.25			0.25			0.58				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		318			355			1995				
v/s Ratio Prot					c0.17							
v/s Ratio Perm		0.14						0.35				
v/c Ratio		0.58			0.71			0.61				
Uniform Delay, d1		16.5			17.1			6.8				
Progression Factor		1.05			1.22			1.00				
Incremental Delay, d2		1.4			5.2			1.4				
Delay (s)		18.9			26.1			8.1				
Level of Service		B			C			A				
Approach Delay (s)		18.9			26.1			8.1			0.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	131	23	10	81	25	27	224	15	15	242	40
Future Volume (vph)	35	131	23	10	81	25	27	224	15	15	242	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.87			0.96			0.90	
Flpb, ped/bikes		0.91			0.96			0.96			0.98	
Frt		0.98			0.97			0.99			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1562			1535			1615			1563	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1476			1500			1545			1536	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	139	24	11	86	27	29	238	16	16	257	43
RTOR Reduction (vph)	0	3	0	0	11	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	197	0	0	113	0	0	281	0	0	312	0
Confl. Peds. (#/hr)	556		609	609		556	843		636	636		843
Confl. Bikes (#/hr)			24			31			74			27
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		501			510			757			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.13			0.08			0.18			c0.20	
v/c Ratio		0.39			0.22			0.37			0.41	
Uniform Delay, d1		12.6			11.8			7.9			8.2	
Progression Factor		1.36			0.46			0.82			1.21	
Incremental Delay, d2		2.0			1.0			1.4			1.4	
Delay (s)		19.1			6.4			7.9			11.4	
Level of Service		B			A			A			B	
Approach Delay (s)		19.1			6.4			7.9			11.4	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	101	61	677	651	45
Future Volume (vph)	95	101	61	677	651	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.83		1.00	1.00	0.97	
Flpb, ped/bikes	1.00		0.84	1.00	1.00	
Frt	0.93		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1426		1411	3343	3169	
Flt Permitted	0.98		0.32	1.00	1.00	
Satd. Flow (perm)	1426		471	3343	3169	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	110	66	736	708	49
RTOR Reduction (vph)	19	0	0	0	10	0
Lane Group Flow (vph)	194	0	66	736	747	0
Confl. Peds. (#/hr)	673	477	273			273
Confl. Bikes (#/hr)		6				15
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	18.0		23.5	23.5	23.5	
Effective Green, g (s)	18.0		23.5	23.5	23.5	
Actuated g/C Ratio	0.36		0.47	0.47	0.47	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	513		221	1571	1489	
v/s Ratio Prot	c0.14			0.22	c0.24	
v/s Ratio Perm			0.14			
v/c Ratio	0.38		0.30	0.47	0.50	
Uniform Delay, d1	11.9		8.2	9.0	9.2	
Progression Factor	0.69		1.03	1.11	1.20	
Incremental Delay, d2	2.0		3.3	1.0	1.1	
Delay (s)	10.2		11.8	11.0	12.2	
Level of Service	B		B	B	B	
Approach Delay (s)	10.2			11.1	12.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

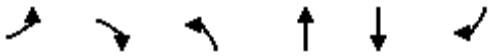
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	143	148	0	65	130	0	89	85
Future Vol, veh/h	0	143	148	0	65	130	0	89	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	163	168	0	74	148	0	101	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	11.7	9.8	10.7
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	49%	51%
Vol Thru, %	33%	0%	49%
Vol Right, %	67%	51%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	195	291	174
LT Vol	0	143	89
Through Vol	65	0	85
RT Vol	130	148	0
Lane Flow Rate	222	331	198
Geometry Grp	1	1	1
Degree of Util (X)	0.291	0.442	0.296
Departure Headway (Hd)	4.728	4.813	5.382
Convergence, Y/N	Yes	Yes	Yes
Cap	751	741	662
Service Time	2.807	2.882	3.465
HCM Lane V/C Ratio	0.296	0.447	0.299
HCM Control Delay	9.8	11.7	10.7
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.2	2.3	1.2

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	126	15	85	5	275	128	332	127	218
Future Volume (vph)	126	15	85	5	275	128	332	127	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1517		1743	1779		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1517		1743	1779		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	138	16	93	5	302	141	365	140	240
RTOR Reduction (vph)	0	76	0	0	18	0	0	66	0
Lane Group Flow (vph)	138	33	0	5	425	0	365	314	0
Confl. Peds. (#/hr)			54	13					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	14.0	14.0		24.8	24.8		22.9	22.9	
Effective Green, g (s)	14.0	14.0		24.8	24.8		22.9	22.9	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	323	276		563	575		518	463	
v/s Ratio Prot	c0.08	0.02			c0.24		c0.21		
v/s Ratio Perm				0.00				0.20	
v/c Ratio	0.43	0.12		0.01	0.74		0.70	0.68	
Uniform Delay, d1	27.8	26.2		17.6	23.1		23.9	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.0	6.0		5.4	5.1	
Delay (s)	28.7	26.4		17.6	29.0		29.3	28.8	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		27.7			28.9		29.0		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	76.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	260	0	0	1347	164
Future Volume (vph)	0	260	0	0	1347	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.74
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1164
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1164
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	271	0	0	1403	171
RTOR Reduction (vph)	0	24	0	0	0	26
Lane Group Flow (vph)	0	247	0	0	1403	145
Confl. Peds. (#/hr)	178		117			117
Confl. Bikes (#/hr)		2				38
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		19.9			70.6	70.6
Effective Green, g (s)		19.9			70.6	70.6
Actuated g/C Ratio		0.20			0.71	0.71
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		314			2498	821
v/s Ratio Prot		c0.16			c0.40	
v/s Ratio Perm						0.12
v/c Ratio		0.79			0.56	0.18
Uniform Delay, d1		38.0			7.2	4.9
Progression Factor		1.00			0.44	0.36
Incremental Delay, d2		11.3			0.7	0.4
Delay (s)		49.4			3.9	2.1
Level of Service		D			A	A
Approach Delay (s)	49.4			0.0	3.7	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	46.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	158	1454
Future Vol, veh/h	115	0	0	0	158	1454
Conflicting Peds, #/hr	14	28	0	14	28	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	166	1531

Major/Minor	Minor1		Major2	
Conflicting Flow All	1140	-	28	0
Stage 1	28	-	-	-
Stage 2	1112	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	198	0	1584	-
Stage 1	-	0	-	-
Stage 2	281	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 58	-	1584	-
Mov Cap-2 Maneuver	~ 58	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 84	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 655.4	2.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	58	1584	-
HCM Lane V/C Ratio	2.087	0.105	-
HCM Control Delay (s)	$ 655.4	7.5	2.2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	11.7	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	204.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	41	15	20	92	25	21	25	5	20	80	47
Future Vol, veh/h	9	41	15	20	92	25	21	25	5	20	80	47
Conflicting Peds, #/hr	381	0	412	388	0	357	412	0	388	357	0	381
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	11	49	18	24	110	30	25	30	6	24	95	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1116	1057	947	1087	1082	802	563	0	0	424	0	0
Stage 1	583	583	-	471	471	-	-	-	-	-	-	-
Stage 2	533	474	-	616	611	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	183	223	314	187	210	372	1019	-	-	1146	-	-
Stage 1	495	495	-	558	546	-	-	-	-	-	-	-
Stage 2	527	554	-	465	472	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	92	135	40	~ 87	172	669	-	-	782	-	-
Mov Cap-2 Maneuver	-	92	-	40	~ 87	-	-	-	-	-	-	-
Stage 1	313	314	-	363	355	-	-	-	-	-	-	-
Stage 2	198	361	-	216	299	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 593.4	4.4	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	669	-	-	-	80	782	-	-
HCM Lane V/C Ratio	0.037	-	-	-	2.039	0.03	-	-
HCM Control Delay (s)	10.6	0	-	-	$ 593.4	9.7	0	-
HCM Lane LOS	B	A	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	14.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	46	20	0	35	72	25	0	60	255	15
Future Vol, veh/h	0	5	46	20	0	35	72	25	0	60	255	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	52	22	0	39	81	28	0	67	287	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.3	10	12.7
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	7%	27%	12%
Vol Thru, %	77%	65%	55%	79%
Vol Right, %	5%	28%	19%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	330	71	132	170
LT Vol	60	5	35	20
Through Vol	255	46	72	135
RT Vol	15	20	25	15
Lane Flow Rate	371	80	148	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.498	0.122	0.224	0.28
Departure Headway (Hd)	4.937	5.498	5.429	5.273
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	734	654	663	686
Service Time	2.937	3.516	3.444	3.273
HCM Lane V/C Ratio	0.505	0.122	0.223	0.278
HCM Control Delay	12.7	9.3	10	10.3
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	2.8	0.4	0.9	1.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	135	15
Future Vol, veh/h	0	20	135	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	152	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.3
HCM LOS	B

Intersection	
Int Delay, s/veh	15.2

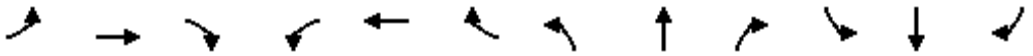
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	46	20	41	72	30	10	231	16	33	237	35
Future Vol, veh/h	10	46	20	41	72	30	10	231	16	33	237	35
Conflicting Peds, #/hr	1057	0	1149	1201	0	1109	1149	0	1201	1109	0	1057
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	52	22	46	81	34	11	260	18	37	266	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2966	3010	2636	3090	3021	2579	1455	0	0	1479	0	0
Stage 1	1509	1509	-	1492	1492	-	-	-	-	-	-	-
Stage 2	1457	1501	-	1598	1529	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	~ 9	~ 14	31	~ 7	~ 13	34	433	-	-	443	-	-
Stage 1	152	185	-	156	189	-	-	-	-	-	-	-
Stage 2	163	187	-	135	181	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	0	-	0	0	0	-	-	~ 34	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	152	0	-	0	0	-	-	-	-	-	-	-
Stage 2	12	0	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				39
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	-	-	~ 34	-	-
HCM Lane V/C Ratio	-	-	-	-	-	1.091	-	-
HCM Control Delay (s)	-	-	-	-	-	$ 360.1	0	-
HCM Lane LOS	-	-	-	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-	3.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	15	42	70	35	105	39	599	90	90	601	61
Future Volume (vph)	39	15	42	70	35	105	39	599	90	90	601	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.89			1.00	0.61	1.00	1.00	0.51	1.00	0.95	
Flpb, ped/bikes		0.87			0.88	1.00	0.81	1.00	1.00	0.82	1.00	
Frt		0.94			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1357			1599	976	1347	3343	765	1378	3152	
Flt Permitted		0.85			0.74	1.00	0.36	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1175			1218	976	517	3343	765	572	3152	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	16	46	76	38	114	42	651	98	98	653	66
RTOR Reduction (vph)	0	33	0	0	0	93	0	0	26	0	2	0
Lane Group Flow (vph)	0	71	0	0	114	21	42	651	72	98	717	0
Confl. Peds. (#/hr)	504		167	167		504	343		199	199		343
Confl. Bikes (#/hr)			10			3			15			10
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Effective Green, g (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		217			225	180	377	2440	558	417	2300	
v/s Ratio Prot								0.19			c0.23	
v/s Ratio Perm		0.06			c0.09	0.02	0.08		0.09	0.17		
v/c Ratio		0.33			0.51	0.12	0.11	0.27	0.13	0.24	0.31	
Uniform Delay, d1		35.3			36.6	33.9	4.0	4.5	4.0	4.4	4.7	
Progression Factor		0.96			1.00	1.00	0.60	0.56	0.48	0.68	0.67	
Incremental Delay, d2		0.9			1.8	0.3	0.6	0.3	0.5	1.2	0.3	
Delay (s)		34.8			38.4	34.2	2.9	2.8	2.4	4.2	3.5	
Level of Service		C			D	C	A	A	A	A	A	
Approach Delay (s)		34.8			36.3			2.8			3.5	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	97.9
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	234	339	25	0	5	262	265
Future Vol, veh/h	0	95	185	15	0	234	339	25	0	5	262	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	239	346	26	0	5	267	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	35	224.1	26.9
HCM LOS	D	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	6%
Vol Thru, %	98%	0%	63%	57%	54%
Vol Right, %	0%	100%	5%	4%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	267	265	295	598	325
LT Vol	5	0	95	234	20
Through Vol	262	0	185	339	175
RT Vol	0	265	15	25	130
Lane Flow Rate	272	270	301	610	332
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.656	0.598	0.726	1.417	0.774
Departure Headway (Hd)	9.803	9.06	9.845	8.36	9.682
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	371	400	370	439	378
Service Time	7.503	6.76	7.845	6.36	7.682
HCM Lane V/C Ratio	0.733	0.675	0.814	1.39	0.878
HCM Control Delay	29.4	24.4	35	224.1	39
HCM Lane LOS	D	C	D	F	E
HCM 95th-tile Q	4.5	3.8	5.5	30.1	6.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	175	130
Future Vol, veh/h	0	20	175	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	179	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	39
HCM LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	303	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	303	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	79	87	0	79
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	329	0	0	27	0	0

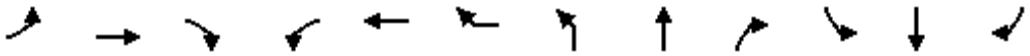
Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	-	0	-	-	0	408	416		
Stage 1	-	-	-	-	-	-	329	-		
Stage 2	-	-	-	-	-	-	79	-		
Critical Hdwy	-	-	-	-	-	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-		
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3		
Pot Cap-1 Maneuver	0	0	-	0	-	0	603	641		
Stage 1	0	0	-	0	-	0	734	-		
Stage 2	0	0	-	0	-	0	-	-		
Platoon blocked, %			-		-					
Mov Cap-1 Maneuver	-	-	-	-	-	-	603	595		
Mov Cap-2 Maneuver	-	-	-	-	-	-	603	-		
Stage 1	-	-	-	-	-	-	734	-		
Stage 2	-	-	-	-	-	-	-	-		

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	595
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	11.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	856	419	82	1457	0	0
Future Volume (vph)	0	0	856	419	82	1457	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.93	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1473	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1473	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	911	446	87	1550	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	911	446	87	1550	0	0
Confl. Peds. (#/hr)	15	14		15	14			
Confl. Bikes (#/hr)				143				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.6	36.6	13.1	58.7		
Effective Green, g (s)			36.6	36.6	13.1	58.7		
Actuated g/C Ratio			0.62	0.62	0.22	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2206	918	390	3505		
v/s Ratio Prot			0.26		0.05	c0.44		
v/s Ratio Perm				0.30				
v/c Ratio			0.41	0.49	0.22	0.44		
Uniform Delay, d1			5.6	6.0	18.6	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.1	0.1	0.0		
Delay (s)			5.6	6.1	18.7	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.8			1.0	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



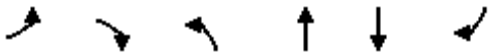
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	340	165	10	314	15	103	265	20	10	105	75
Future Volume (vph)	50	340	165	10	314	15	103	265	20	10	105	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.96			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3367			3511			1826			1759	
Flt Permitted		0.88			0.93			0.85			0.98	
Satd. Flow (perm)		2967			3285			1581			1722	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	374	181	11	345	16	113	291	22	11	115	82
RTOR Reduction (vph)	0	46	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	564	0	0	372	0	0	424	0	0	208	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1112			1231			845			921	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.11			c0.27			0.12	
v/c Ratio		0.51			0.30			0.50			0.23	
Uniform Delay, d1		24.1			22.0			14.8			12.3	
Progression Factor		1.00			0.89			1.00			1.00	
Incremental Delay, d2		1.7			0.6			2.1			0.6	
Delay (s)		25.8			20.3			16.9			12.9	
Level of Service		C			C			B			B	
Approach Delay (s)		25.8			20.3			16.9			12.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	270	18	5	204	10	36	180	25	20	184	89
Future Volume (veh/h)	82	270	18	5	204	10	36	180	25	20	184	89
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	89	293	20	5	222	11	39	196	27	22	200	97
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	1131	79	51	1610	79	119	570	74	64	487	224
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	603	2332	163	27	3319	162	182	1342	175	60	1145	527
Grp Volume(v), veh/h	198	0	204	125	0	113	262	0	0	319	0	0
Grp Sat Flow(s),veh/h/ln	1432	0	1666	1842	0	1667	1699	0	0	1733	0	0
Q Serve(g_s), s	2.9	0.0	5.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	5.2	3.7	0.0	3.8	9.6	0.0	0.0	4.2	0.0	0.0
Prop In Lane	0.45		0.10	0.04		0.10	0.15		0.10	0.07		0.30
Lane Grp Cap(c), veh/h	747	0	808	931	0	808	764	0	0	775	0	0
V/C Ratio(X)	0.26	0.00	0.25	0.13	0.00	0.14	0.34	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	747	0	808	931	0	808	764	0	0	775	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	10.1	14.2	0.0	14.2	19.3	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.3	0.0	0.4	1.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	2.5	2.0	0.0	1.8	5.1	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	11.1	0.0	10.8	14.5	0.0	14.6	20.5	0.0	0.0	6.2	0.0	0.0
LnGrp LOS	B		B	B		B	C			A		
Approach Vol, veh/h		402			238			262			319	
Approach Delay, s/veh		11.0			14.5			20.5			6.2	
Approach LOS		B			B			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.8		11.6		8.7		6.2
Green Ext Time (p_c), s		0.7		0.7		0.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	79	568	583	135
Future Volume (vph)	160	150	79	568	583	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.89	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2940		1441	3252	2999	
Flt Permitted	0.97		0.34	1.00	1.00	
Satd. Flow (perm)	2940		510	3252	2999	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	82	592	607	141
RTOR Reduction (vph)	0	0	0	0	20	0
Lane Group Flow (vph)	323	0	82	592	728	0
Confl. Peds. (#/hr)	6	3	350			350
Confl. Bikes (#/hr)						10
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	29.5		60.0	60.0	60.0	
Effective Green, g (s)	29.5		60.0	60.0	60.0	
Actuated g/C Ratio	0.29		0.60	0.60	0.60	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	867		306	1951	1799	
v/s Ratio Prot	c0.11			0.18	c0.24	
v/s Ratio Perm			0.16			
v/c Ratio	0.37		0.27	0.30	0.40	
Uniform Delay, d1	27.9		9.5	9.8	10.6	
Progression Factor	0.71		0.34	0.34	0.43	
Incremental Delay, d2	1.2		1.9	0.4	0.7	
Delay (s)	21.0		5.1	3.7	5.2	
Level of Service	C		A	A	A	
Approach Delay (s)	21.0			3.9	5.2	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	131.2
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	286	0	139	315	0	408	202
Future Vol, veh/h	0	330	286	0	139	315	0	408	202
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	311	0	151	342	0	443	220
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	152.2	64.2	159.9
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	67%	0%	31%
Vol Thru, %	0%	54%	69%
Vol Right, %	33%	46%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	610	616	454
LT Vol	408	0	139
Through Vol	0	330	315
RT Vol	202	286	0
Lane Flow Rate	663	670	493
Geometry Grp	1	1	1
Degree of Util (X)	1.27	1.249	0.968
Departure Headway (Hd)	7.336	7.481	8.204
Convergence, Y/N	Yes	Yes	Yes
Cap	504	489	444
Service Time	5.336	5.481	6.204
HCM Lane V/C Ratio	1.315	1.37	1.11
HCM Control Delay	159.9	152.2	64.2
HCM Lane LOS	F	F	F
HCM 95th-tile Q	25.7	24.3	11.8

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	86	50	50	0	50	39	50	0	31	251	25
Future Vol, veh/h	0	86	50	50	0	50	39	50	0	31	251	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	97	56	56	0	56	44	56	0	35	282	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.2	11.3	15.1
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	46%	36%	4%
Vol Thru, %	82%	27%	28%	78%
Vol Right, %	8%	27%	36%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	307	186	139	275
LT Vol	31	86	50	10
Through Vol	251	50	39	215
RT Vol	25	50	50	50
Lane Flow Rate	345	209	156	309
Geometry Grp	1	1	1	1
Degree of Util (X)	0.538	0.347	0.262	0.474
Departure Headway (Hd)	5.612	5.969	6.032	5.524
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	638	598	590	649
Service Time	3.685	4.053	4.122	3.6
HCM Lane V/C Ratio	0.541	0.349	0.264	0.476
HCM Control Delay	15.1	12.2	11.3	13.5
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.2	1.5	1	2.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	10	215	50
Future Vol, veh/h	0	10	215	50
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	242	56
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.5
HCM LOS	B

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	65	10	0	34	109	25	0	5	201	15
Future Vol, veh/h	0	20	65	10	0	34	109	25	0	5	201	15
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	75	11	0	39	125	29	0	6	231	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

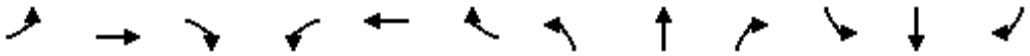
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.7	10.5	11
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	21%	20%	2%
Vol Thru, %	91%	68%	65%	88%
Vol Right, %	7%	11%	15%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	221	95	168	212
LT Vol	5	20	34	5
Through Vol	201	65	109	187
RT Vol	15	10	25	20
Lane Flow Rate	254	109	193	244
Geometry Grp	1	1	1	1
Degree of Util (X)	0.361	0.167	0.287	0.343
Departure Headway (Hd)	5.113	5.517	5.359	5.065
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	704	650	670	712
Service Time	3.141	3.551	3.39	3.093
HCM Lane V/C Ratio	0.361	0.168	0.288	0.343
HCM Control Delay	11	9.7	10.5	10.7
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.6	0.6	1.2	1.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	187	20
Future Vol, veh/h	0	5	187	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	215	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.7
HCM LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	30	25	109	107	147	22	470	54	91	603	34
Future Volume (vph)	30	30	25	109	107	147	22	470	54	91	603	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.84			1.00	0.58	1.00	0.97		1.00	0.98	
Flpb, ped/bikes		0.91			0.78	1.00	0.92	1.00		0.89	1.00	
Frt		0.96			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1343			1307	849	1516	3154		1469	3234	
Flt Permitted		0.86			0.82	1.00	0.24	1.00		0.32	1.00	
Satd. Flow (perm)		1180			1101	849	387	3154		499	3234	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	32	26	115	113	155	23	495	57	96	635	36
RTOR Reduction (vph)	0	15	0	0	0	110	0	9	0	0	4	0
Lane Group Flow (vph)	0	75	0	0	228	45	23	543	0	96	667	0
Confl. Peds. (#/hr)	755		1497	1497		755	168		178	178		168
Confl. Bikes (#/hr)			204			83			24			11
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Effective Green, g (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Actuated g/C Ratio		0.29			0.29	0.29	0.32	0.32		0.32	0.32	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		342			319	246	121	993		157	1018	
v/s Ratio Prot								0.17			c0.21	
v/s Ratio Perm		0.06			c0.21	0.05	0.06			0.19		
v/c Ratio		0.22			0.71	0.18	0.19	0.55		0.61	0.66	
Uniform Delay, d1		26.9			31.8	26.6	25.0	28.3		29.1	29.6	
Progression Factor		1.00			1.00	1.00	1.36	1.34		0.72	0.71	
Incremental Delay, d2		1.5			12.9	1.6	2.6	1.6		15.5	3.1	
Delay (s)		28.4			44.6	28.2	36.5	39.5		36.3	24.0	
Level of Service		C			D	C	D	D		D	C	
Approach Delay (s)		28.4			38.0			39.4			25.5	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	150	0	15	20	0	253	5
Future Vol, veh/h	0	5	150	0	15	20	0	253	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	174	0	17	23	0	294	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	11.1
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	3%	57%
Vol Right, %	2%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	258	155	35
LT Vol	253	0	15
Through Vol	0	5	20
RT Vol	5	150	0
Lane Flow Rate	300	180	41
Geometry Grp	1	1	1
Degree of Util (X)	0.402	0.217	0.056
Departure Headway (Hd)	4.819	4.329	4.964
Convergence, Y/N	Yes	Yes	Yes
Cap	747	829	721
Service Time	2.849	2.352	2.997
HCM Lane V/C Ratio	0.402	0.217	0.057
HCM Control Delay	11.1	8.6	8.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.9	0.8	0.2

Intersection	
Intersection Delay, s/veh	104.6
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	522	475	0	135	595	0	366	59
Future Vol, veh/h	0	522	475	0	135	595	0	366	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	549	500	0	142	626	0	385	62
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	109.5	127.4	53.9
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	595	522	475	366	59
LT Vol	0	0	522	0	366	0
Through Vol	135	0	0	0	0	59
RT Vol	0	595	0	475	0	0
Lane Flow Rate	142	626	549	500	385	62
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.312	1.252	1.245	0.966	0.93	0.141
Departure Headway (Hd)	8.196	7.47	8.582	7.342	9.267	8.746
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	442	489	429	500	393	412
Service Time	5.896	5.17	6.282	5.042	6.967	6.446
HCM Lane V/C Ratio	0.321	1.28	1.28	1	0.98	0.15
HCM Control Delay	14.6	153	155	59.4	60.5	12.9
HCM Lane LOS	B	F	F	F	F	B
HCM 95th-tile Q	1.3	24.4	21.8	12.3	10.1	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	757	123	15	822	147	15
Future Volume (vph)	757	123	15	822	147	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	0.99	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	1803		1787	1881	1751	
Flt Permitted	1.00		0.20	1.00	0.96	
Satd. Flow (perm)	1803		384	1881	1751	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	814	132	16	884	158	16
RTOR Reduction (vph)	5	0	0	0	4	0
Lane Group Flow (vph)	941	0	16	884	170	0
Confl. Peds. (#/hr)		31	31		25	17
Confl. Bikes (#/hr)		4				15
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	72.3		72.3	72.3	17.7	
Effective Green, g (s)	72.3		72.3	72.3	17.7	
Actuated g/C Ratio	0.72		0.72	0.72	0.18	
Clearance Time (s)	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	0.2		0.2	0.2	2.0	
Lane Grp Cap (vph)	1303		277	1359	309	
v/s Ratio Prot	c0.52			0.47	c0.10	
v/s Ratio Perm			0.04			
v/c Ratio	0.72		0.06	0.65	0.55	
Uniform Delay, d1	8.0		4.0	7.2	37.5	
Progression Factor	1.00		0.21	0.81	1.00	
Incremental Delay, d2	3.5		0.3	2.1	1.1	
Delay (s)	11.5		1.2	8.0	38.6	
Level of Service	B		A	A	D	
Approach Delay (s)	11.5			7.9	38.6	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	886	5	35	653	86	45	105	30	90	40	201
Future Volume (veh/h)	147	886	5	35	653	86	45	105	30	90	40	201
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.90	1.00		0.81	1.00		0.84
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	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	160	963	5	38	710	93	49	114	33	98	43	218
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	377	1626	8	205	1112	145	85	191	55	190	47	241
Arrive On Green	0.21	0.46	0.46	0.23	0.71	0.71	0.05	0.15	0.15	0.11	0.21	0.21
Sat Flow, veh/h	1757	3573	19	1792	3131	410	1707	1263	366	1740	225	1143
Grp Volume(v), veh/h	160	472	496	38	405	398	49	0	147	98	0	261
Grp Sat Flow(s),veh/h/ln	1757	1752	1839	1792	1787	1754	1707	0	1629	1740	0	1368
Q Serve(g_s), s	7.9	20.1	20.1	1.7	12.0	12.1	2.8	0.0	8.4	5.3	0.0	18.6
Cycle Q Clear(g_c), s	7.9	20.1	20.1	1.7	12.0	12.1	2.8	0.0	8.4	5.3	0.0	18.6
Prop In Lane	1.00		0.01	1.00		0.23	1.00		0.22	1.00		0.84
Lane Grp Cap(c), veh/h	377	797	837	205	634	623	85	0	246	190	0	288
V/C Ratio(X)	0.42	0.59	0.59	0.19	0.64	0.64	0.57	0.00	0.60	0.52	0.00	0.91
Avail Cap(c_a), veh/h	377	797	837	205	634	623	119	0	318	209	0	335
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.62	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.9	20.3	20.3	34.8	11.1	11.1	46.5	0.0	39.6	42.1	0.0	38.5
Incr Delay (d2), s/veh	0.2	2.0	1.9	0.1	4.4	4.5	2.3	0.0	0.9	0.8	0.0	23.1
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	3.8	10.2	10.6	0.9	6.4	6.3	1.4	0.0	3.9	2.6	0.0	8.9
LnGrp Delay(d),s/veh	34.1	22.3	22.2	34.9	15.5	15.6	48.7	0.0	40.5	42.9	0.0	61.7
LnGrp LOS	C	C	C	C	B	B	D		D	D		E
Approach Vol, veh/h		1128			841			196			359	
Approach Delay, s/veh		24.0			16.4			42.5			56.5	
Approach LOS		C			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.5	40.0	14.9	19.6	15.5	50.0	9.0	25.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	16.0	35.5	12.0	19.5	6.0	45.5	7.0	24.5
Max Q Clear Time (g_c+I1), s	9.9	14.1	7.3	10.4	3.7	22.1	4.8	20.6
Green Ext Time (p_c), s	0.1	3.4	0.1	0.3	0.1	4.3	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	922	0	5	680	59	40	60	70	178	5	54
Future Volume (vph)	84	922	0	5	680	59	40	60	70	178	5	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.90		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.94	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3318			1841	1458		1635	
Flt Permitted	0.95	1.00		0.95	1.00			0.84	1.00		0.71	
Satd. Flow (perm)	1787	3574		1752	3318			1575	1458		1211	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	86	941	0	5	694	60	41	61	71	182	5	55
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	51	0	12	0
Lane Group Flow (vph)	86	941	0	5	749	0	0	102	20	0	230	0
Confl. Peds. (#/hr)	241		189	189		241	49		87	87		49
Confl. Bikes (#/hr)						6						1
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	10.1	58.1		1.0	49.0			27.9	27.9		27.9	
Effective Green, g (s)	10.1	58.1		1.0	49.0			27.9	27.9		27.9	
Actuated g/C Ratio	0.10	0.58		0.01	0.49			0.28	0.28		0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	180	2076		17	1625			439	406		337	
v/s Ratio Prot	c0.05	c0.26		0.00	0.23							
v/s Ratio Perm								0.06	0.01		c0.19	
v/c Ratio	0.48	0.45		0.29	0.46			0.23	0.05		0.68	
Uniform Delay, d1	42.5	11.9		49.1	16.8			27.8	26.4		32.1	
Progression Factor	0.66	0.57		0.81	0.06			1.00	1.00		1.00	
Incremental Delay, d2	0.6	0.6		2.5	0.7			0.3	0.1		5.6	
Delay (s)	28.6	7.5		42.3	1.6			28.1	26.4		37.7	
Level of Service	C	A		D	A			C	C		D	
Approach Delay (s)		9.2			1.9			27.4			37.7	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	1108	15	113	642	229	15	265	399	469	176	87
Future Volume (vph)	47	1108	15	113	642	229	15	265	399	469	176	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.89		0.81		1.00	0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.99	
Satd. Flow (prot)	1787	3537		1703	3406	1356		2634		1573	1475	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.99	
Satd. Flow (perm)	1787	3537		1703	3406	1356		2634		1573	1475	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	50	1179	16	120	683	244	16	282	424	499	187	93
RTOR Reduction (vph)	0	1	0	0	0	29	0	122	0	0	11	0
Lane Group Flow (vph)	50	1194	0	120	683	215	0	600	0	389	379	0
Confl. Peds. (#/hr)	129		398	398		129	182		242	242		182
Confl. Bikes (#/hr)			1			25			34			17
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	4.0	29.0		6.5	31.5	55.0		23.0		23.5	23.5	
Effective Green, g (s)	4.0	29.0		6.5	31.5	55.0		23.0		23.5	23.5	
Actuated g/C Ratio	0.04	0.29		0.06	0.32	0.55		0.23		0.24	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	71	1025		110	1072	806		605		369	346	
v/s Ratio Prot	0.03	c0.34		c0.07	0.20	0.06		c0.23		0.25	c0.26	
v/s Ratio Perm						0.10						
v/c Ratio	0.70	1.17		1.09	0.64	0.27		0.99		1.05	1.09	
Uniform Delay, d1	47.4	35.5		46.8	29.4	11.9		38.4		38.2	38.2	
Progression Factor	0.89	0.87		1.00	1.00	1.00		1.00		0.86	0.87	
Incremental Delay, d2	21.3	84.5		112.4	2.9	0.2		34.4		55.8	70.0	
Delay (s)	63.6	115.5		159.1	32.2	12.0		72.8		88.8	103.2	
Level of Service	E	F		F	C	B		E		F	F	
Approach Delay (s)		113.4			42.1			72.8			96.0	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	82.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	188	142	60	65	15
Future Vol, veh/h	30	188	142	60	65	15
Conflicting Peds, #/hr	70	0	0	49	49	70
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	33	207	156	66	71	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	292	0	-	0	581	329
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1264	-	-	-	473	708
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	730	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1190	-	-	-	406	628
Mov Cap-2 Maneuver	-	-	-	-	406	-
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	15.4
HCM LOS			C

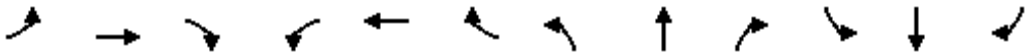
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1190	-	-	-	435
HCM Lane V/C Ratio	0.028	-	-	-	0.202
HCM Control Delay (s)	8.1	0	-	-	15.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection	
Intersection Delay, s/veh	62.4
Intersection LOS	F

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	145	108	0	162	514	0	219	40
Future Vol, veh/h	0	145	108	0	162	514	0	219	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	161	120	0	180	571	0	243	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	15.8	98.5	13.9
HCM LOS	C	F	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	24%	57%	0%
Vol Thru, %	76%	0%	85%
Vol Right, %	0%	43%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	676	253	259
LT Vol	162	145	0
Through Vol	514	0	219
RT Vol	0	108	40
Lane Flow Rate	751	281	288
Geometry Grp	1	1	1
Degree of Util (X)	1.132	0.49	0.456
Departure Headway (Hd)	5.425	6.591	6.003
Convergence, Y/N	Yes	Yes	Yes
Cap	676	551	604
Service Time	3.425	4.591	4.003
HCM Lane V/C Ratio	1.111	0.51	0.477
HCM Control Delay	98.5	15.8	13.9
HCM Lane LOS	F	C	B
HCM 95th-tile Q	23.1	2.7	2.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	272	10	5	661	5	0	0	5	0	0	10
Future Volume (vph)	10	272	10	5	661	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	286	11	5	696	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	297	706	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.09	0.08	-0.60	-0.60
Departure Headway (s)	5.6	5.1	4.5	5.6	5.5
Degree Utilization, x	0.02	0.42	0.88	0.01	0.02
Capacity (veh/h)	626	689	799	596	592
Control Delay (s)	7.5	10.6	30.2	8.6	8.6
Approach Delay (s)	10.5		30.2	8.6	8.6
Approach LOS	B		D	A	A

Intersection Summary				
Delay	24.0			
Level of Service	C			
Intersection Capacity Utilization	59.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	21.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	101	131	2346	86	85	1093
Future Vol, veh/h	101	131	2346	86	85	1093
Conflicting Peds, #/hr	0	4	0	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	106	138	2469	91	89	1151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3273	1288	0	0	2564	0
Stage 1	2519	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 7	157	-	-	169	-
Stage 1	~ 48	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	156	-	-	168	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	~ 48	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 335.4	0	3.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	156	168	-
HCM Lane V/C Ratio	-	-	1.565	0.533	-
HCM Control Delay (s)	-	-	$ 335.4	48.5	-
HCM Lane LOS	-	-	F	E	-
HCM 95th %tile Q(veh)	-	-	16.6	2.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2367	20	0	1199
Future Vol, veh/h	5	40	2367	20	0	1199
Conflicting Peds, #/hr	4	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2492	21	0	1262

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3141	1264	0	0	-	-
Stage 1	2506	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	8	161	-	-	0	-
Stage 1	47	-	-	-	0	-
Stage 2	490	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	8	160	-	-	-	-
Mov Cap-2 Maneuver	44	-	-	-	-	-
Stage 1	47	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	50.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	124	-
HCM Lane V/C Ratio	-	-	0.382	-
HCM Control Delay (s)	-	-	50.9	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	1.6	-

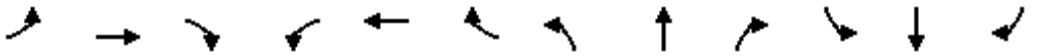
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2392	25	10	1189
Future Vol, veh/h	0	5	2392	25	10	1189
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2492	26	10	1239

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1269	0	0	2523	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	162	-	-	176	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	161	-	-	175	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

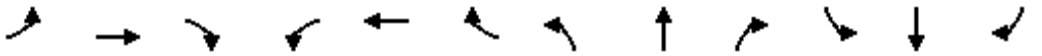
Approach	WB	NB	SB
HCM Control Delay, s	28.1	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	175	-
HCM Lane V/C Ratio	-	-	0.032	0.06	-
HCM Control Delay (s)	-	-	28.1	26.9	-
HCM Lane LOS	-	-	D	D	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	531	29	80	182	0	90	0	1736	5	32	970	187
Future Volume (vph)	531	29	80	182	0	90	0	1736	5	32	970	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.85	1.00		0.99		1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.98	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1694	1351	1692		1594		3568			3348	
Flt Permitted	0.95	0.96	1.00	0.36		1.00		1.00			0.74	
Satd. Flow (perm)	1681	1694	1351	645		1594		3568			2483	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	553	30	83	190	0	94	0	1808	5	33	1010	195
RTOR Reduction (vph)	0	0	59	0	0	10	0	0	0	0	11	0
Lane Group Flow (vph)	293	290	24	190	0	84	0	1813	0	0	1227	0
Confl. Peds. (#/hr)			81	81			39		188	188		39
Confl. Bikes (#/hr)			8			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4				2		
Actuated Green, G (s)	34.9	34.9	34.9	34.9		34.9		76.1			76.1	
Effective Green, g (s)	34.9	34.9	34.9	34.9		34.9		76.1			76.1	
Actuated g/C Ratio	0.29	0.29	0.29	0.29		0.29		0.63			0.63	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	488	492	392	187		463		2262			1574	
v/s Ratio Prot								c0.51				
v/s Ratio Perm	0.17	0.17	0.02	c0.29		0.05					0.49	
v/c Ratio	0.60	0.59	0.06	1.02		0.18		0.80			0.78	
Uniform Delay, d1	36.6	36.4	30.7	42.5		31.9		16.3			15.9	
Progression Factor	0.72	0.72	1.55	1.00		1.00		0.64			1.00	
Incremental Delay, d2	0.9	0.7	0.0	70.0		0.1		1.5			3.9	
Delay (s)	27.2	27.0	47.7	112.6		31.9		12.0			19.8	
Level of Service	C	C	D	F		C		B			B	
Approach Delay (s)		29.7			85.9			12.0			19.8	
Approach LOS		C			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	525	1376	60	45	742	40	0	0	0	0	0	242
Future Volume (vph)	525	1376	60	45	742	40	0	0	0	0	0	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.66	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1068	1805	3522							1565
Flt Permitted	0.95	1.00	1.00	0.14	1.00							1.00
Satd. Flow (perm)	1805	3610	1068	260	3522							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	565	1480	65	48	798	43	0	0	0	0	0	260
RTOR Reduction (vph)	0	0	33	0	6	0	0	0	0	0	0	24
Lane Group Flow (vph)	565	1480	32	48	835	0	0	0	0	0	0	236
Confl. Peds. (#/hr)			193	193		402			672	672		
Confl. Bikes (#/hr)			7			9		9				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	20.8	29.2	29.2	29.2	29.2							20.8
Effective Green, g (s)	20.8	29.2	29.2	29.2	29.2							20.8
Actuated g/C Ratio	0.35	0.49	0.49	0.49	0.49							0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	625	1756	519	126	1714							542
v/s Ratio Prot	c0.31	c0.41			0.24							0.15
v/s Ratio Perm			0.03	0.18								
v/c Ratio	0.90	0.84	0.06	0.38	0.49							0.44
Uniform Delay, d1	18.6	13.4	8.1	9.7	10.4							15.1
Progression Factor	1.00	1.00	1.00	0.61	0.64							1.18
Incremental Delay, d2	16.2	5.1	0.2	8.2	1.0							0.2
Delay (s)	34.8	18.5	8.4	14.1	7.6							18.0
Level of Service	C	B	A	B	A							B
Approach Delay (s)		22.6			8.0			0.0			18.0	
Approach LOS		C			A			A			B	

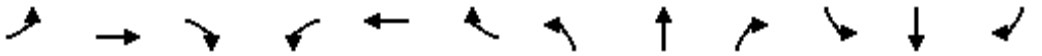
Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1361	15	40	822	65	65
Future Volume (vph)	1361	15	40	822	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.77	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1186	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1186	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1448	16	43	874	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1448	15	43	874	69	5
Confl. Peds. (#/hr)		70	70		39	
Confl. Bikes (#/hr)		7				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	823	194	2674	136	120
v/s Ratio Prot	c0.42		c0.03	0.26	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.61	0.02	0.22	0.33	0.51	0.04
Uniform Delay, d1	9.7	5.7	48.0	3.0	53.3	51.4
Progression Factor	1.33	1.67	0.75	2.98	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.0	1.1	0.1
Delay (s)	13.5	9.5	35.9	9.0	54.4	51.5
Level of Service	B	A	D	A	D	D
Approach Delay (s)	13.5			10.3	52.9	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1426	0	68	20	769	1721	37	5	1197	20
Future Volume (vph)	0	0	1426	0	68	20	769	1721	37	5	1197	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.66
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3483		1752	3505	1036
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3483		1752	3505	1036
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1470	0	70	21	793	1774	38	5	1234	21
RTOR Reduction (vph)	0	0	282	0	0	19	0	2	0	0	0	12
Lane Group Flow (vph)	0	0	1188	0	70	2	793	1810	0	5	1234	9
Confl. Peds. (#/hr)							245		321	321		245
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			102.0		12.7	12.7	31.1	65.2		1.0	52.2	52.2
Effective Green, g (s)			97.0		12.7	12.7	31.1	58.2		1.0	52.2	52.2
Actuated g/C Ratio			0.81		0.11	0.11	0.26	0.49		0.01	0.44	0.44
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2252		197	167	889	1689		14	1524	450
v/s Ratio Prot					0.04		c0.23	c0.52		0.00	0.35	
v/s Ratio Perm			c0.43			0.00						0.01
v/c Ratio			0.53		0.36	0.01	0.89	1.07		0.36	0.81	0.02
Uniform Delay, d1			3.8		49.8	48.0	42.8	30.9		59.2	29.6	19.3
Progression Factor			1.00		1.00	1.00	0.74	1.25		0.83	0.71	1.00
Incremental Delay, d2			0.1		0.4	0.0	9.4	42.4		3.6	3.1	0.1
Delay (s)			3.9		50.2	48.1	41.2	81.0		52.6	24.1	19.4
Level of Service			A		D	D	D	F		D	C	B
Approach Delay (s)		3.9			49.7			68.9			24.1	
Approach LOS		A			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

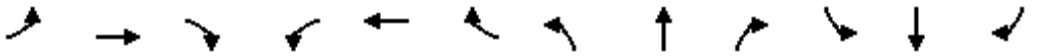
! Phase conflict between lane groups.

c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	881	200	1841	30	30	1979	589	30
Future Volume (vph)	881	200	1841	30	30	1979	589	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4905		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4905		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	918	217	1918	33	33	2061	640	33
RTOR Reduction (vph)	244	0	0	16	0	33	0	0
Lane Group Flow (vph)	674	217	1918	17	33	2668	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	36.0	10.0	61.9	61.9	18.0	87.9		5.6
Effective Green, g (s)	36.0	10.0	61.9	61.9	18.0	87.9		5.6
Actuated g/C Ratio	0.30	0.08	0.52	0.52	0.15	0.73		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	836	286	1825	816	265	3592		75
v/s Ratio Prot	c0.24	0.06	c0.54		0.02	0.43		c0.02
v/s Ratio Perm				0.01		0.11		
v/c Ratio	0.81	0.76	1.05	0.02	0.12	0.74		0.44
Uniform Delay, d1	38.8	53.8	29.1	14.2	44.2	9.4		55.7
Progression Factor	1.00	0.97	0.96	1.00	0.82	2.57		1.00
Incremental Delay, d2	5.7	8.1	33.1	0.0	0.2	0.7		4.1
Delay (s)	44.5	60.4	61.1	14.3	36.5	25.0		59.8
Level of Service	D	E	E	B	D	C		E
Approach Delay (s)			60.3			25.1		
Approach LOS			E			C		

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	606	25	60	115	5	425	90	805	5	165	961	853
Future Volume (vph)	606	25	60	115	5	425	90	805	5	165	961	853
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1438	1752	1845	1568	3367	3462		1752	3505	1416
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1438	1752	1845	1568	3367	3462		1752	3505	1416
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	638	26	63	121	5	447	95	847	5	174	1012	898
RTOR Reduction (vph)	0	0	49	0	0	64	0	0	0	0	0	534
Lane Group Flow (vph)	332	332	14	121	5	383	95	852	0	174	1012	364
Confl. Peds. (#/hr)	3		60	60		3	111		170	170		111
Confl. Bikes (#/hr)						5			8			10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.6	26.6	26.6	20.7	20.7	39.7	6.0	40.2		14.5	48.7	48.7
Effective Green, g (s)	26.6	26.6	26.6	20.7	20.7	39.7	6.0	40.2		14.5	48.7	48.7
Actuated g/C Ratio	0.22	0.22	0.22	0.17	0.17	0.33	0.05	0.34		0.12	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	372	375	318	302	318	518	168	1159		211	1422	574
v/s Ratio Prot	c0.20	0.20		0.07	0.00	c0.24	0.03	c0.25		0.10	0.29	
v/s Ratio Perm			0.01									0.26
v/c Ratio	0.89	0.89	0.04	0.40	0.02	0.74	0.57	0.74		0.82	0.71	0.63
Uniform Delay, d1	45.3	45.2	36.7	44.1	41.2	35.6	55.7	35.2		51.5	29.8	28.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.94	0.91	3.10
Incremental Delay, d2	22.1	20.7	0.0	0.9	0.0	5.6	2.6	4.2		15.5	2.1	3.7
Delay (s)	67.4	66.0	36.7	45.0	41.2	41.2	58.3	39.4		64.2	29.2	92.0
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		64.1			42.0			41.3			59.2	
Approach LOS		E			D			D			E	

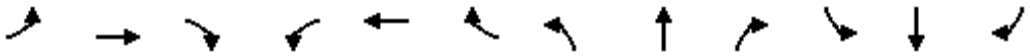
Intersection Summary			
HCM 2000 Control Delay	53.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	175	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	175	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				179	128	179
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1345	562	300	2713	0				501	263	220
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2530	1017	1774	3632	0				3619	1900	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				179	128	179
Grp Sat Flow(s),veh/h/ln	0	1787	1666	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				4.5	6.2	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				4.5	6.2	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	987	920	300	2713	0				501	263	220
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.36	0.49	0.81
Avail Cap(c_a), veh/h	0	987	920	452	2713	0				651	342	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				39.0	39.8	41.8
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.3	1.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.3	3.3	5.5
LnGrp Delay(d),s/veh	0.0	16.2	16.3	41.6	0.3	0.0				39.4	40.8	53.6
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						486	
Approach Delay, s/veh		16.2			7.7						45.0	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.7		18.9		81.1		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.8		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	575	0	0	830	340	605	230	365	0	0	0
Future Volume (vph)	305	575	0	0	830	340	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.87	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1381	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1381	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	599	0	0	865	354	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	82	0	0	176	0	0	0
Lane Group Flow (vph)	318	599	0	0	865	272	428	442	205	0	0	0
Confl. Peds. (#/hr)	24		22	22		24			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	459	551	567	507			
v/s Ratio Prot	c0.18	0.17			c0.24		0.25	c0.25				
v/s Ratio Perm						0.20			0.13			
v/c Ratio	0.86	0.29			0.73	0.59	0.78	0.78	0.40			
Uniform Delay, d1	38.3	10.3			29.4	27.7	30.5	30.5	26.2			
Progression Factor	0.83	0.69			0.54	0.44	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.6	4.9	10.3	10.2	2.4			
Delay (s)	48.1	7.5			19.5	17.2	40.8	40.7	28.6			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		21.6			18.8			37.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	820	30	5	1085	5	40	20	30	15	10	15
Future Volume (veh/h)	20	820	30	5	1085	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.96		0.94	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	837	31	5	1107	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	59	2005	73	38	2134	10	233	115	150	209	143	182
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	35	3315	121	4	3528	16	583	372	485	515	461	586
Grp Volume(v), veh/h	458	0	430	584	0	533	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1684	1856	0	1691	1440	0	0	1562	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.04		0.07	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.50	0.00	0.52	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1119	0	1019	1159	0	1023	498	0	0	534	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.3	1.6	0.0	1.9	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.5	0.0	0.5	2.0	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.3	1.6	0.0	1.9	26.1	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		888			1117			92			40	
Approach Delay, s/veh		1.2			1.7			26.1			24.6	
Approach LOS		A			A			C			C	

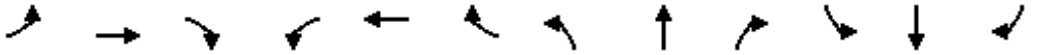
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		35.0		65.0		35.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		60.5		31.0		60.5		31.0
Max Q Clear Time (g_c+I1), s		2.0		6.3		2.0		3.6
Green Ext Time (p_c), s		2.5		0.1		2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	3.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	789	86	105	970	0	0	0	0	121	690	130
Future Volume (veh/h)	0	789	86	105	970	0	0	0	0	121	690	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	813	89	108	1000	0				125	711	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1762	193	0	1967	0				190	1139	526
Arrive On Green	0.00	0.55	0.55	0.00	1.00	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	3327	354	0	3705	0				521	3122	1442
Grp Volume(v), veh/h	0	449	453	0	1000	0				445	391	134
Grp Sat Flow(s),veh/h/ln	0	1787	1800	0	1805	0				1855	1787	1442
Q Serve(g_s), s	0.0	15.3	15.3	0.0	0.0	0.0				20.1	17.8	6.5
Cycle Q Clear(g_c), s	0.0	15.3	15.3	0.0	0.0	0.0				20.1	17.8	6.5
Prop In Lane	0.00		0.20	0.00		0.00				0.28		1.00
Lane Grp Cap(c), veh/h	0	974	981	0	1967	0				677	652	526
V/C Ratio(X)	0.00	0.46	0.46	0.00	0.51	0.00				0.66	0.60	0.25
Avail Cap(c_a), veh/h	0	974	981	0	1967	0				677	652	526
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	0.0	0.0	0.0				26.5	25.8	22.2
Incr Delay (d2), s/veh	0.0	1.6	1.6	0.0	0.9	0.0				5.0	4.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.9	8.0	0.0	0.3	0.0				11.2	9.4	2.7
LnGrp Delay(d),s/veh	0.0	15.4	15.4	0.0	0.9	0.0				31.5	29.8	23.4
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		902			1000						970	
Approach Delay, s/veh		15.4			0.9						29.7	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.0			0.0	59.0		41.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			13.7	36.3		36.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	17.3		22.1
Green Ext Time (p_c), s		2.8			0.0	2.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	680	0	0	828	88	237	774	70	0	0	0
Future Volume (veh/h)	210	680	0	0	828	88	237	774	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	723	0	0	881	94	252	823	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	63	862	0	0	1365	146	288	995	93			
Arrive On Green	0.35	0.35	0.00	0.00	0.85	0.85	0.13	0.13	0.13			
Sat Flow, veh/h	2	1714	0	0	3322	344	757	2610	244			
Grp Volume(v), veh/h	315	631	0	0	488	487	607	0	542			
Grp Sat Flow(s),veh/h/ln	4	1627	0	0	1787	1785	1825	0	1787			
Q Serve(g_s), s	39.1	33.8	0.0	0.0	9.3	9.3	32.7	0.0	29.4			
Cycle Q Clear(g_c), s	39.1	33.8	0.0	0.0	9.3	9.3	32.7	0.0	29.4			
Prop In Lane	0.71		0.00	0.00		0.19	0.41		0.14			
Lane Grp Cap(c), veh/h	0	860	0	0	756	755	695	0	681			
V/C Ratio(X)	0.00	0.73	0.00	0.00	0.65	0.65	0.87	0.00	0.80			
Avail Cap(c_a), veh/h	0	860	0	0	756	755	695	0	681			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	26.1	0.0	0.0	5.2	5.2	41.3	0.0	39.9			
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	4.2	4.2	14.3	0.0	9.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	16.5	0.0	0.0	5.0	4.9	19.3	0.0	16.4			
LnGrp Delay(d),s/veh	0.0	31.6	0.0	0.0	9.4	9.4	55.6	0.0	49.3			
LnGrp LOS		C			A	A	E		D			
Approach Vol, veh/h		946			975			1149				
Approach Delay, s/veh		21.1			9.4			52.6				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		46.8		42.6		57.4		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 42		38.1		52.9		
Max Q Clear Time (g_c+I1), s		11.3		34.7		41.1		
Green Ext Time (p_c), s		1.1		0.8		2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	29.2
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	509	119	25	736	50	30	50	15	10	90	75
Future Volume (vph)	80	509	119	25	736	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.98			0.98			0.97	
Flpb, ped/bikes		0.99			1.00			0.99			0.99	
Frt		0.97			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3097			3371			1767			1686	
Flt Permitted		0.70			0.92			0.89			0.99	
Satd. Flow (perm)		2180			3091			1599			1671	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	530	124	26	767	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	17	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	720	0	0	840	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	120		200	200		120	92		159	159		92
Confl. Bikes (#/hr)			1			3			14			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1035			1468			703			735	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.27			0.06			c0.09	
v/c Ratio		0.70			0.57			0.13			0.21	
Uniform Delay, d1		20.6			18.9			16.6			17.3	
Progression Factor		1.07			0.36			0.93			1.00	
Incremental Delay, d2		1.8			1.4			0.3			0.7	
Delay (s)		23.8			8.2			15.8			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		23.8			8.2			15.8			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	427	52	20	659	20	77	160	30	10	165	70
Future Volume (veh/h)	85	427	52	20	659	20	77	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.78	0.92		0.78	0.92		0.84	0.90		0.85
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	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	454	55	21	701	21	82	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	213	1020	123	59	1522	45	208	410	73	48	486	197
Arrive On Green	0.93	0.93	0.93	0.93	0.93	0.93	0.89	0.89	0.89	0.44	0.44	0.44
Sat Flow, veh/h	355	2193	266	46	3272	97	363	922	163	25	1092	442
Grp Volume(v), veh/h	276	0	323	389	0	354	284	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1251	0	1562	1785	0	1630	1448	0	0	1558	0	0
Q Serve(g_s), s	0.0	0.0	2.5	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	2.5	2.6	0.0	2.7	2.7	0.0	0.0	11.0	0.0	0.0
Prop In Lane	0.33		0.17	0.05		0.06	0.29		0.11	0.04		0.28
Lane Grp Cap(c), veh/h	630	0	726	868	0	758	691	0	0	731	0	0
V/C Ratio(X)	0.44	0.00	0.45	0.45	0.00	0.47	0.41	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	630	0	726	868	0	758	691	0	0	731	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.9	0.0	2.0	2.0	0.0	2.0	3.2	0.0	0.0	18.5	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	2.0	1.7	0.0	2.1	1.8	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.3	1.5	0.0	1.4	1.5	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	4.1	0.0	3.9	3.6	0.0	4.0	5.0	0.0	0.0	19.8	0.0	0.0
LnGrp LOS	A		A	A		A	A			B		
Approach Vol, veh/h		599			743			284			261	
Approach Delay, s/veh		4.0			3.8			5.0			19.8	
Approach LOS		A			A			A			B	

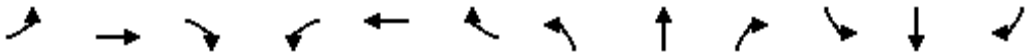
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		51.0		49.0		51.0		49.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		46.5		44.5		46.5		44.5
Max Q Clear Time (g_c+I1), s		4.7		4.7		4.5		13.0
Green Ext Time (p_c), s		1.9		0.8		1.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	6.3
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	338	59	50	461	25	218	420	40	20	330	20
Future Volume (veh/h)	70	338	59	50	461	25	218	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.74	0.97		0.84	0.99		0.92	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	356	62	53	485	26	229	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	139	680	128	108	976	54	500	928	90	64	902	53
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	1.00	1.00	1.00	0.56	0.56	0.56
Sat Flow, veh/h	260	1916	360	185	2750	153	785	1672	161	47	1625	95
Grp Volume(v), veh/h	242	0	250	283	0	281	292	0	421	389	0	0
Grp Sat Flow(s),veh/h/ln	1084	0	1452	1436	0	1651	999	0	1619	1767	0	0
Q Serve(g_s), s	9.4	0.0	13.4	4.7	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.7	0.0	13.4	18.1	0.0	13.2	0.0	0.0	0.0	12.1	0.0	0.0
Prop In Lane	0.31		0.25	0.19		0.09	0.79		0.10	0.05		0.05
Lane Grp Cap(c), veh/h	432	0	516	553	0	586	619	0	898	1019	0	0
V/C Ratio(X)	0.56	0.00	0.49	0.51	0.00	0.48	0.47	0.00	0.47	0.38	0.00	0.00
Avail Cap(c_a), veh/h	432	0	516	553	0	586	619	0	898	1019	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.5	0.0	25.1	25.7	0.0	25.1	0.0	0.0	0.0	12.6	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.0	3.2	3.4	0.0	2.8	2.6	0.0	1.8	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	5.8	7.0	0.0	6.5	0.4	0.0	0.4	6.4	0.0	0.0
LnGrp Delay(d),s/veh	33.7	0.0	28.4	29.1	0.0	27.9	2.6	0.0	1.8	13.7	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		492			564			713			389	
Approach Delay, s/veh		31.0			28.5			2.1			13.7	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		60.0		40.0		60.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		35.5		55.5		35.5		55.5
Max Q Clear Time (g_c+I1), s		20.1		2.0		24.7		14.1
Green Ext Time (p_c), s		6.3		10.1		5.1		9.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	383	110	25	359	10	237	95	25	15	80	20
Future Volume (vph)	25	383	110	25	359	10	237	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3276			1837			1785			1773	
Flt Permitted		0.92			0.94			0.97			0.99	
Satd. Flow (perm)		3023			1739			1785			1773	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	421	121	27	395	11	260	104	27	16	88	22
RTOR Reduction (vph)	0	22	0	0	1	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	547	0	0	432	0	0	388	0	0	119	0
Confl. Peds. (#/hr)	56		83	83		56	87		66	66		87
Confl. Bikes (#/hr)						2			42			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		41.4			41.4			34.5			21.1	
Effective Green, g (s)		41.4			41.4			34.5			21.1	
Actuated g/C Ratio		0.37			0.37			0.31			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1132			651			557			338	
v/s Ratio Prot								c0.22			c0.07	
v/s Ratio Perm		0.18			c0.25							
v/c Ratio		0.48			0.66			0.70			0.35	
Uniform Delay, d1		26.4			28.8			33.4			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.5			5.3			7.1			2.9	
Delay (s)		27.9			34.0			40.5			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		27.9			34.0			40.5			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	53	0	5	30	5	0	114	65	5
Future Vol, veh/h	0	315	30	53	0	5	30	5	0	114	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	60	0	6	34	6	0	128	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

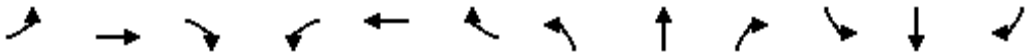
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	21.8	10.2	12.6
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	79%	12%	1%
Vol Thru, %	35%	8%	75%	16%
Vol Right, %	3%	13%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	184	398	40	340
LT Vol	114	315	5	5
Through Vol	65	30	30	55
RT Vol	5	53	5	280
Lane Flow Rate	207	447	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.353	0.712	0.082	0.565
Departure Headway (Hd)	6.149	5.728	6.577	5.325
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	581	626	548	672
Service Time	4.241	3.793	4.577	3.404
HCM Lane V/C Ratio	0.356	0.714	0.082	0.568
HCM Control Delay	12.6	21.8	10.2	15.2
HCM Lane LOS	B	C	B	C
HCM 95th-tile Q	1.6	5.9	0.3	3.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

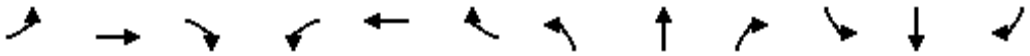
Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15.2
HCM LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	861	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	861	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1742			1737						3470	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1742			1326						3470	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	916	37
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	121	0	0	175	0	0	0	0	0	986	0
Confl. Peds. (#/hr)	78		113	113		78	114		59	59		114
Confl. Bikes (#/hr)			6			23						11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		400			304						2012	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.28	
v/c Ratio		0.30			0.58						0.49	
Uniform Delay, d1		15.9			17.1						6.2	
Progression Factor		1.00			0.89						2.23	
Incremental Delay, d2		0.6			2.8						0.6	
Delay (s)		16.5			18.0						14.3	
Level of Service		B			B						B	
Approach Delay (s)		16.5			18.0			0.0			14.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	921	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	921	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.93			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1622			3495				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1622			3495				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	990	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	53	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	183	0	0	1096	0	0	0	0
Confl. Peds. (#/hr)	89		93	93		89	44		48	48		44
Confl. Bikes (#/hr)			14			30			81			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.5			10.5			29.5				
Effective Green, g (s)		10.5			10.5			29.5				
Actuated g/C Ratio		0.21			0.21			0.59				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		399			340			2062				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.31				
v/c Ratio		0.30			0.54			0.53				
Uniform Delay, d1		16.6			17.6			6.1				
Progression Factor		1.18			0.93			1.02				
Incremental Delay, d2		0.1			0.8			0.8				
Delay (s)		19.8			17.1			7.1				
Level of Service		B			B			A				
Approach Delay (s)		19.8			17.1			7.1			0.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

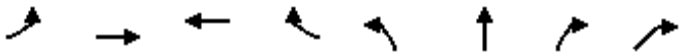
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	558	40	25	409	35
Future Volume (vph)	75	70	60	25	35	65	115	558	40	25	409	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.95			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			1.00	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1623			1551			3312			1711	
Flt Permitted		0.85			0.92			0.81			0.95	
Satd. Flow (perm)		1398			1438			2692			1622	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	600	43	27	440	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	8	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	759	0	0	499	0
Confl. Peds. (#/hr)	140		146	146		140	175		131	131		175
Confl. Bikes (#/hr)			6			4			24			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		419			431			1426			859	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.28			c0.31	
v/c Ratio		0.46			0.20			0.53			0.58	
Uniform Delay, d1		14.2			13.0			7.7			8.0	
Progression Factor		1.54			1.00			1.02			0.63	
Incremental Delay, d2		3.5			1.0			0.7			2.7	
Delay (s)		25.3			14.1			8.6			7.7	
Level of Service		C			B			A			A	
Approach Delay (s)		25.3			14.1			8.6			7.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	700	250	545	895	0	0	0	0	301	220	220
Future Volume (vph)	0	700	250	545	895	0	0	0	0	301	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3295		3433	3539					1579	2997	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		3295		3433	3539					1579	2997	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	729	260	568	932	0	0	0	0	314	229	229
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	951	0	568	932	0	0	0	0	264	430	0
Confl. Peds. (#/hr)	128		138	138		128	35					35
Confl. Bikes (#/hr)			2			8						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		33.8		28.2	66.5					24.0	24.0	
Effective Green, g (s)		33.8		28.2	66.5					24.0	24.0	
Actuated g/C Ratio		0.34		0.28	0.66					0.24	0.24	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1113		968	2353					378	719	
v/s Ratio Prot		c0.29		c0.17	0.26					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.85		0.59	0.40					0.70	0.60	
Uniform Delay, d1		30.8		30.9	7.6					34.7	33.7	
Progression Factor		1.00		1.06	1.35					1.29	1.38	
Incremental Delay, d2		6.6		1.2	0.2					9.3	3.3	
Delay (s)		37.4		34.1	10.5					54.0	49.8	
Level of Service		D		C	B					D	D	
Approach Delay (s)		37.4			19.4			0.0			51.2	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	761	956	386	494	440	523	60
Future Volume (vph)	235	761	956	386	494	440	523	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	3001		3400	1705	1430	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	3001		3400	1705	1430	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	801	1006	406	520	463	551	63
RTOR Reduction (vph)	0	0	44	0	0	6	82	0
Lane Group Flow (vph)	247	801	1368	0	520	534	392	63
Confl. Peds. (#/hr)	294			294	95		24	
Confl. Bikes (#/hr)				24				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	15.1	56.5	42.3		29.1	29.1	29.1	58.9
Effective Green, g (s)	15.1	56.5	42.3		29.1	29.1	29.1	58.9
Actuated g/C Ratio	0.15	0.56	0.42		0.29	0.29	0.29	0.59
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	262	1961	1269		989	496	416	940
v/s Ratio Prot	c0.14	0.23	c0.46		0.15	c0.31		0.00
v/s Ratio Perm							0.27	0.04
v/c Ratio	0.94	0.41	1.08		0.53	1.08	0.94	0.07
Uniform Delay, d1	42.0	12.3	28.9		29.7	35.5	34.6	8.8
Progression Factor	1.18	1.53	1.08		1.00	1.00	1.00	1.00
Incremental Delay, d2	29.9	0.4	47.7		2.0	62.8	32.0	0.0
Delay (s)	79.6	19.2	79.0		31.7	98.2	66.6	8.8
Level of Service	E	B	E		C	F	E	A
Approach Delay (s)		33.4	79.0			65.9		
Approach LOS		C	E			E		

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1209	10	10	1327	5	95
Future Vol, veh/h	1209	10	10	1327	5	95
Conflicting Peds, #/hr	0	224	224	0	224	224
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1300	11	11	1427	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1535	0	2488	1103
Stage 1	-	-	-	-	1529	-
Stage 2	-	-	-	-	959	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	425	-	25	209
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	337	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	346	-	16	138
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	265	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	82.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	346	-
HCM Lane V/C Ratio	0.74	-	-	0.031	-
HCM Control Delay (s)	82.7	-	-	15.7	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

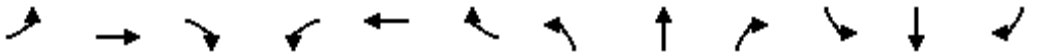
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1214	1312	30	5	25
Future Vol, veh/h	95	1214	1312	30	5	25
Conflicting Peds, #/hr	150	0	0	148	148	150
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1278	1381	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1563	0	-	0	2534	1006
Stage 1	-	-	-	-	1547	-
Stage 2	-	-	-	-	987	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	414	-	-	-	23	243
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	326	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	362	-	-	-	13	186
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	206	-

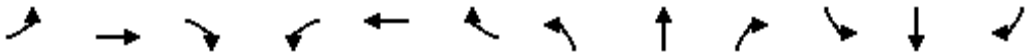
Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	34.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	362	-	-	-	154
HCM Lane V/C Ratio	0.276	-	-	-	0.205
HCM Control Delay (s)	18.7	-	-	-	34.3
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	0.7



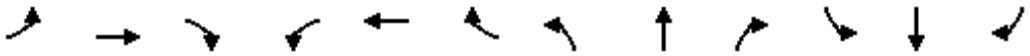
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	997	237	232	1202	0	0	0	0	45	816	130
Future Volume (vph)	0	997	237	232	1202	0	0	0	0	45	816	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.65
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3197		1736	3471						3505	1033
Flt Permitted		1.00		0.09	1.00						1.00	1.00
Satd. Flow (perm)		3197		158	3471						3505	1033
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1039	247	242	1252	0	0	0	0	47	850	135
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1266	0	242	1252	0	0	0	0	0	897	88
Confl. Peds. (#/hr)	269		232	232		269	298		90	90		298
Confl. Bikes (#/hr)			2			17						35
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.4		59.0	63.5						27.5	27.5
Effective Green, g (s)		46.4		59.0	63.5						27.5	27.5
Actuated g/C Ratio		0.46		0.59	0.64						0.28	0.28
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1483		292	2204						963	284
v/s Ratio Prot		c0.40		c0.10	0.36							
v/s Ratio Perm				0.39							0.26	0.09
v/c Ratio		0.85		0.83	0.57						0.93	0.31
Uniform Delay, d1		23.8		32.8	10.4						35.3	28.7
Progression Factor		0.88		0.91	0.67						1.39	1.95
Incremental Delay, d2		5.5		13.0	0.2						14.0	0.2
Delay (s)		26.3		43.0	7.1						63.0	56.2
Level of Service		C		D	A						E	E
Approach Delay (s)		26.3			12.9			0.0			62.1	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



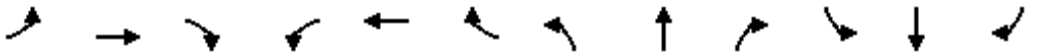
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	962	0	0	987	30	427	936	151	0	0	0
Future Volume (vph)	5	962	0	0	987	30	427	936	151	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.77			
Flpb, ped/bikes		1.00			1.00		0.91	1.00	1.00			
Frt		1.00			1.00		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3504			3421		1623	3574	1234			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3331			3421		1623	3574	1234			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1023	0	0	1050	32	454	996	161	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	18	0	0	0
Lane Group Flow (vph)	0	1028	0	0	1080	0	454	996	143	0	0	0
Confl. Peds. (#/hr)	243		130	130		243	55		112	112		55
Confl. Bikes (#/hr)						16			93			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		48.5			48.5		42.5	42.5	42.5			
Effective Green, g (s)		48.5			48.5		42.5	42.5	42.5			
Actuated g/C Ratio		0.48			0.48		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1615			1659		689	1518	524			
v/s Ratio Prot					c0.32			0.28				
v/s Ratio Perm		0.31					c0.28		0.12			
v/c Ratio		0.64			0.65		0.66	0.66	0.27			
Uniform Delay, d1		19.2			19.4		23.0	22.9	18.7			
Progression Factor		0.23			0.58		0.83	0.83	0.84			
Incremental Delay, d2		0.9			1.8		2.6	1.2	0.7			
Delay (s)		5.4			12.9		21.7	20.2	16.4			
Level of Service		A			B		C	C	B			
Approach Delay (s)		5.4			12.9			20.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	982	61	49	947	15	40	60	45	20	52	35
Future Volume (vph)	85	982	61	49	947	15	40	60	45	20	52	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3308		1703	3366			1601			1582	
Flt Permitted	0.95	1.00		0.95	1.00			0.88			0.93	
Satd. Flow (perm)	1736	3308		1703	3366			1431			1482	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	1045	65	52	1007	16	43	64	48	21	55	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	90	1107	0	52	1022	0	0	138	0	0	94	0
Confl. Peds. (#/hr)	214		302	302		214	72		98	98		72
Confl. Bikes (#/hr)			2			9			30			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Effective Green, g (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Actuated g/C Ratio	0.10	0.65		0.05	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2156		86	2006			238			247	
v/s Ratio Prot	c0.05	c0.33		0.03	0.30							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.51	0.51		0.60	0.51			0.58			0.38	
Uniform Delay, d1	42.5	9.1		46.5	11.7			38.4			37.0	
Progression Factor	0.70	0.26		0.80	0.69			1.00			1.00	
Incremental Delay, d2	0.7	0.7		6.1	0.7			2.1			0.4	
Delay (s)	30.4	3.0		43.1	8.8			40.5			37.4	
Level of Service	C	A		D	A			D			D	
Approach Delay (s)		5.1			10.4			40.5			37.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	947	40	85	866	30	85	50	10	60	39	130
Future Volume (vph)	100	947	40	85	866	30	85	50	10	60	39	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.96			0.98			1.00	0.68		1.00	0.74
Flpb, ped/bikes	1.00	1.00			0.99			0.86	1.00		0.86	1.00
Frt	1.00	0.99			1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1736	3322			3293			1593	1104		1569	1179
Flt Permitted	0.95	1.00			0.74			0.72	1.00		0.62	1.00
Satd. Flow (perm)	1736	3322			2439			1176	1104		1010	1179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1007	43	90	921	32	90	53	11	64	41	138
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	1047	0	0	1041	0	0	143	2	0	105	22
Confl. Peds. (#/hr)	337		693	693		337	152		193	193		152
Confl. Bikes (#/hr)			9			12			9			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	9.0	74.7			61.7			16.3	16.3		16.3	16.3
Effective Green, g (s)	9.0	74.7			61.7			16.3	16.3		16.3	16.3
Actuated g/C Ratio	0.09	0.75			0.62			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	156	2481			1504			191	179		164	192
v/s Ratio Prot	c0.06	0.32										
v/s Ratio Perm					c0.43			c0.12	0.00		0.10	0.02
v/c Ratio	0.68	0.42			0.69			0.75	0.01		0.64	0.12
Uniform Delay, d1	44.1	4.7			12.8			39.9	35.1		39.1	35.7
Progression Factor	0.88	0.22			0.41			1.00	1.00		0.72	0.90
Incremental Delay, d2	8.0	0.5			2.3			13.1	0.0		5.5	0.1
Delay (s)	46.7	1.5			7.6			53.0	35.1		33.6	32.1
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.6			7.6			51.7			32.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	837	125	5	863	50	33	192	117	5	242	60
Future Volume (vph)	5	837	125	5	863	50	33	192	117	5	242	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.89			0.96			0.84			0.90	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3018			3391			1396			1585	
Flt Permitted		0.95			0.95			0.94			0.99	
Satd. Flow (perm)		2871			3225			1318			1577	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	890	133	5	918	53	35	204	124	5	257	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	1027	0	0	973	0	0	361	0	0	322	0
Confl. Peds. (#/hr)	493		608	608		493	754		597	597		754
Confl. Bikes (#/hr)			1			7			71			20
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		59.6			59.6			31.4			31.4	
Effective Green, g (s)		59.6			59.6			31.4			31.4	
Actuated g/C Ratio		0.60			0.60			0.31			0.31	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1711			1922			413			495	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.30			c0.27			0.20	
v/c Ratio		0.60			0.51			0.87			0.65	
Uniform Delay, d1		12.7			11.7			32.4			29.6	
Progression Factor		0.84			0.84			1.18			1.35	
Incremental Delay, d2		1.4			0.8			16.6			2.2	
Delay (s)		12.1			10.6			54.9			42.2	
Level of Service		B			B			D			D	
Approach Delay (s)		12.1			10.6			54.9			42.2	
Approach LOS		B			B			D			D	

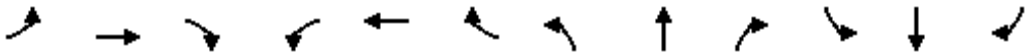
Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	785	109	174	810	70	73	578	212	100	414	40
Future Volume (veh/h)	70	785	109	174	810	70	73	578	212	100	414	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.83	1.00		0.79	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	818	114	181	844	73	76	602	221	104	431	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	142	1071	149	241	1304	113	96	638	233	121	939	91
Arrive On Green	0.16	0.71	0.71	0.28	0.83	0.83	0.02	0.09	0.09	0.14	0.61	0.61
Sat Flow, veh/h	1774	3017	420	1723	3142	272	1691	2239	819	1723	3100	299
Grp Volume(v), veh/h	73	480	452	181	462	455	76	453	370	104	237	236
Grp Sat Flow(s),veh/h/ln	1774	1770	1668	1723	1719	1695	1691	1687	1370	1723	1719	1679
Q Serve(g_s), s	3.8	17.2	17.2	9.6	9.9	9.9	4.5	26.7	26.9	5.9	7.5	7.7
Cycle Q Clear(g_c), s	3.8	17.2	17.2	9.6	9.9	9.9	4.5	26.7	26.9	5.9	7.5	7.7
Prop In Lane	1.00		0.25	1.00		0.16	1.00		0.60	1.00		0.18
Lane Grp Cap(c), veh/h	142	628	592	241	713	703	96	481	391	121	521	509
V/C Ratio(X)	0.51	0.76	0.76	0.75	0.65	0.65	0.79	0.94	0.95	0.86	0.45	0.46
Avail Cap(c_a), veh/h	142	628	592	241	713	703	169	481	391	121	521	509
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.77	0.77	0.77	0.82	0.82	0.82	0.82	0.82	0.82	0.78	0.78	0.78
Uniform Delay (d), s/veh	40.2	11.8	11.8	34.4	5.8	5.8	48.5	44.5	44.6	42.5	15.2	15.2
Incr Delay (d2), s/veh	1.1	6.7	7.1	9.1	3.7	3.7	4.4	23.6	28.2	35.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.2	8.7	5.1	5.1	5.0	2.2	15.6	13.3	3.9	3.4	3.6
LnGrp Delay(d),s/veh	41.3	18.5	18.9	43.5	9.5	9.6	52.9	68.0	72.7	77.5	15.4	15.4
LnGrp LOS	D	B	B	D	A	A	D	E	E	E	B	B
Approach Vol, veh/h		1005			1098			899			577	
Approach Delay, s/veh		20.4			15.1			68.7			26.6	
Approach LOS		C			B			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	46.0	11.5	33.0	18.0	40.0	9.7	34.8
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	41.5	7.0	* 29	12.0	35.5	10.0	25.5
Max Q Clear Time (g_c+I1), s	5.8	11.9	7.9	28.9	11.6	19.2	6.5	9.7
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	2.2	0.0	0.9

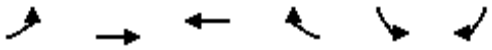
Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Notes



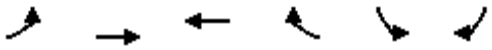
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	857	280	55	896	50	128	227	51	45	75	25
Future Volume (vph)	20	857	280	55	896	50	128	227	51	45	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.97		1.00	1.00	0.55		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1752	3150		1770	3413		1770	1863	867		1694	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1752	3150		1770	3413		1770	1863	867		1694	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	922	301	59	963	54	138	244	55	48	81	27
RTOR Reduction (vph)	0	29	0	0	3	0	0	0	47	0	8	0
Lane Group Flow (vph)	22	1194	0	59	1014	0	138	244	8	0	148	0
Confl. Peds. (#/hr)	218		185	185		218	329		437	437		329
Confl. Bikes (#/hr)			2			3			75			10
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Effective Green, g (s)	2.0	48.4		4.8	51.2		15.2	15.2	15.2		15.1	
Actuated g/C Ratio	0.02	0.48		0.05	0.51		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1524		84	1747		269	283	131		255	
v/s Ratio Prot	0.01	c0.38		c0.03	c0.30		0.08	c0.13			c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.78		0.70	0.58		0.51	0.86	0.06		0.58	
Uniform Delay, d1	48.6	21.4		46.9	16.9		39.0	41.4	36.3		39.5	
Progression Factor	1.18	0.39		1.13	0.90		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.6	2.7		18.3	1.3		0.7	22.0	0.1		2.2	
Delay (s)	72.8	11.0		71.3	16.6		39.7	63.4	36.4		41.7	
Level of Service	E	B		E	B		D	E	D		D	
Approach Delay (s)		12.1			19.6			52.5			41.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



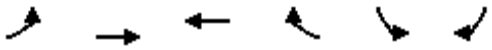
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	943	971	0	15	25
Future Volume (vph)	0	943	971	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.86	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1470	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1025	1055	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	1025	1055	0	21	0
Confl. Peds. (#/hr)	209			209	123	121
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		249	
v/s Ratio Prot		0.29	c0.30		c0.01	
v/s Ratio Perm						
v/c Ratio		0.39	0.40		0.08	
Uniform Delay, d1		4.6	4.6		34.9	
Progression Factor		0.15	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.1	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	923	976	35	0	0
Future Volume (vph)	25	923	976	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	0.99			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3455			
Flt Permitted	0.11	1.00	1.00			
Satd. Flow (perm)	212	1881	3455			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1003	1061	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	1003	1097	0	0	0
Confl. Peds. (#/hr)	144			144	305	125
Confl. Bikes (#/hr)				8		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	41.2			
Effective Green, g (s)	71.5	74.5	41.2			
Actuated g/C Ratio	0.72	0.74	0.41			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	628	1401	1423			
v/s Ratio Prot	0.01	c0.53	c0.32			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.72	0.77			
Uniform Delay, d1	7.0	7.0	25.3			
Progression Factor	1.33	1.67	0.25			
Incremental Delay, d2	0.0	1.7	2.8			
Delay (s)	9.3	13.3	9.2			
Level of Service	A	B	A			
Approach Delay (s)		13.2	9.2		0.0	
Approach LOS		B	A		A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	873	986	114	33	30
Future Volume (vph)	40	873	986	114	33	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.94	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3476		1702	
Flt Permitted	0.11	1.00	1.00		0.97	
Satd. Flow (perm)	213	1881	3476		1702	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	939	1060	123	35	32
RTOR Reduction (vph)	0	0	0	0	27	0
Lane Group Flow (vph)	43	939	1183	0	40	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	45.9		17.0	
Effective Green, g (s)	71.5	74.5	45.9		17.0	
Actuated g/C Ratio	0.72	0.74	0.46		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	555	1401	1595		289	
v/s Ratio Prot	0.02	c0.50	c0.34		c0.02	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.67	0.74		0.14	
Uniform Delay, d1	7.4	6.5	22.2		35.3	
Progression Factor	0.15	0.06	1.00		1.00	
Incremental Delay, d2	0.0	0.7	3.2		0.1	
Delay (s)	1.1	1.1	25.3		35.4	
Level of Service	A	A	C		D	
Approach Delay (s)		1.1	25.3		35.4	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	573	23	585	916	169	1552
Future Volume (vph)	573	23	585	916	169	1552
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.89	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1419	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1419	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	610	24	622	974	180	1651
RTOR Reduction (vph)	0	4	0	0	0	3
Lane Group Flow (vph)	610	20	622	974	180	1648
Confl. Peds. (#/hr)		46	46			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	26.3	26.3	82.5	82.5	17.7	104.7
Effective Green, g (s)	26.3	26.3	82.5	82.5	17.7	104.7
Actuated g/C Ratio	0.19	0.19	0.59	0.59	0.13	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	671	266	2003	1087	223	2084
v/s Ratio Prot	c0.17		0.18	c0.53	0.10	c0.59
v/s Ratio Perm		0.01				
v/c Ratio	0.91	0.07	0.31	0.90	0.81	0.79
Uniform Delay, d1	55.7	46.8	14.5	25.0	59.5	10.9
Progression Factor	1.00	1.00	0.43	0.57	0.98	1.05
Incremental Delay, d2	16.5	0.1	0.3	8.5	16.9	1.9
Delay (s)	72.1	47.0	6.6	22.8	75.4	13.3
Level of Service	E	D	A	C	E	B
Approach Delay (s)	71.2			16.5	19.4	
Approach LOS	E			B	B	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1280	220	25	896	190	25	165	105	30	31
Future Volume (vph)	35	280	1280	220	25	896	190	25	165	105	30	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.92	1.00	0.98		0.95	1.00	1.00	0.92	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1446	1736	4511		1263	1698	1766	1474	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	187	3505	1446	215	4511		1263	1698	1766	1474	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1320	227	26	924	196	26	170	108	31	32
RTOR Reduction (vph)	0	0	0	86	0	0	0	17	0	0	53	0
Lane Group Flow (vph)	36	289	1320	141	26	1123	0	6	136	142	10	0
Confl. Peds. (#/hr)	19	19		16	16		19	19	35		19	18
Confl. Bikes (#/hr)				3				1				4
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Effective Green, g (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Actuated g/C Ratio	0.08	0.44	0.36	0.36	0.24	0.24		0.24	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	143	329	1276	526	52	1095		306	265	276	230	
v/s Ratio Prot	0.02	c0.14	c0.38			0.25			0.08	c0.08		
v/s Ratio Perm		0.25		0.10	0.12			0.00			0.01	
v/c Ratio	0.25	0.88	1.03	0.27	0.50	1.03		0.02	0.51	0.51	0.04	
Uniform Delay, d1	60.2	40.3	44.5	31.3	45.7	53.0		40.3	54.2	54.2	50.1	
Progression Factor	0.94	0.89	0.86	0.79	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	13.5	28.2	0.7	30.5	33.9		0.1	0.7	0.7	0.0	
Delay (s)	57.3	49.3	66.6	25.5	76.2	86.9		40.4	54.9	54.8	50.2	
Level of Service	E	D	E	C	E	F		D	D	D	D	
Approach Delay (s)			58.8			85.7				54.0		
Approach LOS			E			F				D		

Intersection Summary			
HCM 2000 Control Delay	66.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1687			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1687			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	126	0
Lane Group Flow (vph)	0	218	210	0	0	62	95	0
Confl. Peds. (#/hr)	18	19		35	18	16	35	19
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.0	20.6	
Effective Green, g (s)		24.5	24.5			6.0	20.6	
Actuated g/C Ratio		0.18	0.18			0.04	0.15	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	295			76	414	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.82	0.23	
Uniform Delay, d1		54.7	54.4			66.5	52.7	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.6			45.8	0.2	
Delay (s)		62.5	61.0			112.3	52.9	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.9		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	9.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	47	1333
Future Vol, veh/h	120	0	0	0	47	1333
Conflicting Peds, #/hr	75	153	0	75	153	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	52	1465

Major/Minor	Minor1		Major2	
Conflicting Flow All	1064	-	153	0
Stage 1	153	-	-	-
Stage 2	911	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	211	0	1433	-
Stage 1	-	0	-	-
Stage 2	343	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	148	-	1433	-
Mov Cap-2 Maneuver	148	-	-	-
Stage 1	-	-	-	-
Stage 2	276	-	-	-

Approach	WB	SB
HCM Control Delay, s	106.6	0.9
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	148	1433	-
HCM Lane V/C Ratio	0.891	0.036	-
HCM Control Delay (s)	106.6	7.6	0.7
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	6.1	0.1	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	0	1413	40
Future Vol, veh/h	0	69	0	0	1413	40
Conflicting Peds, #/hr	277	151	151	0	0	277
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	75	0	0	1536	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1218	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	172	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	132	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

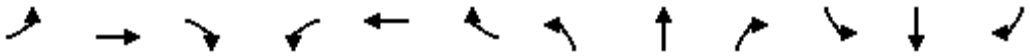
Approach	EB	SB
HCM Control Delay, s	63.2	0
HCM LOS	F	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	132	-	-
HCM Lane V/C Ratio	0.568	-	-
HCM Control Delay (s)	63.2	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	2.8	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	37	0	0	90	110	20	1214	60	0	0	0
Future Volume (vph)	45	37	0	0	90	110	20	1214	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1771			1537			3474				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1465			1537			3474				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	40	0	0	98	120	22	1320	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	89	0	0	213	0	0	1400	0	0	0	0
Confl. Peds. (#/hr)	117		79	79		117	55		61	61		55
Confl. Bikes (#/hr)			7			10			79			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			645			1424				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.06						0.40				
v/c Ratio		0.14			0.33			0.98				
Uniform Delay, d1		9.0			9.8			14.6				
Progression Factor		0.82			0.87			0.74				
Incremental Delay, d2		0.4			1.4			17.5				
Delay (s)		7.8			9.9			28.4				
Level of Service		A			A			C				
Approach Delay (s)		7.8			9.9			28.4			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

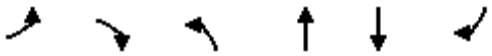
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	7	70	5	65	10	217	80	75	267	30
Future Volume (vph)	60	15	7	70	5	65	10	217	80	75	267	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.84			0.83			0.95	
Flpb, ped/bikes		0.82			0.78			0.99			0.93	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1392			1137			1398			1546	
Flt Permitted		0.75			0.83			0.99			0.88	
Satd. Flow (perm)		1084			967			1381			1367	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	8	75	5	70	11	233	86	81	287	32
RTOR Reduction (vph)	0	5	0	0	17	0	0	25	0	0	6	0
Lane Group Flow (vph)	0	84	0	0	133	0	0	305	0	0	394	0
Confl. Peds. (#/hr)	179		298	298		179	690		591	591		690
Confl. Bikes (#/hr)			2			3			63			25
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		16.0			16.0			25.5			25.5	
Effective Green, g (s)		16.0			16.0			25.5			25.5	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		346			309			704			697	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.14			0.22			c0.29	
v/c Ratio		0.24			0.43			0.43			0.56	
Uniform Delay, d1		12.5			13.4			7.7			8.4	
Progression Factor		0.75			0.52			0.98			1.12	
Incremental Delay, d2		1.2			4.2			1.8			2.8	
Delay (s)		10.7			11.1			9.4			12.3	
Level of Service		B			B			A			B	
Approach Delay (s)		10.7			11.1			9.4			12.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

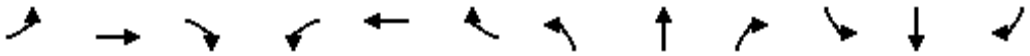
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	738	632	85
Future Volume (vph)	110	75	55	738	632	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.87			1.00	1.00	0.64
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1493			3332	3343	950
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1493			2918	3343	950
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	777	665	89
RTOR Reduction (vph)	44	0	0	0	0	45
Lane Group Flow (vph)	151	0	0	835	665	44
Confl. Peds. (#/hr)	262	361	182			182
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	492			1429	1638	465
v/s Ratio Prot	c0.10				0.20	
v/s Ratio Perm				c0.29		0.05
v/c Ratio	0.31			0.58	0.41	0.09
Uniform Delay, d1	12.5			9.1	8.1	6.8
Progression Factor	1.13			1.34	1.00	1.20
Incremental Delay, d2	1.5			1.6	0.6	0.3
Delay (s)	15.5			13.8	8.7	8.5
Level of Service	B			B	A	A
Approach Delay (s)	15.5			13.8	8.7	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Future Volume (vph)	109	12	5	10	21	242	0	55	15	252	65	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	118	13	5	11	23	263	0	60	16	274	71	112

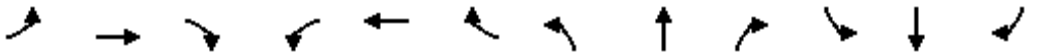
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	136	297	30	46	310	148
Volume Left (vph)	118	11	0	0	274	0
Volume Right (vph)	5	263	0	16	0	112
Hadj (s)	0.15	-0.52	0.44	0.20	0.53	-0.45
Departure Headway (s)	5.9	5.0	6.9	6.6	6.4	5.4
Degree Utilization, x	0.22	0.41	0.06	0.08	0.55	0.22
Capacity (veh/h)	558	673	465	490	545	642
Control Delay (s)	10.6	11.5	9.1	9.0	15.6	8.7
Approach Delay (s)	10.6	11.5	9.0		13.4	
Approach LOS	B	B	A		B	

Intersection Summary				
Delay	12.1			
Level of Service	B			
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	112	97	5	65	208	95	848	5	63	603	137
Future Volume (veh/h)	177	112	97	5	65	208	95	848	5	63	603	137
Number	3	8	18	7	4	14	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		0.90	0.96		0.83	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	186	118	102	5	68	219	100	893	5	66	635	144
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	227	527	395	38	302	206	338	2051	11	84	1205	273
Arrive On Green	0.10	0.30	0.30	0.17	0.17	0.17	0.19	0.56	0.56	0.05	0.42	0.42
Sat Flow, veh/h	1707	1762	1319	60	1728	1179	1810	3680	21	1792	2884	653
Grp Volume(v), veh/h	186	113	107	73	0	219	100	438	460	66	393	386
Grp Sat Flow(s),veh/h/ln	1707	1703	1378	1787	0	1179	1810	1805	1896	1792	1787	1750
Q Serve(g_s), s	12.1	7.0	8.2	0.0	0.0	24.5	6.7	19.9	19.9	5.1	23.0	23.1
Cycle Q Clear(g_c), s	12.1	7.0	8.2	4.7	0.0	24.5	6.7	19.9	19.9	5.1	23.0	23.1
Prop In Lane	1.00		0.96	0.07		1.00	1.00		0.01	1.00		0.37
Lane Grp Cap(c), veh/h	227	509	412	562	0	206	338	1006	1057	84	747	731
V/C Ratio(X)	0.82	0.22	0.26	0.13	0.00	1.06	0.30	0.44	0.44	0.78	0.53	0.53
Avail Cap(c_a), veh/h	307	590	478	562	0	206	338	1006	1057	198	747	731
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	0.99	0.00	0.99	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	36.8	37.3	49.6	0.0	57.8	49.0	18.1	18.1	66.0	30.4	30.4
Incr Delay (d2), s/veh	12.0	0.2	0.3	0.0	0.0	79.5	0.2	1.2	1.1	5.8	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.3	3.2	2.0	0.0	12.5	3.3	10.2	10.7	2.7	11.9	11.7
LnGrp Delay(d),s/veh	53.9	37.1	37.6	49.6	0.0	137.2	49.2	19.3	19.2	71.8	33.1	33.2
LnGrp LOS	D	D	D	D		F	D	B	B	E	C	C
Approach Vol, veh/h		406			292			998			845	
Approach Delay, s/veh		44.9			115.3			22.2			36.1	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	82.5	17.4	29.0	30.6	63.0		46.4
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	62.5	21.0	24.5	19.5	58.5		48.5
Max Q Clear Time (g_c+I1), s	7.1	21.9	14.1	26.5	8.7	25.1		10.2
Green Ext Time (p_c), s	0.0	6.0	0.3	0.0	2.4	0.8		3.1

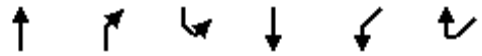
Intersection Summary	
HCM 2010 Ctrl Delay	41.2
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	16	0	11	21	48	0	1464	39	3	513	272
Future Volume (vph)	149	16	0	11	21	48	0	1464	39	3	513	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	0.96			0.98	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1637			3315	1509		3558			3538	1537
Flt Permitted	0.73	0.74			0.86	1.00		1.00			0.95	1.00
Satd. Flow (perm)	1250	1264			2904	1509		3558			3355	1537
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	159	17	0	12	22	51	0	1557	41	3	546	289
RTOR Reduction (vph)	0	0	0	0	0	46	0	1	0	0	0	48
Lane Group Flow (vph)	87	89	0	0	34	5	0	1597	0	0	549	241
Confl. Peds. (#/hr)							7		2	2		7
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2				1		1
Actuated Green, G (s)	14.2	14.2			14.2	14.2		116.8			116.8	116.8
Effective Green, g (s)	14.2	14.2			14.2	14.2		116.8			116.8	116.8
Actuated g/C Ratio	0.10	0.10			0.10	0.10		0.83			0.83	0.83
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	126	128			294	153		2968			2799	1282
v/s Ratio Prot								c0.45				
v/s Ratio Perm	0.07	c0.07			0.01	0.00					0.16	0.16
v/c Ratio	0.69	0.70			0.12	0.03		0.54			0.20	0.19
Uniform Delay, d1	60.8	60.8			57.2	56.7		3.5			2.3	2.3
Progression Factor	0.53	0.53			1.00	1.00		1.04			0.39	0.05
Incremental Delay, d2	12.1	12.2			0.1	0.0		0.6			0.2	0.3
Delay (s)	44.2	44.2			57.3	56.7		4.2			1.1	0.4
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		44.2			57.0			4.2			0.8	
Approach LOS		D			E			A			A	

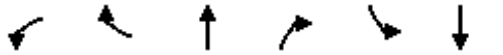
Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	924	1443	0	700	564	0
Future Volume (vph)	924	1443	0	700	564	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	953	1488	0	722	581	0
RTOR Reduction (vph)	0	712	0	0	0	0
Lane Group Flow (vph)	953	776	0	722	581	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	73.0	73.0		73.0	58.0	
Effective Green, g (s)	73.0	73.0		73.0	58.0	
Actuated g/C Ratio	0.52	0.52		0.52	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1863	1467		1882	1422	
v/s Ratio Prot	0.27			0.20	c0.17	
v/s Ratio Perm		c0.28				
v/c Ratio	0.51	0.53		0.38	0.41	
Uniform Delay, d1	21.9	22.1		20.0	28.9	
Progression Factor	1.00	1.00		0.38	0.45	
Incremental Delay, d2	0.1	0.2		0.0	0.9	
Delay (s)	22.0	22.3		7.6	14.0	
Level of Service	C	C		A	B	
Approach Delay (s)	22.2			7.6	14.0	
Approach LOS	C			A	B	

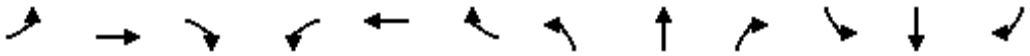
Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	172	1360
Future Volume (veh/h)	100	0	0	0	172	1360
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			187	1478
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			384	2867
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				357	3087
Grp Volume(v), veh/h	0.0				882	783
Grp Sat Flow(s),veh/h/ln					1749	1610
Q Serve(g_s), s					37.9	39.7
Cycle Q Clear(g_c), s					41.3	39.7
Prop In Lane					0.21	
Lane Grp Cap(c), veh/h					1714	1538
V/C Ratio(X)					0.51	0.51
Avail Cap(c_a), veh/h					1714	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					15.6	15.1
Incr Delay (d2), s/veh					1.1	1.2
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					20.6	18.2
LnGrp Delay(d),s/veh					16.7	16.3
LnGrp LOS					B	B
Approach Vol, veh/h						1665
Approach Delay, s/veh						16.5
Approach LOS						B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		43.3						
Green Ext Time (p_c), s		2.1						

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B



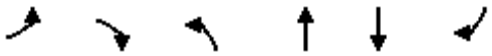
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	117	0	0	70	207	25	1007	90	0	0	0
Future Volume (vph)	60	117	0	0	70	207	25	1007	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.84			0.98				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.90			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1799			1425			3430				
Flt Permitted		0.71			1.00			1.00				
Satd. Flow (perm)		1301			1425			3430				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	129	0	0	77	227	27	1107	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	26	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	195	0	0	278	0	0	1222	0	0	0	0
Confl. Peds. (#/hr)	200		131	131		200	28		72	72		28
Confl. Bikes (#/hr)			9			26			95			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		13.3			13.3			28.2				
Effective Green, g (s)		13.3			13.3			28.2				
Actuated g/C Ratio		0.27			0.27			0.56				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		346			379			1934				
v/s Ratio Prot					c0.20							
v/s Ratio Perm		0.15						0.36				
v/c Ratio		0.56			0.73			0.63				
Uniform Delay, d1		15.8			16.7			7.4				
Progression Factor		1.02			1.23			1.00				
Incremental Delay, d2		1.0			6.2			1.6				
Delay (s)		17.2			26.8			9.0				
Level of Service		B			C			A				
Approach Delay (s)		17.2			26.8			9.0			0.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	135	24	10	87	25	30	232	15	15	249	40
Future Volume (vph)	35	135	24	10	87	25	30	232	15	15	249	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.87			0.96			0.90	
Flpb, ped/bikes		0.91			0.96			0.95			0.98	
Frt		0.98			0.97			0.99			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1555			1546			1610			1561	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1470			1512			1532			1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	144	26	11	93	27	32	247	16	16	265	43
RTOR Reduction (vph)	0	2	0	0	7	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	205	0	0	124	0	0	293	0	0	321	0
Confl. Peds. (#/hr)	607		666	666		607	921		695	695		921
Confl. Bikes (#/hr)			26			34			81			29
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		499			514			750			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.08			0.19			c0.21	
v/c Ratio		0.41			0.24			0.39			0.43	
Uniform Delay, d1		12.7			11.9			8.0			8.2	
Progression Factor		1.43			0.45			0.81			1.22	
Incremental Delay, d2		2.2			1.0			1.5			1.5	
Delay (s)		20.2			6.3			8.0			11.5	
Level of Service		C			A			A			B	
Approach Delay (s)		20.2			6.3			8.0			11.5	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	105	67	698	662	45
Future Volume (vph)	95	105	67	698	662	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.82		1.00	1.00	0.97	
Flpb, ped/bikes	1.00		0.84	1.00	1.00	
Frt	0.93		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1412		1412	3343	3169	
Flt Permitted	0.98		0.31	1.00	1.00	
Satd. Flow (perm)	1412		463	3343	3169	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	114	73	759	720	49
RTOR Reduction (vph)	15	0	0	0	10	0
Lane Group Flow (vph)	202	0	73	759	759	0
Confl. Peds. (#/hr)	736	522	298			298
Confl. Bikes (#/hr)		6				17
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	18.0		23.5	23.5	23.5	
Effective Green, g (s)	18.0		23.5	23.5	23.5	
Actuated g/C Ratio	0.36		0.47	0.47	0.47	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	508		217	1571	1489	
v/s Ratio Prot	c0.14			0.23	c0.24	
v/s Ratio Perm			0.16			
v/c Ratio	0.40		0.34	0.48	0.51	
Uniform Delay, d1	11.9		8.3	9.1	9.2	
Progression Factor	0.69		1.04	1.12	1.20	
Incremental Delay, d2	2.2		4.0	1.0	1.2	
Delay (s)	10.5		12.7	11.2	12.3	
Level of Service	B		B	B	B	
Approach Delay (s)	10.5			11.3	12.3	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

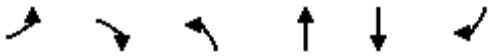
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	147	148	0	65	133	0	89	85
Future Vol, veh/h	0	147	148	0	65	133	0	89	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	167	168	0	74	151	0	101	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	11.8	9.8	10.8
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	50%	51%
Vol Thru, %	33%	0%	49%
Vol Right, %	67%	50%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	198	295	174
LT Vol	0	147	89
Through Vol	65	0	85
RT Vol	133	148	0
Lane Flow Rate	225	335	198
Geometry Grp	1	1	1
Degree of Util (X)	0.296	0.45	0.297
Departure Headway (Hd)	4.741	4.828	5.401
Convergence, Y/N	Yes	Yes	Yes
Cap	749	741	658
Service Time	2.822	2.898	3.487
HCM Lane V/C Ratio	0.3	0.452	0.301
HCM Control Delay	9.8	11.8	10.8
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.2	2.3	1.2

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	130	15	85	5	279	128	332	129	228
Future Volume (vph)	130	15	85	5	279	128	332	129	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1517		1742	1780		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1517		1742	1780		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	143	16	93	5	307	141	365	142	251
RTOR Reduction (vph)	0	76	0	0	18	0	0	68	0
Lane Group Flow (vph)	143	33	0	5	430	0	365	325	0
Confl. Peds. (#/hr)			54	13					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	14.2	14.2		25.0	25.0		22.9	22.9	
Effective Green, g (s)	14.2	14.2		25.0	25.0		22.9	22.9	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	325	279		564	577		515	461	
v/s Ratio Prot	c0.08	0.02			c0.24		c0.21		
v/s Ratio Perm				0.00				0.21	
v/c Ratio	0.44	0.12		0.01	0.75		0.71	0.70	
Uniform Delay, d1	27.9	26.2		17.7	23.2		24.1	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.2		0.0	6.3		5.5	6.1	
Delay (s)	28.9	26.4		17.7	29.5		29.7	30.1	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		27.8			29.3		29.9		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	262	0	0	1350	165
Future Volume (vph)	0	262	0	0	1350	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.74
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1164
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1164
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	273	0	0	1406	172
RTOR Reduction (vph)	0	22	0	0	0	25
Lane Group Flow (vph)	0	251	0	0	1406	147
Confl. Peds. (#/hr)	178		117			117
Confl. Bikes (#/hr)		2				38
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		20.2			70.3	70.3
Effective Green, g (s)		20.2			70.3	70.3
Actuated g/C Ratio		0.20			0.70	0.70
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		319			2487	818
v/s Ratio Prot		c0.16			c0.40	
v/s Ratio Perm						0.13
v/c Ratio		0.79			0.57	0.18
Uniform Delay, d1		37.8			7.3	5.0
Progression Factor		1.00			0.47	0.43
Incremental Delay, d2		11.1			0.7	0.4
Delay (s)		49.0			4.2	2.6
Level of Service		D			A	A
Approach Delay (s)	49.0			0.0	4.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	51.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	158	1459
Future Vol, veh/h	115	0	0	0	158	1459
Conflicting Peds, #/hr	15	31	0	15	31	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	166	1536

Major/Minor	Minor1		Major2	
Conflicting Flow All	1147	-	31	0
Stage 1	31	-	-	-
Stage 2	1116	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	196	0	1580	-
Stage 1	-	0	-	-
Stage 2	279	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 54	-	1580	-
Mov Cap-2 Maneuver	~ 54	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 79	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 732.2	2.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	54	1580	-
HCM Lane V/C Ratio	2.242	0.105	-
HCM Control Delay (s)	$ 732.2	7.5	2.2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	12.1	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	359

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	46	15	20	96	25	22	25	5	20	80	52
Future Vol, veh/h	10	46	15	20	96	25	22	25	5	20	80	52
Conflicting Peds, #/hr	416	0	450	424	0	390	450	0	424	390	0	416
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	12	55	18	24	114	30	26	30	6	24	95	62

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1197	1136	1026	1169	1164	873	607	0	0	460	0	0
Stage 1	624	624	-	509	509	-	-	-	-	-	-	-
Stage 2	573	512	-	660	655	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	161	200	282	164	188	338	981	-	-	1112	-	-
Stage 1	470	475	-	532	525	-	-	-	-	-	-	-
Stage 2	501	533	-	439	451	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	75	110	~ 21	~ 70	143	613	-	-	727	-	-
Mov Cap-2 Maneuver	-	75	-	~ 21	~ 70	-	-	-	-	-	-	-
Stage 1	281	286	-	329	325	-	-	-	-	-	-	-
Stage 2	161	330	-	179	272	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 1056	4.7	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	613	-	-	-	56	727	-	-
HCM Lane V/C Ratio	0.043	-	-	-	2.997	0.033	-	-
HCM Control Delay (s)	11.1	0	-	-	$ 1056	10.1	0	-
HCM Lane LOS	B	A	-	-	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	17.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	51	20	0	35	76	25	0	60	275	15
Future Vol, veh/h	0	5	51	20	0	35	76	25	0	60	275	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	57	22	0	39	85	28	0	67	309	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.6	10.3	13.9
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	7%	26%	11%
Vol Thru, %	79%	67%	56%	81%
Vol Right, %	4%	26%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	350	76	136	181
LT Vol	60	5	35	20
Through Vol	275	51	76	146
RT Vol	15	20	25	15
Lane Flow Rate	393	85	153	203
Geometry Grp	1	1	1	1
Degree of Util (X)	0.547	0.134	0.236	0.302
Departure Headway (Hd)	5.007	5.635	5.552	5.345
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	635	646	673
Service Time	3.007	3.676	3.59	3.377
HCM Lane V/C Ratio	0.543	0.134	0.237	0.302
HCM Control Delay	13.9	9.6	10.3	10.7
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.3	0.5	0.9	1.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	146	15
Future Vol, veh/h	0	20	146	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	164	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.7
HCM LOS	B

Intersection	
Int Delay, s/veh	0

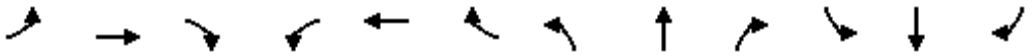
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	51	20	44	76	30	10	242	18	35	243	35
Future Vol, veh/h	10	51	20	44	76	30	10	242	18	35	243	35
Conflicting Peds, #/hr	1155	0	1256	1313	0	1212	1256	0	1313	1212	0	1155
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	57	22	49	85	34	11	272	20	39	273	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3203	3255	2862	3341	3264	2807	1568	0	0	1605	0	0
Stage 1	1627	1627	-	1617	1617	-	-	-	-	-	-	-
Stage 2	1576	1628	-	1724	1647	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	~ 6	~ 9	~ 22	~ 5	~ 9	~ 24	391	-	-	396	-	-
Stage 1	130	162	-	132	164	-	-	-	-	-	-	-
Stage 2	139	162	-	114	158	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	0	-	0	0	~ -37	-	-	~ -4	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 6	~ -8	-	~ 12	~ -15	-	-	-	-	-	-	-
Stage 2	930	~ -15	-	931	~ -7	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	-	-	+	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	15	49	70	35	105	41	624	90	90	614	63
Future Volume (vph)	41	15	49	70	35	105	41	624	90	90	614	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.87			1.00	0.60	1.00	1.00	0.48	1.00	0.95	
Flpb, ped/bikes		0.87			0.87	1.00	0.81	1.00	1.00	0.81	1.00	
Frt		0.94			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1327			1587	955	1347	3343	721	1373	3146	
Flt Permitted		0.85			0.72	1.00	0.36	1.00	1.00	0.38	1.00	
Satd. Flow (perm)		1148			1181	955	507	3343	721	552	3146	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	16	53	76	38	114	45	678	98	98	667	68
RTOR Reduction (vph)	0	37	0	0	0	77	0	0	26	0	2	0
Lane Group Flow (vph)	0	77	0	0	114	37	45	678	72	98	733	0
Confl. Peds. (#/hr)	551		182	182		551	375		217	217		375
Confl. Bikes (#/hr)			11			3			17			11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Effective Green, g (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		212			218	176	370	2440	526	402	2296	
v/s Ratio Prot								0.20			c0.23	
v/s Ratio Perm		0.07			c0.10	0.04	0.09		0.10	0.18		
v/c Ratio		0.36			0.52	0.21	0.12	0.28	0.14	0.24	0.32	
Uniform Delay, d1		35.6			36.8	34.5	4.0	4.6	4.0	4.4	4.8	
Progression Factor		0.95			1.00	1.00	0.53	0.50	0.40	0.65	0.63	
Incremental Delay, d2		1.1			2.3	0.6	0.6	0.3	0.5	1.3	0.3	
Delay (s)		35.0			39.0	35.1	2.8	2.6	2.1	4.2	3.3	
Level of Service		C			D	D	A	A	A	A	A	
Approach Delay (s)		35.0			37.1			2.5			3.4	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	103.4
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	235	341	25	0	5	268	265
Future Vol, veh/h	0	95	185	15	0	235	341	25	0	5	268	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	240	348	26	0	5	273	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	36.5	237.1	28.1
HCM LOS	E	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	6%
Vol Thru, %	98%	0%	63%	57%	56%
Vol Right, %	0%	100%	5%	4%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	273	265	295	601	338
LT Vol	5	0	95	235	20
Through Vol	268	0	185	341	188
RT Vol	0	265	15	25	130
Lane Flow Rate	279	270	301	613	345
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.677	0.604	0.736	1.447	0.811
Departure Headway (Hd)	9.969	9.226	10.062	8.492	9.819
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	365	395	361	435	372
Service Time	7.669	6.926	8.062	6.492	7.819
HCM Lane V/C Ratio	0.764	0.684	0.834	1.409	0.927
HCM Control Delay	31.2	25	36.5	237.1	43.7
HCM Lane LOS	D	C	E	F	E
HCM 95th-tile Q	4.7	3.8	5.7	31.1	7.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	188	130
Future Vol, veh/h	0	20	188	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	192	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	43.7
HCM LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	306	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	306	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	79	87	0	79
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	333	0	0	27	0	0

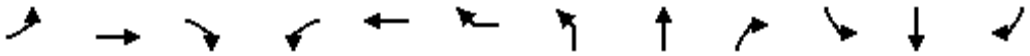
Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	-	0	-	-	0	412	420		
Stage 1	-	-	-	-	-	-	333	-		
Stage 2	-	-	-	-	-	-	79	-		
Critical Hdwy	-	-	-	-	-	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-		
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3		
Pot Cap-1 Maneuver	0	0	-	0	-	0	600	638		
Stage 1	0	0	-	0	-	0	731	-		
Stage 2	0	0	-	0	-	0	-	-		
Platoon blocked, %			-		-					
Mov Cap-1 Maneuver	-	-	-	-	-	-	600	592		
Mov Cap-2 Maneuver	-	-	-	-	-	-	600	-		
Stage 1	-	-	-	-	-	-	731	-		
Stage 2	-	-	-	-	-	-	-	-		

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	592
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	11.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	856	424	87	1457	0	0
Future Volume (vph)	0	0	856	424	87	1457	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.92	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1464	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1464	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	911	451	93	1550	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	911	451	93	1550	0	0
Confl. Peds. (#/hr)	17	15		17	15			
Confl. Bikes (#/hr)				156				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.1	36.1	13.1	58.2		
Effective Green, g (s)			36.1	36.1	13.1	58.2		
Actuated g/C Ratio			0.62	0.62	0.23	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2195	908	394	3505		
v/s Ratio Prot			0.26		0.05	c0.44		
v/s Ratio Perm				0.31				
v/c Ratio			0.42	0.50	0.24	0.44		
Uniform Delay, d1			5.7	6.1	18.5	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.2	0.1	0.0		
Delay (s)			5.7	6.2	18.6	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.9			1.1	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



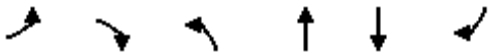
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	342	172	10	323	15	108	285	20	10	116	75
Future Volume (vph)	50	342	172	10	323	15	108	285	20	10	116	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.95			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3362			3512			1827			1765	
Flt Permitted		0.88			0.93			0.85			0.98	
Satd. Flow (perm)		2961			3286			1577			1727	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	376	189	11	355	16	119	313	22	11	127	82
RTOR Reduction (vph)	0	49	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	571	0	0	382	0	0	452	0	0	220	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1110			1232			843			923	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.12			c0.29			0.13	
v/c Ratio		0.51			0.31			0.54			0.24	
Uniform Delay, d1		24.2			22.1			15.2			12.4	
Progression Factor		1.00			0.88			1.00			1.00	
Incremental Delay, d2		1.7			0.6			2.4			0.6	
Delay (s)		25.9			20.0			17.6			13.0	
Level of Service		C			C			B			B	
Approach Delay (s)		25.9			20.0			17.6			13.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	270	20	5	208	10	39	193	25	20	191	91
Future Volume (veh/h)	82	270	20	5	208	10	39	193	25	20	191	91
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	89	293	22	5	226	11	42	210	27	22	208	99
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	1123	86	50	1612	77	120	573	70	63	490	222
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	599	2316	178	27	3324	159	184	1348	164	59	1153	522
Grp Volume(v), veh/h	198	0	206	127	0	115	279	0	0	329	0	0
Grp Sat Flow(s),veh/h/ln	1430	0	1664	1843	0	1667	1697	0	0	1733	0	0
Q Serve(g_s), s	2.9	0.0	5.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	5.2	3.8	0.0	3.8	10.3	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.45		0.11	0.04		0.10	0.15		0.10	0.07		0.30
Lane Grp Cap(c), veh/h	746	0	807	931	0	808	762	0	0	775	0	0
V/C Ratio(X)	0.27	0.00	0.25	0.14	0.00	0.14	0.37	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	746	0	807	931	0	808	762	0	0	775	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.3	0.0	10.1	14.2	0.0	14.2	19.5	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.3	0.0	0.4	1.4	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.5	2.0	0.0	1.8	5.5	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	11.1	0.0	10.8	14.5	0.0	14.6	20.9	0.0	0.0	6.3	0.0	0.0
LnGrp LOS	B		B	B		B	C			A		
Approach Vol, veh/h		404			242			279			329	
Approach Delay, s/veh		11.0			14.6			20.9			6.3	
Approach LOS		B			B			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.8		12.3		8.7		6.4
Green Ext Time (p_c), s		0.7		0.7		0.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	83	595	603	135
Future Volume (vph)	160	150	83	595	603	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.89	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2940		1443	3252	2999	
Flt Permitted	0.97		0.33	1.00	1.00	
Satd. Flow (perm)	2940		496	3252	2999	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	86	620	628	141
RTOR Reduction (vph)	0	0	0	0	19	0
Lane Group Flow (vph)	323	0	86	620	750	0
Confl. Peds. (#/hr)	6	3	383			383
Confl. Bikes (#/hr)						11
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	29.5		60.0	60.0	60.0	
Effective Green, g (s)	29.5		60.0	60.0	60.0	
Actuated g/C Ratio	0.29		0.60	0.60	0.60	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	867		297	1951	1799	
v/s Ratio Prot	c0.11			0.19	c0.25	
v/s Ratio Perm			0.17			
v/c Ratio	0.37		0.29	0.32	0.42	
Uniform Delay, d1	27.9		9.7	9.9	10.7	
Progression Factor	0.71		0.31	0.31	0.47	
Incremental Delay, d2	1.2		2.1	0.4	0.7	
Delay (s)	21.1		5.1	3.4	5.7	
Level of Service	C		A	A	A	
Approach Delay (s)	21.1			3.6	5.7	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	136.9
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	287	0	152	315	0	408	208
Future Vol, veh/h	0	330	287	0	152	315	0	408	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	312	0	165	342	0	443	226
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	156.1	71.5	167.2
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	66%	0%	33%
Vol Thru, %	0%	53%	67%
Vol Right, %	34%	47%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	616	617	467
LT Vol	408	0	152
Through Vol	0	330	315
RT Vol	208	287	0
Lane Flow Rate	670	671	508
Geometry Grp	1	1	1
Degree of Util (X)	1.288	1.258	0.997
Departure Headway (Hd)	7.374	7.564	8.265
Convergence, Y/N	Yes	Yes	Yes
Cap	495	483	442
Service Time	5.374	5.564	6.265
HCM Lane V/C Ratio	1.354	1.389	1.149
HCM Control Delay	167.2	156.1	71.5
HCM Lane LOS	F	F	F
HCM 95th-tile Q	26.5	24.5	12.7

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	97	55	57	0	50	42	50	0	36	266	25
Future Vol, veh/h	0	97	55	57	0	50	42	50	0	36	266	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	109	62	64	0	56	47	56	0	40	299	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.6	12	17.6
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	46%	35%	3%
Vol Thru, %	81%	26%	30%	76%
Vol Right, %	8%	27%	35%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	327	209	142	293
LT Vol	36	97	50	10
Through Vol	266	55	42	224
RT Vol	25	57	50	59
Lane Flow Rate	367	235	160	329
Geometry Grp	1	1	1	1
Degree of Util (X)	0.605	0.409	0.284	0.534
Departure Headway (Hd)	5.926	6.266	6.41	5.834
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	610	573	558	619
Service Time	3.941	4.32	4.47	3.851
HCM Lane V/C Ratio	0.602	0.41	0.287	0.532
HCM Control Delay	17.6	13.6	12	15.4
HCM Lane LOS	C	B	B	C
HCM 95th-tile Q	4	2	1.2	3.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	10	224	59
Future Vol, veh/h	0	10	224	59
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	252	66
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15.4
HCM LOS	C

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	70	10	0	35	112	25	0	5	217	16
Future Vol, veh/h	0	20	70	10	0	35	112	25	0	5	217	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	80	11	0	40	129	29	0	6	249	18
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

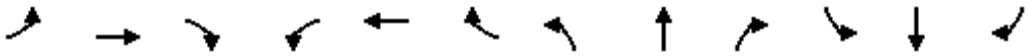
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.9	10.8	11.6
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	20%	20%	2%
Vol Thru, %	91%	70%	65%	89%
Vol Right, %	7%	10%	15%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	100	172	221
LT Vol	5	20	35	5
Through Vol	217	70	112	196
RT Vol	16	10	25	20
Lane Flow Rate	274	115	198	254
Geometry Grp	1	1	1	1
Degree of Util (X)	0.394	0.18	0.3	0.363
Departure Headway (Hd)	5.182	5.63	5.469	5.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	637	656	699
Service Time	3.216	3.672	3.506	3.184
HCM Lane V/C Ratio	0.394	0.181	0.302	0.363
HCM Control Delay	11.6	9.9	10.8	11.1
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.9	0.7	1.3	1.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	196	20
Future Vol, veh/h	0	5	196	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	225	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.1
HCM LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	32	28	109	109	149	24	498	54	92	622	34
Future Volume (vph)	31	32	28	109	109	149	24	498	54	92	622	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.83			1.00	0.56	1.00	0.97		1.00	0.98	
Flpb, ped/bikes		0.91			0.78	1.00	0.91	1.00		0.88	1.00	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1330			1316	828	1508	3153		1463	3232	
Flt Permitted		0.86			0.82	1.00	0.23	1.00		0.30	1.00	
Satd. Flow (perm)		1169			1102	828	366	3153		465	3232	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	34	29	115	115	157	25	524	57	97	655	36
RTOR Reduction (vph)	0	16	0	0	0	111	0	8	0	0	4	0
Lane Group Flow (vph)	0	80	0	0	230	46	25	573	0	97	687	0
Confl. Peds. (#/hr)	825		1636	1636		825	184		194	194		184
Confl. Bikes (#/hr)			223			90			26			12
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Effective Green, g (s)		29.0			29.0	29.0	31.5	31.5		31.5	31.5	
Actuated g/C Ratio		0.29			0.29	0.29	0.32	0.32		0.32	0.32	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		339			319	240	115	993		146	1018	
v/s Ratio Prot								0.18			c0.21	
v/s Ratio Perm		0.07			c0.21	0.06	0.07			0.21		
v/c Ratio		0.24			0.72	0.19	0.22	0.58		0.66	0.67	
Uniform Delay, d1		27.1			31.9	26.7	25.2	28.7		29.7	29.8	
Progression Factor		1.00			1.00	1.00	1.35	1.34		0.71	0.70	
Incremental Delay, d2		1.6			13.2	1.7	2.9	1.7		20.0	3.3	
Delay (s)		28.7			45.1	28.4	37.0	40.0		41.1	24.2	
Level of Service		C			D	C	D	D		D	C	
Approach Delay (s)		28.7			38.3			39.9			26.3	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	153	0	15	20	0	257	5
Future Vol, veh/h	0	5	153	0	15	20	0	257	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	178	0	17	23	0	299	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	11.2
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	3%	57%
Vol Right, %	2%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	262	158	35
LT Vol	257	0	15
Through Vol	0	5	20
RT Vol	5	153	0
Lane Flow Rate	305	184	41
Geometry Grp	1	1	1
Degree of Util (X)	0.408	0.222	0.056
Departure Headway (Hd)	4.827	4.343	4.982
Convergence, Y/N	Yes	Yes	Yes
Cap	746	829	718
Service Time	2.859	2.364	3.015
HCM Lane V/C Ratio	0.409	0.222	0.057
HCM Control Delay	11.2	8.6	8.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2	0.8	0.2

Intersection	
Intersection Delay, s/veh	106.5
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	518	481	0	135	595	0	379	60
Future Vol, veh/h	0	518	481	0	135	595	0	379	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	545	506	0	142	626	0	399	63
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	110	129.4	60.3
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	595	518	481	379	60
LT Vol	0	0	518	0	379	0
Through Vol	135	0	0	0	0	60
RT Vol	0	595	0	481	0	0
Lane Flow Rate	142	626	545	506	399	63
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.313	1.258	1.24	0.983	0.964	0.144
Departure Headway (Hd)	8.218	7.493	8.621	7.38	9.271	8.75
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	441	489	425	496	395	412
Service Time	5.918	5.193	6.321	5.08	6.971	6.45
HCM Lane V/C Ratio	0.322	1.28	1.282	1.02	1.01	0.153
HCM Control Delay	14.6	155.5	153.2	63.5	67.8	12.9
HCM Lane LOS	B	F	F	F	F	B
HCM 95th-tile Q	1.3	24.7	21.5	12.9	11	0.5

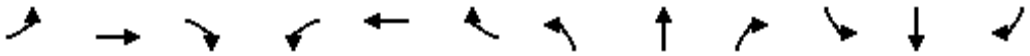
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	761	133	15	812	156	15
Future Volume (vph)	761	133	15	812	156	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frpb, ped/bikes	0.98		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	0.99	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	1797		1787	1881	1752	
Flt Permitted	1.00		0.20	1.00	0.96	
Satd. Flow (perm)	1797		369	1881	1752	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	818	143	16	873	168	16
RTOR Reduction (vph)	6	0	0	0	3	0
Lane Group Flow (vph)	955	0	16	873	181	0
Confl. Peds. (#/hr)		34	34		28	18
Confl. Bikes (#/hr)		5				17
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	72.2		72.2	72.2	17.8	
Effective Green, g (s)	72.2		72.2	72.2	17.8	
Actuated g/C Ratio	0.72		0.72	0.72	0.18	
Clearance Time (s)	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	0.2		0.2	0.2	2.0	
Lane Grp Cap (vph)	1297		266	1358	311	
v/s Ratio Prot	c0.53			0.46	c0.10	
v/s Ratio Perm			0.04			
v/c Ratio	0.74		0.06	0.64	0.58	
Uniform Delay, d1	8.3		4.0	7.2	37.7	
Progression Factor	1.00		0.21	0.76	1.00	
Incremental Delay, d2	3.8		0.4	2.0	1.8	
Delay (s)	12.0		1.2	7.5	39.5	
Level of Service	B		A	A	D	
Approach Delay (s)	12.0			7.4	39.5	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	897	5	35	645	88	45	105	30	94	40	212
Future Volume (veh/h)	164	897	5	35	645	88	45	105	30	94	40	212
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.88	1.00		0.80	1.00		0.83
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	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	178	975	5	38	701	96	49	114	33	102	43	230
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	395	1626	8	188	1040	142	85	194	56	202	47	252
Arrive On Green	0.22	0.46	0.46	0.21	0.67	0.67	0.05	0.15	0.15	0.12	0.22	0.22
Sat Flow, veh/h	1757	3573	18	1792	3104	424	1707	1257	364	1740	214	1143
Grp Volume(v), veh/h	178	478	502	38	403	394	49	0	147	102	0	273
Grp Sat Flow(s),veh/h/ln	1757	1752	1839	1792	1787	1741	1707	0	1621	1740	0	1356
Q Serve(g_s), s	8.7	20.4	20.4	1.8	13.6	13.6	2.8	0.0	8.4	5.5	0.0	19.7
Cycle Q Clear(g_c), s	8.7	20.4	20.4	1.8	13.6	13.6	2.8	0.0	8.4	5.5	0.0	19.7
Prop In Lane	1.00		0.01	1.00		0.24	1.00		0.22	1.00		0.84
Lane Grp Cap(c), veh/h	395	797	837	188	599	583	85	0	250	202	0	299
V/C Ratio(X)	0.45	0.60	0.60	0.20	0.67	0.68	0.57	0.00	0.59	0.50	0.00	0.91
Avail Cap(c_a), veh/h	395	797	837	188	599	583	119	0	316	209	0	332
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	20.4	20.4	36.1	13.2	13.2	46.5	0.0	39.4	41.5	0.0	38.1
Incr Delay (d2), s/veh	0.2	2.0	1.9	0.2	5.4	5.6	2.3	0.0	0.8	0.7	0.0	25.9
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	4.3	10.3	10.8	0.9	7.4	7.2	1.4	0.0	3.9	2.7	0.0	9.5
LnGrp Delay(d),s/veh	33.6	22.4	22.3	36.2	18.6	18.8	48.7	0.0	40.2	42.2	0.0	64.0
LnGrp LOS	C	C	C	D	B	B	D		D	D		E
Approach Vol, veh/h		1158			835			196			375	
Approach Delay, s/veh		24.1			19.5			42.3			58.0	
Approach LOS		C			B			D			E	

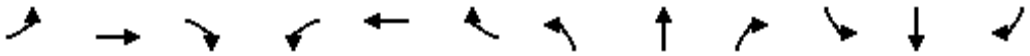
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.5	38.0	15.6	19.9	14.5	50.0	9.0	26.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	18.0	33.5	12.0	19.5	6.0	45.5	7.0	24.5
Max Q Clear Time (g_c+I1), s	10.7	15.6	7.5	10.4	3.8	22.4	4.8	21.7
Green Ext Time (p_c), s	0.2	3.2	0.1	0.3	0.1	4.3	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	931	0	5	669	64	40	60	70	185	5	59
Future Volume (vph)	90	931	0	5	669	64	40	60	70	185	5	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.95			1.00	0.89		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.94	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3298			1839	1445		1622	
Flt Permitted	0.95	1.00		0.95	1.00			0.84	1.00		0.72	
Satd. Flow (perm)	1787	3574		1752	3298			1569	1445		1205	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	92	950	0	5	683	65	41	61	71	189	5	60
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	51	0	13	0
Lane Group Flow (vph)	92	950	0	5	742	0	0	102	20	0	241	0
Confl. Peds. (#/hr)	263		207	207		263	54		95	95		54
Confl. Bikes (#/hr)						6						2
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	10.5	57.7		1.0	48.2			28.3	28.3		28.3	
Effective Green, g (s)	10.5	57.7		1.0	48.2			28.3	28.3		28.3	
Actuated g/C Ratio	0.10	0.58		0.01	0.48			0.28	0.28		0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	187	2062		17	1589			444	408		341	
v/s Ratio Prot	c0.05	c0.27		0.00	0.23							
v/s Ratio Perm								0.07	0.01		c0.20	
v/c Ratio	0.49	0.46		0.29	0.47			0.23	0.05		0.71	
Uniform Delay, d1	42.2	12.2		49.1	17.3			27.5	26.1		32.1	
Progression Factor	0.66	0.59		0.77	0.06			1.00	1.00		1.00	
Incremental Delay, d2	0.7	0.7		2.5	0.7			0.3	0.1		6.6	
Delay (s)	28.4	7.9		40.4	1.7			27.8	26.1		38.7	
Level of Service	C	A		D	A			C	C		D	
Approach Delay (s)		9.7			1.9			27.1			38.7	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1118	15	132	635	235	15	283	431	478	188	88
Future Volume (vph)	53	1118	15	132	635	235	15	283	431	478	188	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.88		0.80		1.00	0.93	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.99	
Satd. Flow (prot)	1787	3536		1703	3406	1343		2614		1573	1471	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.99	
Satd. Flow (perm)	1787	3536		1703	3406	1343		2614		1573	1471	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	56	1189	16	140	676	250	16	301	459	509	200	94
RTOR Reduction (vph)	0	1	0	0	0	30	0	120	0	0	11	0
Lane Group Flow (vph)	56	1204	0	140	676	220	0	656	0	402	390	0
Confl. Peds. (#/hr)	141		435	435		141	199		265	265		199
Confl. Bikes (#/hr)			2			28			37			18
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	4.6	29.0		6.5	30.9	54.4		23.0		23.5	23.5	
Effective Green, g (s)	4.6	29.0		6.5	30.9	54.4		23.0		23.5	23.5	
Actuated g/C Ratio	0.05	0.29		0.06	0.31	0.54		0.23		0.24	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	82	1025		110	1052	791		601		369	345	
v/s Ratio Prot	0.03	c0.34		c0.08	0.20	0.07		c0.25		0.26	c0.27	
v/s Ratio Perm						0.10						
v/c Ratio	0.68	1.17		1.27	0.64	0.28		1.09		1.09	1.13	
Uniform Delay, d1	47.0	35.5		46.8	29.8	12.2		38.5		38.2	38.2	
Progression Factor	0.89	0.87		1.00	1.00	1.00		1.00		0.86	0.86	
Incremental Delay, d2	15.9	88.4		176.0	3.0	0.2		64.1		66.8	82.8	
Delay (s)	57.7	119.4		222.7	32.8	12.4		102.6		99.5	115.7	
Level of Service	E	F		F	C	B		F		F	F	
Approach Delay (s)		116.7			53.0			102.6			107.6	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	94.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	198	151	60	65	15
Future Vol, veh/h	30	198	151	60	65	15
Conflicting Peds, #/hr	77	0	0	54	54	77
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	33	218	166	66	71	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	309	0	-	0	614	353
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	338	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1246	-	-	-	452	686
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1166	-	-	-	383	601
Mov Cap-2 Maneuver	-	-	-	-	383	-
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	650	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	16.1
HCM LOS			C

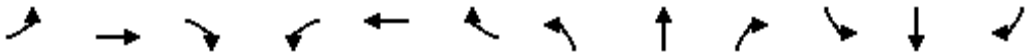
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1166	-	-	-	411
HCM Lane V/C Ratio	0.028	-	-	-	0.214
HCM Control Delay (s)	8.2	0	-	-	16.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection	
Intersection Delay, s/veh	89.6
Intersection LOS	F

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	145	118	0	171	564	0	250	40
Future Vol, veh/h	0	145	118	0	171	564	0	250	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	161	131	0	190	627	0	278	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16.7	144.8	15.8
HCM LOS	C	F	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	23%	55%	0%
Vol Thru, %	77%	0%	86%
Vol Right, %	0%	45%	14%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	735	263	290
LT Vol	171	145	0
Through Vol	564	0	250
RT Vol	0	118	40
Lane Flow Rate	817	292	322
Geometry Grp	1	1	1
Degree of Util (X)	1.252	0.508	0.523
Departure Headway (Hd)	5.521	6.843	6.183
Convergence, Y/N	Yes	Yes	Yes
Cap	661	532	586
Service Time	3.532	4.843	4.183
HCM Lane V/C Ratio	1.236	0.549	0.549
HCM Control Delay	144.8	16.7	15.8
HCM Lane LOS	F	C	C
HCM 95th-tile Q	30.5	2.8	3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	313	10	5	720	5	0	0	5	0	0	10
Future Volume (vph)	10	313	10	5	720	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	329	11	5	758	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	340	768	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.10	0.08	-0.60	-0.60
Departure Headway (s)	5.7	5.2	4.5	5.8	5.8
Degree Utilization, x	0.02	0.49	0.97	0.01	0.02
Capacity (veh/h)	630	693	791	585	582
Control Delay (s)	7.6	11.8	45.0	8.8	8.9
Approach Delay (s)	11.7		45.0	8.8	8.9
Approach LOS	B		E	A	A

Intersection Summary				
Delay	34.2			
Level of Service	D			
Intersection Capacity Utilization	62.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	325.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	101	2316	65	64	1060
Future Vol, veh/h	71	101	2316	65	64	1060
Conflicting Peds, #/hr	0	3	0	0	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	75	106	2438	68	67	1116

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3168	1259	0	0	2509	0
Stage 1	2475	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 8	165	-	-	178	-
Stage 1	~ 50	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	164	-	-	178	-
Mov Cap-2 Maneuver	~ 5	-	-	-	-	-
Stage 1	~ 50	-	-	-	-	-
Stage 2	~ 5	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 6951	0	2.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	12	178	-
HCM Lane V/C Ratio	-	-	15.088	0.378	-
HCM Control Delay (s)	-	-	$ 6951	37	-
HCM Lane LOS	-	-	F	E	-
HCM 95th %tile Q(veh)	-	-	24	1.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2316	20	0	1136
Future Vol, veh/h	5	40	2316	20	0	1136
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2438	21	0	1196

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3052	1235	0	0	-	-
Stage 1	2451	-	-	-	-	-
Stage 2	601	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	10	168	-	-	0	-
Stage 1	51	-	-	-	0	-
Stage 2	510	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	10	167	-	-	-	-
Mov Cap-2 Maneuver	48	-	-	-	-	-
Stage 1	51	-	-	-	-	-
Stage 2	509	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	47.3	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	131	-
HCM Lane V/C Ratio	-	-	0.362	-
HCM Control Delay (s)	-	-	47.3	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	1.5	-

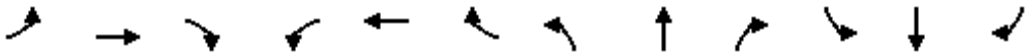
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2341	25	10	1126
Future Vol, veh/h	0	5	2341	25	10	1126
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2439	26	10	1173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1242	0	0	2470	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	169	-	-	184	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	168	-	-	183	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

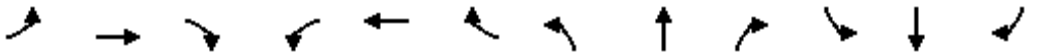
Approach	WB	NB	SB
HCM Control Delay, s	27.1	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	168	183	-
HCM Lane V/C Ratio	-	-	0.031	0.057	-
HCM Control Delay (s)	-	-	27.1	25.9	-
HCM Lane LOS	-	-	D	D	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	545	22	80	156	0	53	0	1708	5	6	929	191
Future Volume (vph)	545	22	80	156	0	53	0	1708	5	6	929	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.86	1.00		0.99		1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.97	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1692	1363	1703		1594		3568			3343	
Flt Permitted	0.95	0.96	1.00	0.32		1.00		1.00			0.94	
Satd. Flow (perm)	1681	1692	1363	578		1594		3568			3153	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	568	23	83	162	0	55	0	1779	5	6	968	199
RTOR Reduction (vph)	0	0	61	0	0	10	0	0	0	0	12	0
Lane Group Flow (vph)	295	296	22	163	0	45	0	1784	0	0	1161	0
Confl. Peds. (#/hr)			76	76			37		176	176		37
Confl. Bikes (#/hr)			8			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4				2		
Actuated Green, G (s)	32.0	32.0	32.0	32.0		32.0		79.0			79.0	
Effective Green, g (s)	32.0	32.0	32.0	32.0		32.0		79.0			79.0	
Actuated g/C Ratio	0.27	0.27	0.27	0.27		0.27		0.66			0.66	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	448	451	363	154		425		2348			2075	
v/s Ratio Prot								c0.50				
v/s Ratio Perm	0.18	0.17	0.02	c0.28		0.03					0.37	
v/c Ratio	0.66	0.66	0.06	1.06		0.11		0.76			0.56	
Uniform Delay, d1	39.1	39.1	32.8	44.0		33.2		14.0			11.1	
Progression Factor	0.73	0.73	1.53	1.00		1.00		0.68			1.00	
Incremental Delay, d2	1.7	1.6	0.0	88.9		0.0		1.2			1.1	
Delay (s)	30.3	30.3	50.4	132.9		33.2		10.7			12.2	
Level of Service	C	C	D	F		C		B			B	
Approach Delay (s)		32.8			107.8			10.7			12.2	
Approach LOS		C			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	532	1420	60	45	756	40	0	0	0	0	0	246
Future Volume (vph)	532	1420	60	45	756	40	0	0	0	0	0	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.62	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1009	1805	3522							1565
Flt Permitted	0.95	1.00	1.00	0.14	1.00							1.00
Satd. Flow (perm)	1805	3610	1009	261	3522							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	572	1527	65	48	813	43	0	0	0	0	0	265
RTOR Reduction (vph)	0	0	33	0	6	0	0	0	0	0	0	23
Lane Group Flow (vph)	572	1527	32	48	850	0	0	0	0	0	0	242
Confl. Peds. (#/hr)			215	215		448			748	748		
Confl. Bikes (#/hr)			8			9		9				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	20.9	29.1	29.1	29.1	29.1							20.9
Effective Green, g (s)	20.9	29.1	29.1	29.1	29.1							20.9
Actuated g/C Ratio	0.35	0.49	0.49	0.49	0.49							0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	628	1750	489	126	1708							545
v/s Ratio Prot	c0.32	c0.42			0.24							0.15
v/s Ratio Perm			0.03	0.18								
v/c Ratio	0.91	0.87	0.06	0.38	0.50							0.44
Uniform Delay, d1	18.7	13.8	8.2	9.8	10.5							15.1
Progression Factor	1.00	1.00	1.00	0.62	0.64							1.21
Incremental Delay, d2	17.2	6.3	0.3	8.2	1.0							0.2
Delay (s)	35.8	20.1	8.5	14.2	7.7							18.4
Level of Service	D	C	A	B	A							B
Approach Delay (s)		23.9			8.1			0.0			18.4	
Approach LOS		C			A			A			B	

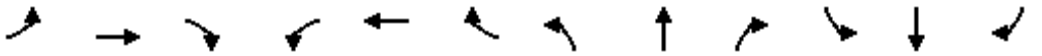
Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1405	15	40	836	65	65
Future Volume (vph)	1405	15	40	836	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.75	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1150	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1150	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1495	16	43	889	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1495	15	43	889	69	5
Confl. Peds. (#/hr)		78	78		44	
Confl. Bikes (#/hr)		8				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	798	194	2674	136	120
v/s Ratio Prot	c0.43		c0.03	0.27	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.63	0.02	0.22	0.33	0.51	0.04
Uniform Delay, d1	9.9	5.7	48.0	3.0	53.3	51.4
Progression Factor	1.31	1.57	0.70	2.66	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.0	1.1	0.1
Delay (s)	13.6	8.9	33.6	8.1	54.4	51.5
Level of Service	B	A	C	A	D	D
Approach Delay (s)	13.6			9.3	52.9	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1470	0	57	20	794	1693	18	5	1130	20
Future Volume (vph)	0	0	1470	0	57	20	794	1693	18	5	1130	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.66
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3510		1752	3505	1030
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3510		1752	3505	1030
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1515	0	59	21	819	1745	19	5	1165	21
RTOR Reduction (vph)	0	0	293	0	0	19	0	1	0	0	0	12
Lane Group Flow (vph)	0	0	1222	0	59	2	819	1763	0	5	1165	9
Confl. Peds. (#/hr)							255		334	334		255
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			101.8		12.6	12.6	32.2	64.4		1.0	51.2	51.2
Effective Green, g (s)			96.8		12.6	12.6	32.2	57.4		1.0	51.2	51.2
Actuated g/C Ratio			0.81		0.10	0.10	0.27	0.48		0.01	0.43	0.43
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2248		195	166	921	1678		14	1495	439
v/s Ratio Prot					0.03		c0.24	c0.50		0.00	0.33	
v/s Ratio Perm			c0.44			0.00						0.01
v/c Ratio			0.54		0.30	0.01	0.89	1.05		0.36	0.78	0.02
Uniform Delay, d1			4.0		49.6	48.1	42.2	31.3		59.2	29.5	19.9
Progression Factor			1.00		1.00	1.00	0.72	1.27		0.91	0.77	1.00
Incremental Delay, d2			0.1		0.3	0.0	8.8	35.0		4.6	3.4	0.1
Delay (s)			4.1		50.0	48.1	39.2	74.8		58.5	26.2	20.0
Level of Service			A		D	D	D	E		E	C	B
Approach Delay (s)		4.1			49.5			63.5			26.2	
Approach LOS		A			D			E			C	

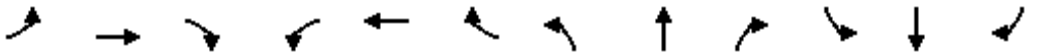
Intersection Summary			
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	873	200	1827	30	30	1968	577	30
Future Volume (vph)	873	200	1827	30	30	1968	577	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4907		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4907		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	909	217	1903	33	33	2050	627	33
RTOR Reduction (vph)	245	0	0	16	0	33	0	0
Lane Group Flow (vph)	664	217	1903	17	33	2644	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	36.8	10.0	61.1	61.1	17.8	87.9		5.6
Effective Green, g (s)	36.8	10.0	61.1	61.1	17.8	87.9		5.6
Actuated g/C Ratio	0.31	0.08	0.51	0.51	0.15	0.73		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	854	286	1801	806	262	3594		75
v/s Ratio Prot	c0.24	0.06	c0.54		0.02	c0.42		c0.02
v/s Ratio Perm				0.01		0.12		
v/c Ratio	0.78	0.76	1.06	0.02	0.13	0.74		0.44
Uniform Delay, d1	37.9	53.8	29.4	14.6	44.3	9.3		55.7
Progression Factor	1.00	0.97	0.96	1.00	0.84	2.57		1.00
Incremental Delay, d2	4.5	8.2	35.3	0.0	0.2	0.7		4.1
Delay (s)	42.4	60.4	63.6	14.6	37.5	24.6		59.8
Level of Service	D	E	E	B	D	C		E
Approach Delay (s)			62.5			24.8		
Approach LOS			E			C		

Intersection Summary			
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	593	25	60	115	5	425	90	804	5	165	961	843
Future Volume (vph)	593	25	60	115	5	425	90	804	5	165	961	843
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1436	1752	1845	1568	3367	3463		1752	3505	1416
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1436	1752	1845	1568	3367	3463		1752	3505	1416
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	624	26	63	121	5	447	95	846	5	174	1012	887
RTOR Reduction (vph)	0	0	49	0	0	63	0	0	0	0	0	526
Lane Group Flow (vph)	324	326	14	121	5	384	95	851	0	174	1012	361
Confl. Peds. (#/hr)	3		60	60		3	111		170	170		111
Confl. Bikes (#/hr)						5			8			10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.1	26.1	26.1	21.0	21.0	40.0	6.0	40.4		14.5	48.9	48.9
Effective Green, g (s)	26.1	26.1	26.1	21.0	21.0	40.0	6.0	40.4		14.5	48.9	48.9
Actuated g/C Ratio	0.22	0.22	0.22	0.18	0.18	0.33	0.05	0.34		0.12	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	365	368	312	306	322	522	168	1165		211	1428	577
v/s Ratio Prot	c0.19	0.19		0.07	0.00	c0.24	0.03	c0.25		0.10	0.29	
v/s Ratio Perm			0.01									0.26
v/c Ratio	0.89	0.89	0.04	0.40	0.02	0.73	0.57	0.73		0.82	0.71	0.63
Uniform Delay, d1	45.5	45.5	37.1	43.9	40.9	35.3	55.7	35.0		51.5	29.6	28.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.94	0.92	2.97
Incremental Delay, d2	21.5	21.1	0.0	0.8	0.0	5.3	2.6	4.1		15.7	2.1	3.6
Delay (s)	67.0	66.6	37.1	44.7	41.0	40.6	58.3	39.1		64.3	29.4	87.7
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		64.2			41.5			41.0			57.3	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	52.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	695	290	260	1185	0	0	0	0	169	125	175
Future Volume (veh/h)	0	695	290	260	1185	0	0	0	0	169	125	175
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1863	1863	0				1900	1900	1900
Adj Flow Rate, veh/h	0	709	296	265	1209	0				172	128	179
Adj No. of Lanes	0	2	0	1	2	0				2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	2	2	0				0	0	0
Cap, veh/h	0	1346	562	300	2713	0				501	263	220
Arrive On Green	0.00	0.55	0.55	0.34	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	2530	1017	1774	3632	0				3619	1900	1586
Grp Volume(v), veh/h	0	520	485	265	1209	0				172	128	179
Grp Sat Flow(s),veh/h/ln	0	1787	1666	1774	1770	0				1810	1900	1586
Q Serve(g_s), s	0.0	18.4	18.4	14.1	0.0	0.0				4.3	6.2	11.0
Cycle Q Clear(g_c), s	0.0	18.4	18.4	14.1	0.0	0.0				4.3	6.2	11.0
Prop In Lane	0.00		0.61	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	987	920	300	2713	0				501	263	220
V/C Ratio(X)	0.00	0.53	0.53	0.88	0.45	0.00				0.34	0.49	0.82
Avail Cap(c_a), veh/h	0	987	920	452	2713	0				651	342	286
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	14.1	14.1	32.1	0.0	0.0				39.0	39.8	41.8
Incr Delay (d2), s/veh	0.0	2.0	2.2	9.5	0.3	0.0				0.3	1.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	8.9	7.6	0.1	0.0				2.2	3.3	5.5
LnGrp Delay(d),s/veh	0.0	16.1	16.3	41.6	0.3	0.0				39.3	40.8	53.7
LnGrp LOS		B	B	D	A					D	D	D
Approach Vol, veh/h		1005			1474						479	
Approach Delay, s/veh		16.2			7.7						45.1	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	59.7		18.8		81.2		
Change Period (Y+Rc), s	4.5	4.5		5.0		4.5		
Max Green Setting (Gmax), s	25.5	42.5		18.0		72.5		
Max Q Clear Time (g_c+I1), s	16.1	20.4		13.0		2.0		
Green Ext Time (p_c), s	0.8	17.9		0.8		40.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	569	0	0	830	332	605	230	365	0	0	0
Future Volume (vph)	305	569	0	0	830	332	605	230	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.87	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	1787	3574			3539	1381	1698	1747	1563			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	1787	3574			3539	1381	1698	1747	1563			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	593	0	0	865	346	630	240	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	80	0	0	178	0	0	0
Lane Group Flow (vph)	318	593	0	0	865	266	428	442	202	0	0	0
Confl. Peds. (#/hr)	24		22	22		24			6	6		
Confl. Bikes (#/hr)			2			1			1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Effective Green, g (s)	20.7	58.5			33.3	33.3	32.5	32.5	32.5			
Actuated g/C Ratio	0.21	0.58			0.33	0.33	0.32	0.32	0.32			
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Lane Grp Cap (vph)	369	2090			1178	459	551	567	507			
v/s Ratio Prot	c0.18	0.17			c0.24		0.25	c0.25				
v/s Ratio Perm						0.19			0.13			
v/c Ratio	0.86	0.28			0.73	0.58	0.78	0.78	0.40			
Uniform Delay, d1	38.3	10.3			29.4	27.6	30.5	30.5	26.2			
Progression Factor	0.82	0.70			0.53	0.44	1.00	1.00	1.00			
Incremental Delay, d2	16.4	0.3			3.6	4.6	10.3	10.2	2.3			
Delay (s)	47.9	7.5			19.2	16.6	40.8	40.7	28.5			
Level of Service	D	A			B	B	D	D	C			
Approach Delay (s)		21.6			18.5			37.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	814	30	5	1077	5	40	20	30	15	10	15
Future Volume (veh/h)	20	814	30	5	1077	5	40	20	30	15	10	15
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.96		0.94	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1900	1863	1900	1900	1792	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	831	31	5	1099	5	41	20	31	15	10	15
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	2	2	2	6	6	6	0	0	0
Cap, veh/h	59	2005	74	38	2134	10	233	115	150	209	143	182
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	35	3314	122	4	3528	16	583	372	485	515	461	586
Grp Volume(v), veh/h	455	0	427	580	0	529	92	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1683	1856	0	1691	1440	0	0	1562	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	0.04		0.07	0.01		0.01	0.45		0.34	0.37		0.37
Lane Grp Cap(c), veh/h	1119	0	1018	1159	0	1023	498	0	0	534	0	0
V/C Ratio(X)	0.41	0.00	0.42	0.50	0.00	0.52	0.18	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1119	0	1018	1159	0	1023	498	0	0	534	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.2	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.3	1.5	0.0	1.9	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.5	0.0	0.5	2.0	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.3	1.5	0.0	1.9	26.1	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		882			1109			92			40	
Approach Delay, s/veh		1.2			1.7			26.1			24.6	
Approach LOS		A			A			C			C	

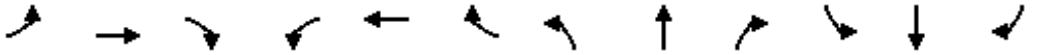
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		65.0		35.0		65.0		35.0
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0
Max Green Setting (Gmax), s		60.5		31.0		60.5		31.0
Max Q Clear Time (g_c+I1), s		2.0		6.3		2.0		3.6
Green Ext Time (p_c), s		2.5		0.1		2.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	3.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	784	85	105	962	0	0	0	0	132	680	130
Future Volume (veh/h)	0	784	85	105	962	0	0	0	0	132	680	130
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00				1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1900	1900	1900	0				1900	1881	1881
Adj Flow Rate, veh/h	0	808	88	108	992	0				136	701	134
Adj No. of Lanes	0	2	0	0	2	0				0	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	1	1	0	0	0				1	1	1
Cap, veh/h	0	1763	192	0	1967	0				206	1122	526
Arrive On Green	0.00	0.55	0.55	0.00	1.00	0.00				0.37	0.37	0.37
Sat Flow, veh/h	0	3329	352	0	3705	0				565	3075	1442
Grp Volume(v), veh/h	0	446	450	0	992	0				446	391	134
Grp Sat Flow(s),veh/h/ln	0	1787	1800	0	1805	0				1853	1787	1442
Q Serve(g_s), s	0.0	15.1	15.2	0.0	0.0	0.0				20.1	17.8	6.5
Cycle Q Clear(g_c), s	0.0	15.1	15.2	0.0	0.0	0.0				20.1	17.8	6.5
Prop In Lane	0.00		0.20	0.00		0.00				0.31		1.00
Lane Grp Cap(c), veh/h	0	974	981	0	1967	0				676	652	526
V/C Ratio(X)	0.00	0.46	0.46	0.00	0.50	0.00				0.66	0.60	0.25
Avail Cap(c_a), veh/h	0	974	981	0	1967	0				676	652	526
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	13.8	0.0	0.0	0.0				26.5	25.8	22.2
Incr Delay (d2), s/veh	0.0	1.6	1.5	0.0	0.9	0.0				5.0	4.0	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
%ile BackOfQ(50%),veh/ln	0.0	7.9	7.9	0.0	0.3	0.0				11.2	9.5	2.7
LnGrp Delay(d),s/veh	0.0	15.4	15.3	0.0	0.9	0.0				31.5	29.9	23.4
LnGrp LOS		B	B		A					C	C	C
Approach Vol, veh/h		896			992						971	
Approach Delay, s/veh		15.3			0.9						29.7	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.0			0.0	59.0		41.0
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		54.5			13.9	36.1		36.5
Max Q Clear Time (g_c+I1), s		2.0			0.0	17.2		22.1
Green Ext Time (p_c), s		2.7			0.0	2.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	686	0	0	820	103	237	761	70	0	0	0
Future Volume (veh/h)	210	686	0	0	820	103	237	761	70	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.92	1.00		0.90			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1881	0	0	1881	1900	1900	1863	1900			
Adj Flow Rate, veh/h	223	730	0	0	872	110	252	810	74			
Adj No. of Lanes	0	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	1	0	0	1	1	0	2	0			
Cap, veh/h	63	868	0	0	1349	170	289	979	93			
Arrive On Green	0.36	0.36	0.00	0.00	0.85	0.85	0.12	0.12	0.12			
Sat Flow, veh/h	2	1715	0	0	3253	398	765	2598	247			
Grp Volume(v), veh/h	317	636	0	0	493	489	601	0	535			
Grp Sat Flow(s),veh/h/ln	5	1627	0	0	1787	1770	1824	0	1786			
Q Serve(g_s), s	39.4	34.1	0.0	0.0	9.0	9.0	32.3	0.0	29.1			
Cycle Q Clear(g_c), s	39.4	34.1	0.0	0.0	9.0	9.0	32.3	0.0	29.1			
Prop In Lane	0.70		0.00	0.00		0.23	0.42		0.14			
Lane Grp Cap(c), veh/h	0	867	0	0	763	756	688	0	673			
V/C Ratio(X)	0.00	0.73	0.00	0.00	0.65	0.65	0.87	0.00	0.80			
Avail Cap(c_a), veh/h	0	867	0	0	763	756	688	0	673			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	2.00	2.00	0.33	0.33	0.33			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	26.0	0.0	0.0	4.8	4.8	41.4	0.0	40.0			
Incr Delay (d2), s/veh	0.0	5.5	0.0	0.0	4.2	4.2	14.4	0.0	9.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	16.6	0.0	0.0	5.0	5.0	19.1	0.0	16.2			
LnGrp Delay(d),s/veh	0.0	31.5	0.0	0.0	9.0	9.1	55.8	0.0	49.4			
LnGrp LOS		C			A	A	E		D			
Approach Vol, veh/h		953			982			1136				
Approach Delay, s/veh		21.0			9.1			52.8				
Approach LOS		C			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		47.2		42.2		57.8		
Change Period (Y+Rc), s		* 4.5		4.5		4.5		
Max Green Setting (Gmax), s		* 43		37.7		53.3		
Max Q Clear Time (g_c+I1), s		11.0		34.3		41.4		
Green Ext Time (p_c), s		1.1		0.7		2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	516	118	25	743	50	30	50	15	10	90	75
Future Volume (vph)	80	516	118	25	743	50	30	50	15	10	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.91			0.98			0.98			0.97	
Flpb, ped/bikes		0.99			1.00			0.99			0.99	
Frt		0.98			0.99			0.98			0.94	
Flt Protected		0.99			1.00			0.98			1.00	
Satd. Flow (prot)		3105			3372			1767			1686	
Flt Permitted		0.70			0.92			0.89			0.99	
Satd. Flow (perm)		2180			3092			1599			1671	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	538	123	26	774	52	31	52	16	10	94	78
RTOR Reduction (vph)	0	16	0	0	5	0	0	7	0	0	27	0
Lane Group Flow (vph)	0	728	0	0	847	0	0	92	0	0	155	0
Confl. Peds. (#/hr)	120		200	200		120	92		159	159		92
Confl. Bikes (#/hr)			1			3			14			1
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		47.5			47.5			44.0			44.0	
Effective Green, g (s)		47.5			47.5			44.0			44.0	
Actuated g/C Ratio		0.48			0.48			0.44			0.44	
Clearance Time (s)		4.5			4.5			4.0			4.0	
Lane Grp Cap (vph)		1035			1468			703			735	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.27			0.06			c0.09	
v/c Ratio		0.70			0.58			0.13			0.21	
Uniform Delay, d1		20.7			19.0			16.6			17.3	
Progression Factor		1.07			0.37			0.92			1.00	
Incremental Delay, d2		1.9			1.5			0.3			0.7	
Delay (s)		24.0			8.5			15.6			17.9	
Level of Service		C			A			B			B	
Approach Delay (s)		24.0			8.5			15.6			17.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	433	53	20	666	20	77	160	30	10	165	70
Future Volume (veh/h)	85	433	53	20	666	20	77	160	30	10	165	70
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.79	0.92		0.78	0.92		0.84	0.90		0.85
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	1900	1863	1900	1900	1845	1900	1900	1792	1900	1900	1743	1900
Adj Flow Rate, veh/h	90	461	56	21	709	21	82	170	32	11	176	74
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	9	9	9
Cap, veh/h	214	1043	127	59	1556	45	203	401	71	48	474	192
Arrive On Green	0.95	0.95	0.95	0.95	0.95	0.95	0.87	0.87	0.87	0.44	0.44	0.44
Sat Flow, veh/h	351	2196	267	45	3275	96	361	921	163	25	1090	441
Grp Volume(v), veh/h	279	0	328	393	0	358	284	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1250	0	1563	1785	0	1631	1444	0	0	1556	0	0
Q Serve(g_s), s	0.0	0.0	1.8	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	1.8	1.9	0.0	2.0	3.2	0.0	0.0	11.2	0.0	0.0
Prop In Lane	0.32		0.17	0.05		0.06	0.29		0.11	0.04		0.28
Lane Grp Cap(c), veh/h	641	0	743	886	0	775	675	0	0	714	0	0
V/C Ratio(X)	0.43	0.00	0.44	0.44	0.00	0.46	0.42	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	641	0	743	886	0	775	675	0	0	714	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.3	0.0	1.4	1.4	0.0	1.4	3.9	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	1.9	1.6	0.0	2.0	1.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.9	1.1	0.0	1.0	1.8	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	3.5	0.0	3.3	3.0	0.0	3.3	5.8	0.0	0.0	20.6	0.0	0.0
LnGrp LOS	A		A	A		A	A			C		
Approach Vol, veh/h		607			751			284			261	
Approach Delay, s/veh		3.4			3.1			5.8			20.6	
Approach LOS		A			A			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.0		48.0		52.0		48.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.5		43.5		47.5		43.5
Max Q Clear Time (g_c+I1), s		4.0		5.2		3.8		13.2
Green Ext Time (p_c), s		1.9		0.8		1.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	361	42	50	493	25	193	420	40	20	330	20
Future Volume (veh/h)	70	361	42	50	493	25	193	420	40	20	330	20
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.75	0.97		0.85	0.99		0.92	0.97		0.93
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	1900	1827	1900	1900	1881	1900	1900	1827	1900	1900	1845	1900
Adj Flow Rate, veh/h	74	380	44	53	519	26	203	442	42	21	347	21
Adj No. of Lanes	0	2	0	0	2	0	0	2	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	3	3	3
Cap, veh/h	141	749	94	108	1031	53	459	967	93	63	886	52
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	1.00	1.00	1.00	0.55	0.55	0.55
Sat Flow, veh/h	256	2052	257	180	2825	145	730	1775	171	46	1626	95
Grp Volume(v), veh/h	239	0	259	301	0	297	289	0	398	389	0	0
Grp Sat Flow(s),veh/h/ln	1049	0	1516	1495	0	1655	1060	0	1616	1767	0	0
Q Serve(g_s), s	9.5	0.0	13.1	4.6	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	23.3	0.0	13.1	17.7	0.0	13.9	0.0	0.0	0.0	12.4	0.0	0.0
Prop In Lane	0.31		0.17	0.18		0.09	0.70		0.11	0.05		0.05
Lane Grp Cap(c), veh/h	430	0	553	588	0	604	639	0	881	1001	0	0
V/C Ratio(X)	0.56	0.00	0.47	0.51	0.00	0.49	0.45	0.00	0.45	0.39	0.00	0.00
Avail Cap(c_a), veh/h	430	0	553	588	0	604	639	0	881	1001	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.0	0.0	24.3	24.9	0.0	24.6	0.0	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	5.1	0.0	2.8	3.2	0.0	2.8	2.3	0.0	1.7	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	5.9	7.2	0.0	6.8	0.4	0.0	0.4	6.5	0.0	0.0
LnGrp Delay(d),s/veh	33.1	0.0	27.2	28.1	0.0	27.4	2.3	0.0	1.7	14.3	0.0	0.0
LnGrp LOS	C		C	C		C	A		A	B		
Approach Vol, veh/h		498			598			687			389	
Approach Delay, s/veh		30.0			27.8			1.9			14.3	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.0		59.0		41.0		59.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		36.5		54.5		36.5		54.5
Max Q Clear Time (g_c+I1), s		19.7		2.0		25.3		14.4
Green Ext Time (p_c), s		6.8		9.6		5.3		9.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	403	113	25	385	10	243	95	25	15	80	20
Future Volume (vph)	25	403	113	25	385	10	243	95	25	15	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.99			0.97	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3281			1839			1785			1773	
Flt Permitted		0.92			0.95			0.97			0.99	
Satd. Flow (perm)		3026			1743			1785			1773	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	443	124	27	423	11	267	104	27	16	88	22
RTOR Reduction (vph)	0	22	0	0	1	0	0	2	0	0	7	0
Lane Group Flow (vph)	0	572	0	0	460	0	0	396	0	0	119	0
Confl. Peds. (#/hr)	56		83	83		56	87		66	66		87
Confl. Bikes (#/hr)						2			42			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			2		4	4		3	3	
Permitted Phases	2			2								
Actuated Green, G (s)		42.4			42.4			33.5			21.1	
Effective Green, g (s)		42.4			42.4			33.5			21.1	
Actuated g/C Ratio		0.38			0.38			0.30			0.19	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			3.0			3.0	
Lane Grp Cap (vph)		1161			668			541			338	
v/s Ratio Prot								c0.22			c0.07	
v/s Ratio Perm		0.19			c0.26							
v/c Ratio		0.49			0.69			0.73			0.35	
Uniform Delay, d1		25.9			28.5			34.5			38.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.5			5.7			8.5			2.9	
Delay (s)		27.4			34.3			43.0			41.6	
Level of Service		C			C			D			D	
Approach Delay (s)		27.4			34.3			43.0			41.6	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	19.3
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	315	30	73	0	5	30	5	0	140	65	5
Future Vol, veh/h	0	315	30	73	0	5	30	5	0	140	65	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	3	3	3	3	1	1	1	1
Mvmt Flow	0	354	34	82	0	6	34	6	0	157	73	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

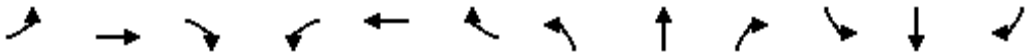
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	25.1	10.5	13.9
HCM LOS	D	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	75%	12%	1%
Vol Thru, %	31%	7%	75%	16%
Vol Right, %	2%	17%	12%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	418	40	340
LT Vol	140	315	5	5
Through Vol	65	30	30	55
RT Vol	5	73	5	280
Lane Flow Rate	236	470	45	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.418	0.758	0.085	0.593
Departure Headway (Hd)	6.378	5.92	6.816	5.587
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	566	615	526	649
Service Time	4.396	3.92	4.857	3.587
HCM Lane V/C Ratio	0.417	0.764	0.086	0.589
HCM Control Delay	13.9	25.1	10.5	16.4
HCM Lane LOS	B	D	B	C
HCM 95th-tile Q	2.1	6.8	0.3	3.9

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

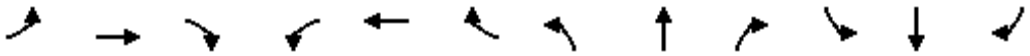
Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	5	55	280
Future Vol, veh/h	0	5	55	280
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	0	6	62	315
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	16.4
HCM LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	90	45	95	70	0	0	0	0	35	850	35
Future Volume (vph)	0	90	45	95	70	0	0	0	0	35	850	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0						4.5	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.96			1.00						0.99	
Flpb, ped/bikes		1.00			0.95						1.00	
Frt		0.95			1.00						0.99	
Flt Protected		1.00			0.97						1.00	
Satd. Flow (prot)		1742			1737						3469	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		1742			1326						3469	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	96	48	101	74	0	0	0	0	37	904	37
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	120	0	0	175	0	0	0	0	0	974	0
Confl. Peds. (#/hr)	78		113	113		78	114		59	59		114
Confl. Bikes (#/hr)			6			23						11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		11.5			11.5						29.0	
Effective Green, g (s)		11.5			11.5						29.0	
Actuated g/C Ratio		0.23			0.23						0.58	
Clearance Time (s)		5.0			5.0						4.5	
Vehicle Extension (s)		4.0			4.0						0.2	
Lane Grp Cap (vph)		400			304						2012	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.13						0.28	
v/c Ratio		0.30			0.58						0.48	
Uniform Delay, d1		15.9			17.1						6.1	
Progression Factor		1.00			0.90						2.22	
Incremental Delay, d2		0.6			2.8						0.6	
Delay (s)		16.5			18.2						14.2	
Level of Service		B			B						B	
Approach Delay (s)		16.5			18.2			0.0			14.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	0	0	110	110	50	908	55	0	0	0
Future Volume (vph)	0	110	0	0	110	110	50	908	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.93			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1900			1622			3494				
Flt Permitted		1.00			1.00			1.00				
Satd. Flow (perm)		1900			1622			3494				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	118	0	0	118	118	54	976	59	0	0	0
RTOR Reduction (vph)	0	0	0	0	55	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	118	0	0	181	0	0	1082	0	0	0	0
Confl. Peds. (#/hr)	89		93	93		89	44		48	48		44
Confl. Bikes (#/hr)			14			30			81			
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type		NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		10.4			10.4			29.6				
Effective Green, g (s)		10.4			10.4			29.6				
Actuated g/C Ratio		0.21			0.21			0.59				
Clearance Time (s)		5.0			5.0			5.0				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		395			337			2068				
v/s Ratio Prot		0.06			c0.11							
v/s Ratio Perm								0.31				
v/c Ratio		0.30			0.54			0.52				
Uniform Delay, d1		16.7			17.6			6.0				
Progression Factor		1.18			0.92			0.99				
Incremental Delay, d2		0.2			0.8			0.7				
Delay (s)		19.8			17.0			6.7				
Level of Service		B			B			A				
Approach Delay (s)		19.8			17.0			6.7			0.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

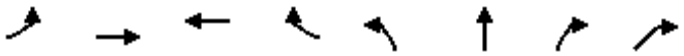
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	70	60	25	35	65	115	533	40	25	392	35
Future Volume (vph)	75	70	60	25	35	65	115	533	40	25	392	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.95			0.92			0.98			0.97	
Flpb, ped/bikes		0.96			0.98			0.98			1.00	
Frt		0.96			0.93			0.99			0.99	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1623			1551			3302			1708	
Flt Permitted		0.85			0.92			0.81			0.95	
Satd. Flow (perm)		1398			1438			2688			1619	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	75	65	27	38	70	124	573	43	27	422	38
RTOR Reduction (vph)	0	30	0	0	49	0	0	9	0	0	6	0
Lane Group Flow (vph)	0	191	0	0	86	0	0	731	0	0	481	0
Confl. Peds. (#/hr)	140		146	146		140	175		131	131		175
Confl. Bikes (#/hr)			6			4			24			4
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.0			15.0			26.5			26.5	
Effective Green, g (s)		15.0			15.0			26.5			26.5	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		419			431			1424			858	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.06			0.27			c0.30	
v/c Ratio		0.46			0.20			0.51			0.56	
Uniform Delay, d1		14.2			13.0			7.6			7.9	
Progression Factor		1.53			1.00			1.00			0.58	
Incremental Delay, d2		3.5			1.0			0.7			2.5	
Delay (s)		25.2			14.1			8.3			7.0	
Level of Service		C			B			A			A	
Approach Delay (s)		25.2			14.1			8.3			7.0	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	701	250	543	895	0	0	0	0	301	220	220
Future Volume (vph)	0	701	250	543	895	0	0	0	0	301	220	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5					5.0	5.0	
Lane Util. Factor		0.95		0.97	0.95					0.91	0.91	
Frpb, ped/bikes		0.96		1.00	1.00					1.00	0.97	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3296		3433	3539					1579	2997	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		3296		3433	3539					1579	2997	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	730	260	566	932	0	0	0	0	314	229	229
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	78	0
Lane Group Flow (vph)	0	952	0	566	932	0	0	0	0	264	430	0
Confl. Peds. (#/hr)	128		138	138		128	35					35
Confl. Bikes (#/hr)			2			8						
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	4%	4%	4%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		33.8		28.2	66.5					24.0	24.0	
Effective Green, g (s)		33.8		28.2	66.5					24.0	24.0	
Actuated g/C Ratio		0.34		0.28	0.66					0.24	0.24	
Clearance Time (s)		4.5		4.5	4.5					5.0	5.0	
Vehicle Extension (s)		3.0		4.0	4.0					3.0	3.0	
Lane Grp Cap (vph)		1114		968	2353					378	719	
v/s Ratio Prot		c0.29		c0.16	0.26					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.85		0.58	0.40					0.70	0.60	
Uniform Delay, d1		30.8		30.9	7.6					34.7	33.7	
Progression Factor		1.00		1.07	1.36					1.29	1.38	
Incremental Delay, d2		6.6		1.1	0.2					9.3	3.3	
Delay (s)		37.4		34.2	10.6					54.0	49.8	
Level of Service		D		C	B					D	D	
Approach Delay (s)		37.4			19.5			0.0			51.3	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NER
Lane Configurations								
Traffic Volume (vph)	235	762	955	397	493	440	527	60
Future Volume (vph)	235	762	955	397	493	440	527	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.90		1.00	0.99	0.96	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.98	0.85	0.86
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1736	3471	2991		3400	1702	1430	1596
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1736	3471	2991		3400	1702	1430	1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	802	1005	418	519	463	555	63
RTOR Reduction (vph)	0	0	46	0	0	6	81	0
Lane Group Flow (vph)	247	802	1377	0	519	540	391	63
Confl. Peds. (#/hr)	294			294	95		24	
Confl. Bikes (#/hr)				24				
Heavy Vehicles (%)	4%	4%	4%	4%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Split	NA	Perm	custom
Protected Phases	5	2	6		4	4		1
Permitted Phases							4	2
Actuated Green, G (s)	15.1	56.1	41.9		29.5	29.5	29.5	58.5
Effective Green, g (s)	15.1	56.1	41.9		29.5	29.5	29.5	58.5
Actuated g/C Ratio	0.15	0.56	0.42		0.29	0.29	0.29	0.58
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	4.0	4.0		4.0	4.0	4.0	1.0
Lane Grp Cap (vph)	262	1947	1253		1003	502	421	933
v/s Ratio Prot	c0.14	0.23	c0.46		0.15	c0.32		0.00
v/s Ratio Perm							0.27	0.04
v/c Ratio	0.94	0.41	1.10		0.52	1.08	0.93	0.07
Uniform Delay, d1	42.0	12.5	29.1		29.3	35.2	34.2	9.0
Progression Factor	1.18	1.52	1.10		1.00	1.00	1.00	1.00
Incremental Delay, d2	29.8	0.4	55.7		1.9	61.8	29.1	0.0
Delay (s)	79.3	19.5	87.5		31.2	97.1	63.4	9.0
Level of Service	E	B	F		C	F	E	A
Approach Delay (s)		33.6	87.5			64.5		
Approach LOS		C	F			E		

Intersection Summary			
HCM 2000 Control Delay	63.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1215	10	10	1337	5	95
Future Vol, veh/h	1215	10	10	1337	5	95
Conflicting Peds, #/hr	0	224	224	0	224	224
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	1306	11	11	1438	5	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1541	0	2500	1107
Stage 1	-	-	-	-	1536	-
Stage 2	-	-	-	-	964	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	422	-	24	208
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	335	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	343	-	15	138
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	264	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	82.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	343	-
HCM Lane V/C Ratio	0.74	-	-	0.031	-
HCM Control Delay (s)	82.7	-	-	15.8	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

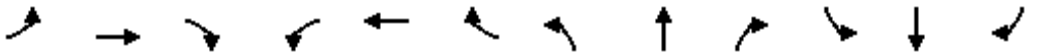
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	1220	1322	30	5	25
Future Vol, veh/h	95	1220	1322	30	5	25
Conflicting Peds, #/hr	150	0	0	148	148	150
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	10	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	0	0
Mvmt Flow	100	1284	1392	32	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1573	0	-	0	2547	1012
Stage 1	-	-	-	-	1557	-
Stage 2	-	-	-	-	990	-
Critical Hdwy	4.16	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	410	-	-	-	23	241
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	325	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	359	-	-	-	13	185
Mov Cap-2 Maneuver	-	-	-	-	82	-
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	205	-

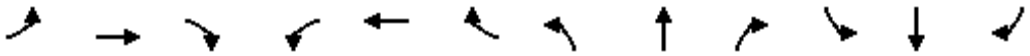
Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	34.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	359	-	-	-	153
HCM Lane V/C Ratio	0.279	-	-	-	0.206
HCM Control Delay (s)	18.9	-	-	-	34.5
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	1.1	-	-	-	0.7



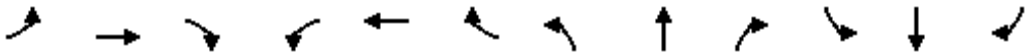
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1012	228	232	1212	0	0	0	0	45	805	130
Future Volume (vph)	0	1012	228	232	1212	0	0	0	0	45	805	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5						4.5	4.5
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		0.94		1.00	1.00						1.00	0.65
Flpb, ped/bikes		1.00		1.00	1.00						0.99	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						1.00	1.00
Satd. Flow (prot)		3210		1736	3471						3505	1033
Flt Permitted		1.00		0.09	1.00						1.00	1.00
Satd. Flow (perm)		3210		157	3471						3505	1033
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1054	238	242	1262	0	0	0	0	47	839	135
RTOR Reduction (vph)	0	19	0	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	1273	0	242	1263	0	0	0	0	0	886	88
Confl. Peds. (#/hr)	269		232	232		269	298		90	90		298
Confl. Bikes (#/hr)			2			17						35
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type		NA		D.P+P	NA					Perm	NA	Perm
Protected Phases		2		3	2 3						4	
Permitted Phases				2						4		4
Actuated Green, G (s)		46.6		59.2	63.7						27.3	27.3
Effective Green, g (s)		46.6		59.2	63.7						27.3	27.3
Actuated g/C Ratio		0.47		0.59	0.64						0.27	0.27
Clearance Time (s)		4.5		4.5							4.5	4.5
Vehicle Extension (s)		0.2		1.0							1.0	1.0
Lane Grp Cap (vph)		1495		291	2211						956	282
v/s Ratio Prot		c0.40		c0.10	0.36							
v/s Ratio Perm				0.39							0.25	0.08
v/c Ratio		0.85		0.83	0.57						0.93	0.31
Uniform Delay, d1		23.6		32.8	10.4						35.4	28.9
Progression Factor		0.87		0.91	0.67						1.40	1.98
Incremental Delay, d2		5.4		13.5	0.2						13.3	0.2
Delay (s)		26.0		43.5	7.1						62.8	57.3
Level of Service		C		D	A						E	E
Approach Delay (s)		26.0			12.9			0.0			62.1	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



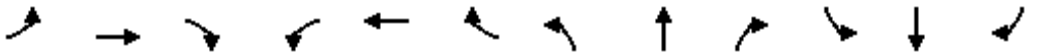
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	977	0	0	1011	30	413	923	152	0	0	0
Future Volume (vph)	5	977	0	0	1011	30	413	923	152	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			
Lane Util. Factor		0.95			0.95		1.00	0.95	1.00			
Frpb, ped/bikes		1.00			0.99		1.00	1.00	0.77			
Flpb, ped/bikes		1.00			1.00		0.91	1.00	1.00			
Frt		1.00			1.00		1.00	1.00	0.85			
Flt Protected		1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3504			3422		1623	3574	1232			
Flt Permitted		0.95			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		3330			3422		1623	3574	1232			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1039	0	0	1076	32	439	982	162	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	18	0	0	0
Lane Group Flow (vph)	0	1044	0	0	1106	0	439	982	144	0	0	0
Confl. Peds. (#/hr)	243		130	130		243	55		112	112		55
Confl. Bikes (#/hr)						16			93			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		2			2			4				
Permitted Phases	2						4		4			
Actuated Green, G (s)		49.5			49.5		41.5	41.5	41.5			
Effective Green, g (s)		49.5			49.5		41.5	41.5	41.5			
Actuated g/C Ratio		0.50			0.50		0.42	0.42	0.42			
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			
Vehicle Extension (s)		0.2			0.2		2.0	2.0	2.0			
Lane Grp Cap (vph)		1648			1693		673	1483	511			
v/s Ratio Prot					c0.32			c0.27				
v/s Ratio Perm		0.31					0.27		0.12			
v/c Ratio		0.63			0.65		0.65	0.66	0.28			
Uniform Delay, d1		18.6			18.8		23.5	23.6	19.4			
Progression Factor		0.20			0.56		0.83	0.83	0.84			
Incremental Delay, d2		0.9			1.7		2.7	1.3	0.8			
Delay (s)		4.6			12.3		22.2	20.8	17.1			
Level of Service		A			B		C	C	B			
Approach Delay (s)		4.6			12.3			20.8			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	999	60	48	971	15	40	60	45	20	52	35
Future Volume (vph)	85	999	60	48	971	15	40	60	45	20	52	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Frt	1.00	0.99		1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1736	3313		1703	3367			1601			1582	
Flt Permitted	0.95	1.00		0.95	1.00			0.88			0.93	
Satd. Flow (perm)	1736	3313		1703	3367			1431			1482	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	90	1063	64	51	1033	16	43	64	48	21	55	37
RTOR Reduction (vph)	0	3	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	90	1124	0	51	1048	0	0	138	0	0	94	0
Confl. Peds. (#/hr)	214		302	302		214	72		98	98		72
Confl. Bikes (#/hr)			2			9			30			3
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Effective Green, g (s)	10.2	65.2		5.1	59.6			16.7			16.7	
Actuated g/C Ratio	0.10	0.65		0.05	0.60			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.0	4.5			4.5			4.5	
Vehicle Extension (s)	0.5	0.2		0.5	0.2			1.0			1.0	
Lane Grp Cap (vph)	177	2160		86	2006			238			247	
v/s Ratio Prot	c0.05	c0.34		0.03	0.31							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.51	0.52		0.59	0.52			0.58			0.38	
Uniform Delay, d1	42.5	9.2		46.4	11.9			38.4			37.0	
Progression Factor	0.70	0.25		0.79	0.71			1.00			1.00	
Incremental Delay, d2	0.7	0.7		5.3	0.7			2.1			0.4	
Delay (s)	30.5	3.1		42.0	9.2			40.5			37.4	
Level of Service	C	A		D	A			D			D	
Approach Delay (s)		5.1			10.7			40.5			37.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	967	37	85	891	30	83	50	10	60	38	130
Future Volume (vph)	100	967	37	85	891	30	83	50	10	60	38	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.97			0.98			1.00	0.68		1.00	0.74
Flpb, ped/bikes	1.00	1.00			0.99			0.87	1.00		0.86	1.00
Frt	1.00	0.99			1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1736	3338			3298			1595	1104		1564	1179
Flt Permitted	0.95	1.00			0.74			0.72	1.00		0.63	1.00
Satd. Flow (perm)	1736	3338			2439			1184	1104		1009	1179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1029	39	90	948	32	88	53	11	64	40	138
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	9	0	0	116
Lane Group Flow (vph)	106	1066	0	0	1068	0	0	141	2	0	104	22
Confl. Peds. (#/hr)	337		693	693		337	152		193	193		152
Confl. Bikes (#/hr)			9			12			9			3
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			4			4	
Permitted Phases				6			4		4	4		4
Actuated Green, G (s)	9.0	74.8			61.8			16.2	16.2		16.2	16.2
Effective Green, g (s)	9.0	74.8			61.8			16.2	16.2		16.2	16.2
Actuated g/C Ratio	0.09	0.75			0.62			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	4.5			4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)	0.5	0.2			0.2			1.0	1.0		1.0	1.0
Lane Grp Cap (vph)	156	2496			1507			191	178		163	190
v/s Ratio Prot	c0.06	0.32										
v/s Ratio Perm					c0.44			c0.12	0.00		0.10	0.02
v/c Ratio	0.68	0.43			0.71			0.74	0.01		0.64	0.12
Uniform Delay, d1	44.1	4.7			13.0			39.9	35.2		39.2	35.8
Progression Factor	0.86	0.19			0.40			1.00	1.00		0.72	0.88
Incremental Delay, d2	7.9	0.5			2.5			12.1	0.0		5.2	0.1
Delay (s)	45.9	1.4			7.7			51.9	35.2		33.2	31.7
Level of Service	D	A			A			D	D		C	C
Approach Delay (s)		5.4			7.7			50.7			32.4	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	858	124	5	890	50	31	192	117	5	243	60
Future Volume (vph)	5	858	124	5	890	50	31	192	117	5	243	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.89			0.96			0.84			0.90	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3031			3398			1396			1586	
Flt Permitted		0.95			0.95			0.94			0.99	
Satd. Flow (perm)		2883			3232			1323			1579	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	913	132	5	947	53	33	204	124	5	259	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	1049	0	0	1002	0	0	359	0	0	325	0
Confl. Peds. (#/hr)	493		608	608		493	754		597	597		754
Confl. Bikes (#/hr)			1			7			71			20
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		59.9			59.9			31.1			31.1	
Effective Green, g (s)		59.9			59.9			31.1			31.1	
Actuated g/C Ratio		0.60			0.60			0.31			0.31	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		0.2			0.2			1.0			1.0	
Lane Grp Cap (vph)		1726			1935			411			491	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.31			c0.27			0.21	
v/c Ratio		0.61			0.52			0.87			0.66	
Uniform Delay, d1		12.6			11.7			32.6			29.9	
Progression Factor		0.86			0.83			1.18			1.35	
Incremental Delay, d2		1.5			0.8			16.6			2.5	
Delay (s)		12.3			10.4			55.2			42.9	
Level of Service		B			B			E			D	
Approach Delay (s)		12.3			10.4			55.2			42.9	
Approach LOS		B			B			E			D	

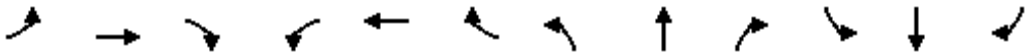
Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	822	93	175	861	70	49	553	213	100	397	40
Future Volume (veh/h)	70	822	93	175	861	70	49	553	213	100	397	40
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.83	1.00		0.79	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1810	1810	1900	1776	1776	1900	1810	1810	1900
Adj Flow Rate, veh/h	73	856	97	182	897	73	51	576	222	104	414	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	5	5	5	7	7	7	5	5	5
Cap, veh/h	131	1106	125	231	1312	107	64	622	238	121	988	99
Arrive On Green	0.15	0.71	0.71	0.27	0.83	0.83	0.01	0.09	0.09	0.14	0.64	0.64
Sat Flow, veh/h	1774	3116	353	1723	3162	257	1691	2200	843	1723	3089	310
Grp Volume(v), veh/h	73	486	467	182	488	482	51	441	357	104	228	228
Grp Sat Flow(s),veh/h/ln	1774	1770	1699	1723	1719	1701	1691	1687	1356	1723	1719	1679
Q Serve(g_s), s	3.8	17.7	17.7	9.8	11.1	11.1	3.0	25.9	26.2	5.9	6.5	6.7
Cycle Q Clear(g_c), s	3.8	17.7	17.7	9.8	11.1	11.1	3.0	25.9	26.2	5.9	6.5	6.7
Prop In Lane	1.00		0.21	1.00		0.15	1.00		0.62	1.00		0.18
Lane Grp Cap(c), veh/h	131	628	603	231	713	706	64	477	383	121	550	537
V/C Ratio(X)	0.56	0.77	0.77	0.79	0.68	0.68	0.79	0.92	0.93	0.86	0.42	0.42
Avail Cap(c_a), veh/h	131	628	603	231	713	706	118	481	386	121	550	537
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	0.76	0.76	0.76	0.79	0.79	0.79	0.85	0.85	0.85	0.80	0.80	0.80
Uniform Delay (d), s/veh	41.1	11.9	11.9	35.3	5.9	5.9	49.0	44.3	44.4	42.5	13.4	13.5
Incr Delay (d2), s/veh	2.4	7.0	7.3	12.5	4.2	4.2	6.9	20.7	25.6	35.6	0.1	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	2.0	9.3	9.0	5.4	5.7	5.7	1.5	14.9	12.5	4.0	3.1	3.1
LnGrp Delay(d),s/veh	43.5	18.9	19.2	47.8	10.1	10.2	55.9	65.0	69.9	78.1	13.6	13.6
LnGrp LOS	D	B	B	D	B	B	E	E	E	E	B	B
Approach Vol, veh/h		1026			1152			849			560	
Approach Delay, s/veh		20.8			16.1			66.5			25.6	
Approach LOS		C			B			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	46.0	11.5	32.8	17.4	40.0	7.8	36.5
Change Period (Y+Rc), s	4.0	4.5	4.5	* 4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	41.5	7.0	* 29	12.0	35.5	7.0	28.5
Max Q Clear Time (g_c+I1), s	5.8	13.1	7.9	28.2	11.8	19.7	5.0	8.7
Green Ext Time (p_c), s	0.0	2.4	0.0	0.1	0.0	2.2	0.0	0.9

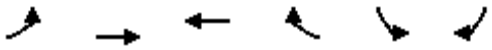
Intersection Summary	
HCM 2010 Ctrl Delay	30.8
HCM 2010 LOS	C

Notes



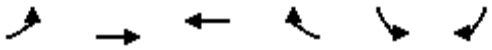
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	887	288	55	940	50	136	233	52	45	78	25
Future Volume (vph)	20	887	288	55	940	50	136	233	52	45	78	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.97		1.00	1.00	0.55		0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1752	3151		1770	3419		1770	1863	866		1698	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1752	3151		1770	3419		1770	1863	866		1698	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	954	310	59	1011	54	146	251	56	48	84	27
RTOR Reduction (vph)	0	29	0	0	3	0	0	0	48	0	8	0
Lane Group Flow (vph)	22	1235	0	59	1062	0	146	251	8	0	151	0
Confl. Peds. (#/hr)	218		185	185		218	329		437	437		329
Confl. Bikes (#/hr)			2			3			75			10
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases									4			
Actuated Green, G (s)	2.0	49.3		4.2	51.5		14.9	14.9	14.9		15.1	
Effective Green, g (s)	2.0	49.3		4.2	51.5		14.9	14.9	14.9		15.1	
Actuated g/C Ratio	0.02	0.49		0.04	0.52		0.15	0.15	0.15		0.15	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		0.5	0.5	0.5		2.0	
Lane Grp Cap (vph)	35	1553		74	1760		263	277	129		256	
v/s Ratio Prot	0.01	c0.39		c0.03	0.31		0.08	c0.13			c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.63	0.79		0.80	0.60		0.56	0.91	0.06		0.59	
Uniform Delay, d1	48.6	21.1		47.5	17.1		39.5	41.9	36.6		39.6	
Progression Factor	1.18	0.33		1.14	0.84		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.7	2.9		38.7	1.4		1.4	30.1	0.1		2.4	
Delay (s)	73.0	10.0		92.7	15.7		40.9	71.9	36.6		42.0	
Level of Service	E	A		F	B		D	E	D		D	
Approach Delay (s)		11.1			19.7			57.6			42.0	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



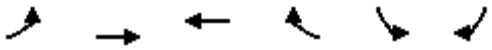
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	974	1015	0	15	25
Future Volume (vph)	0	974	1015	0	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.0	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	1.00		0.86	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	1.00		0.92	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		3574	3539		1470	
Flt Permitted		1.00	1.00		0.98	
Satd. Flow (perm)		3574	3539		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1059	1103	0	16	27
RTOR Reduction (vph)	0	0	0	0	22	0
Lane Group Flow (vph)	0	1059	1103	0	21	0
Confl. Peds. (#/hr)	209			209	123	121
Confl. Bikes (#/hr)				3		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type		NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases						
Actuated Green, G (s)		74.5	74.5		17.0	
Effective Green, g (s)		74.5	74.5		17.0	
Actuated g/C Ratio		0.74	0.74		0.17	
Clearance Time (s)		4.5	4.5		4.0	
Vehicle Extension (s)		0.2	0.2		1.0	
Lane Grp Cap (vph)		2662	2636		249	
v/s Ratio Prot		0.30	c0.31		c0.01	
v/s Ratio Perm						
v/c Ratio		0.40	0.42		0.08	
Uniform Delay, d1		4.6	4.7		34.9	
Progression Factor		0.15	0.00		1.00	
Incremental Delay, d2		0.3	0.3		0.1	
Delay (s)		1.0	0.3		35.0	
Level of Service		A	A		C	
Approach Delay (s)		1.0	0.3		35.0	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	1.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	954	1020	35	0	0
Future Volume (vph)	25	954	1020	35	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5			
Lane Util. Factor	1.00	1.00	0.95			
Frpb, ped/bikes	1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00	1.00			
Frt	1.00	1.00	1.00			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1787	1881	3458			
Flt Permitted	0.10	1.00	1.00			
Satd. Flow (perm)	185	1881	3458			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1037	1109	38	0	0
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	27	1037	1145	0	0	0
Confl. Peds. (#/hr)	144			144	305	125
Confl. Bikes (#/hr)				8		1
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Turn Type	pm+pt	NA	NA			
Protected Phases	1	1 2	2			
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	40.7			
Effective Green, g (s)	71.5	74.5	40.7			
Actuated g/C Ratio	0.72	0.74	0.41			
Clearance Time (s)	3.0		4.5			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	625	1401	1407			
v/s Ratio Prot	0.01	c0.55	c0.33			
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.74	0.81			
Uniform Delay, d1	7.5	7.2	26.3			
Progression Factor	1.44	1.67	0.31			
Incremental Delay, d2	0.0	2.0	3.4			
Delay (s)	10.9	14.1	11.6			
Level of Service	B	B	B			
Approach Delay (s)		14.0	11.6		0.0	
Approach LOS		B	B		A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	904	1030	140	53	30
Future Volume (vph)	40	904	1030	140	53	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.5		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1787	1881	3467		1724	
Flt Permitted	0.10	1.00	1.00		0.97	
Satd. Flow (perm)	184	1881	3467		1724	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	972	1108	151	57	32
RTOR Reduction (vph)	0	0	0	0	21	0
Lane Group Flow (vph)	43	972	1259	0	68	0
Confl. Bikes (#/hr)				2		3
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Actuated Green, G (s)	71.5	74.5	47.1		17.0	
Effective Green, g (s)	71.5	74.5	47.1		17.0	
Actuated g/C Ratio	0.72	0.74	0.47		0.17	
Clearance Time (s)	3.0		4.5		4.0	
Vehicle Extension (s)	1.0		0.2		1.0	
Lane Grp Cap (vph)	522	1401	1632		293	
v/s Ratio Prot	0.02	c0.52	c0.36		c0.04	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.69	0.77		0.23	
Uniform Delay, d1	8.0	6.7	22.0		35.9	
Progression Factor	0.04	0.07	1.00		1.00	
Incremental Delay, d2	0.0	0.8	3.6		0.1	
Delay (s)	0.4	1.3	25.6		36.0	
Level of Service	A	A	C		D	
Approach Delay (s)		1.3	25.6		36.0	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	573	74	584	914	241	1548
Future Volume (vph)	573	74	584	914	241	1548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.89	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3574	1419	3400	1845	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3574	1419	3400	1845	1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	610	79	621	972	256	1647
RTOR Reduction (vph)	0	12	0	0	0	2
Lane Group Flow (vph)	610	67	621	972	256	1645
Confl. Peds. (#/hr)		46	46			
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	NA	Perm	Split	NA	Prot	pt+ov
Protected Phases	3		1	1	2	1 2
Permitted Phases		3				
Actuated Green, G (s)	25.5	25.5	78.5	78.5	22.5	105.5
Effective Green, g (s)	25.5	25.5	78.5	78.5	22.5	105.5
Actuated g/C Ratio	0.18	0.18	0.56	0.56	0.16	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.5	3.5	0.2	0.2	3.0	
Lane Grp Cap (vph)	650	258	1906	1034	284	2100
v/s Ratio Prot	c0.17		0.18	c0.53	c0.14	0.59
v/s Ratio Perm		0.05				
v/c Ratio	0.94	0.26	0.33	0.94	0.90	0.78
Uniform Delay, d1	56.5	49.1	16.5	28.6	57.7	10.4
Progression Factor	1.00	1.00	0.44	0.51	0.97	1.02
Incremental Delay, d2	21.5	0.6	0.3	13.0	26.4	1.7
Delay (s)	77.9	49.8	7.6	27.7	82.4	12.3
Level of Service	E	D	A	C	F	B
Approach Delay (s)	74.7			19.8	21.7	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	35	280	1276	220	28	893	190	25	165	105	30	34
Future Volume (vph)	35	280	1276	220	28	893	190	25	165	105	30	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86		0.86	0.95	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.92	1.00	0.98		0.95	1.00	1.00	0.92	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	1.00	0.97		0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	1752	3505	1446	1736	4510		1263	1698	1766	1474	
Flt Permitted	0.95	0.10	1.00	1.00	0.12	1.00		1.00	0.95	0.99	1.00	
Satd. Flow (perm)	1752	187	3505	1446	215	4510		1263	1698	1766	1474	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	289	1315	227	29	921	196	26	170	108	31	35
RTOR Reduction (vph)	0	0	0	86	0	0	0	17	0	0	56	0
Lane Group Flow (vph)	36	289	1315	141	29	1120	0	6	136	142	10	0
Confl. Peds. (#/hr)	19	19		16	16		19	19	35		19	18
Confl. Bikes (#/hr)				3				1				4
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%	4%	4%	1%	1%	1%	1%
Turn Type	Prot	pm+pt	NA	Perm	Perm	NA		Perm	Split	NA	Perm	
Protected Phases	1	1 9	6			2			4	4		
Permitted Phases		6		6	2			2			4	
Actuated Green, G (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Effective Green, g (s)	11.5	61.6	51.0	51.0	34.0	34.0		34.0	21.9	21.9	21.9	
Actuated g/C Ratio	0.08	0.44	0.36	0.36	0.24	0.24		0.24	0.16	0.16	0.16	
Clearance Time (s)	5.5		5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.5		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	143	329	1276	526	52	1095		306	265	276	230	
v/s Ratio Prot	0.02	c0.14	c0.38			0.25			0.08	c0.08		
v/s Ratio Perm		0.25		0.10	0.13			0.00			0.01	
v/c Ratio	0.25	0.88	1.03	0.27	0.56	1.02		0.02	0.51	0.51	0.04	
Uniform Delay, d1	60.2	40.3	44.5	31.3	46.4	53.0		40.3	54.2	54.2	50.2	
Progression Factor	0.94	0.88	0.85	0.76	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	13.4	26.8	0.7	36.8	33.1		0.1	0.7	0.7	0.0	
Delay (s)	56.8	48.8	64.9	24.6	83.2	86.1		40.4	54.9	54.8	50.2	
Level of Service	E	D	E	C	F	F		D	D	D	D	
Approach Delay (s)			57.3			85.2				54.0		
Approach LOS			E			F				D		

Intersection Summary			
HCM 2000 Control Delay	66.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	60	240	85	35	25	35	170	45
Future Volume (vph)	60	240	85	35	25	35	170	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5			5.5	5.5	
Lane Util. Factor		0.95	0.95			1.00	0.88	
Frpb, ped/bikes		1.00	0.99			1.00	1.00	
Flpb, ped/bikes		1.00	1.00			1.00	1.00	
Frt		1.00	0.97			1.00	0.85	
Flt Protected		0.95	0.98			0.95	1.00	
Satd. Flow (prot)		1698	1687			1787	2814	
Flt Permitted		0.95	0.98			0.95	1.00	
Satd. Flow (perm)		1698	1687			1787	2814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	247	88	36	26	36	175	46
RTOR Reduction (vph)	0	0	5	0	0	0	126	0
Lane Group Flow (vph)	0	218	210	0	0	62	95	0
Confl. Peds. (#/hr)	18	19		35	18	16	35	19
Confl. Bikes (#/hr)				1			1	1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA		Prot	Prot	Prot	
Protected Phases	3	3	3		7	7	8	
Permitted Phases								
Actuated Green, G (s)		24.5	24.5			6.0	20.6	
Effective Green, g (s)		24.5	24.5			6.0	20.6	
Actuated g/C Ratio		0.18	0.18			0.04	0.15	
Clearance Time (s)		5.5	5.5			5.5	5.5	
Vehicle Extension (s)		2.0	2.0			2.5	2.5	
Lane Grp Cap (vph)		297	295			76	414	
v/s Ratio Prot		c0.13	0.12			c0.03	0.03	
v/s Ratio Perm								
v/c Ratio		0.73	0.71			0.82	0.23	
Uniform Delay, d1		54.7	54.4			66.5	52.7	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		7.8	6.6			45.8	0.2	
Delay (s)		62.5	61.0			112.3	52.9	
Level of Service		E	E			F	D	
Approach Delay (s)			61.8			65.9		
Approach LOS			E			E		

Intersection Summary

Intersection	
Int Delay, s/veh	8.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	120	0	0	0	47	1313
Future Vol, veh/h	120	0	0	0	47	1313
Conflicting Peds, #/hr	75	153	0	75	153	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	0	0	1	1
Mvmt Flow	132	0	0	0	52	1443

Major/Minor	Minor1		Major2	
Conflicting Flow All	1053	-	153	0
Stage 1	153	-	-	-
Stage 2	900	-	-	-
Critical Hdwy	6.92	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-
Follow-up Hdwy	3.56	-	2.21	-
Pot Cap-1 Maneuver	215	0	1433	-
Stage 1	-	0	-	-
Stage 2	348	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	153	-	1433	-
Mov Cap-2 Maneuver	153	-	-	-
Stage 1	-	-	-	-
Stage 2	284	-	-	-

Approach	WB	SB
HCM Control Delay, s	97.9	0.8
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	153	1433	-
HCM Lane V/C Ratio	0.862	0.036	-
HCM Control Delay (s)	97.9	7.6	0.6
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	5.8	0.1	-

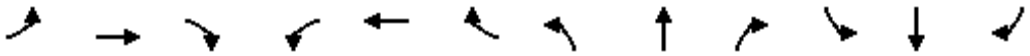
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	0	1393	40
Future Vol, veh/h	0	69	0	0	1393	40
Conflicting Peds, #/hr	277	151	151	0	0	277
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2
Mvmt Flow	0	75	0	0	1514	43

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1207	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	175	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	135	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	60.8	0
HCM LOS	F	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	135	-	-
HCM Lane V/C Ratio	0.556	-	-
HCM Control Delay (s)	60.8	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	2.7	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	37	0	0	90	110	20	1188	60	0	0	0
Future Volume (vph)	45	37	0	0	90	110	20	1188	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.94			0.99				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.93			0.99				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1771			1537			3473				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1465			1537			3473				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	40	0	0	98	120	22	1291	65	0	0	0
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	89	0	0	213	0	0	1371	0	0	0	0
Confl. Peds. (#/hr)	117		79	79		117	55		61	61		55
Confl. Bikes (#/hr)			7			10			79			
Heavy Vehicles (%)	0%	0%	0%	7%	7%	7%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		21.0			21.0			20.5				
Effective Green, g (s)		21.0			21.0			20.5				
Actuated g/C Ratio		0.42			0.42			0.41				
Clearance Time (s)		4.0			4.0			4.5				
Lane Grp Cap (vph)		615			645			1423				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.06						0.39				
v/c Ratio		0.14			0.33			0.96				
Uniform Delay, d1		9.0			9.8			14.4				
Progression Factor		0.81			0.87			0.74				
Incremental Delay, d2		0.5			1.4			14.4				
Delay (s)		7.7			9.9			24.9				
Level of Service		A			A			C				
Approach Delay (s)		7.7			9.9			24.9			0.0	
Approach LOS		A			A			C			A	

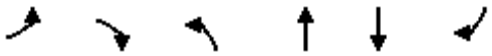
Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	15	7	70	5	65	10	215	80	75	267	30
Future Volume (vph)	60	15	7	70	5	65	10	215	80	75	267	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.84			0.83			0.95	
Flpb, ped/bikes		0.82			0.78			0.99			0.93	
Frt		0.99			0.94			0.96			0.99	
Flt Protected		0.96			0.98			1.00			0.99	
Satd. Flow (prot)		1392			1137			1396			1546	
Flt Permitted		0.75			0.83			0.99			0.88	
Satd. Flow (perm)		1084			967			1379			1367	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	16	8	75	5	70	11	231	86	81	287	32
RTOR Reduction (vph)	0	5	0	0	17	0	0	25	0	0	6	0
Lane Group Flow (vph)	0	84	0	0	133	0	0	303	0	0	394	0
Confl. Peds. (#/hr)	179		298	298		179	690		591	591		690
Confl. Bikes (#/hr)			2			3			63			25
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		16.0			16.0			25.5			25.5	
Effective Green, g (s)		16.0			16.0			25.5			25.5	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		346			309			703			697	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.14			0.22			c0.29	
v/c Ratio		0.24			0.43			0.43			0.56	
Uniform Delay, d1		12.5			13.4			7.7			8.4	
Progression Factor		0.76			0.55			0.97			1.12	
Incremental Delay, d2		1.2			4.2			1.8			2.8	
Delay (s)		10.7			11.6			9.3			12.3	
Level of Service		B			B			A			B	
Approach Delay (s)		10.7			11.6			9.3			12.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

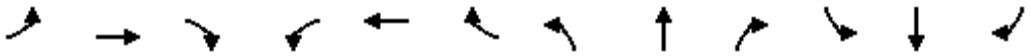
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	75	55	690	600	85
Future Volume (vph)	110	75	55	690	600	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	1.00			0.95	0.95	1.00
Frpb, ped/bikes	0.87			1.00	1.00	0.64
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.95			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1493			3327	3343	950
Flt Permitted	0.97			0.87	1.00	1.00
Satd. Flow (perm)	1493			2914	3343	950
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	79	58	726	632	89
RTOR Reduction (vph)	49	0	0	0	0	45
Lane Group Flow (vph)	146	0	0	784	632	44
Confl. Peds. (#/hr)	262	361	182			182
Confl. Bikes (#/hr)						3
Heavy Vehicles (%)	2%	2%	7%	7%	8%	8%
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases			2			2
Actuated Green, G (s)	16.5			24.5	24.5	24.5
Effective Green, g (s)	16.5			24.5	24.5	24.5
Actuated g/C Ratio	0.33			0.49	0.49	0.49
Clearance Time (s)	4.5			4.5	4.5	4.5
Lane Grp Cap (vph)	492			1427	1638	465
v/s Ratio Prot	c0.10				0.19	
v/s Ratio Perm				c0.27		0.05
v/c Ratio	0.30			0.55	0.39	0.09
Uniform Delay, d1	12.4			8.9	8.0	6.8
Progression Factor	1.15			1.35	1.11	1.35
Incremental Delay, d2	1.4			1.4	0.6	0.3
Delay (s)	15.7			13.4	9.4	9.6
Level of Service	B			B	A	A
Approach Delay (s)	15.7			13.4	9.5	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Yield	
Traffic Volume (vph)	117	12	5	10	22	249	0	55	15	258	65	108
Future Volume (vph)	117	12	5	10	22	249	0	55	15	258	65	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	127	13	5	11	24	271	0	60	16	280	71	117

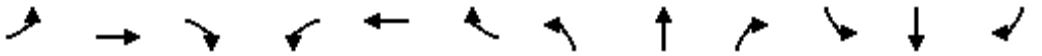
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	145	306	30	46	316	153
Volume Left (vph)	127	11	0	0	280	0
Volume Right (vph)	5	271	0	16	0	117
Hadj (s)	0.15	-0.52	0.44	0.20	0.53	-0.45
Departure Headway (s)	6.0	5.1	7.0	6.7	6.4	5.4
Degree Utilization, x	0.24	0.43	0.06	0.09	0.56	0.23
Capacity (veh/h)	553	666	457	481	540	635
Control Delay (s)	10.9	11.9	9.2	9.1	16.2	8.9
Approach Delay (s)	10.9	11.9	9.2		13.8	
Approach LOS	B	B	A		B	

Intersection Summary				
Delay	12.4			
Level of Service	B			
Intersection Capacity Utilization	69.2%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	115	104	5	67	215	102	839	5	67	594	139
Future Volume (veh/h)	178	115	104	5	67	215	102	839	5	67	594	139
Number	3	8	18	7	4	14	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		0.90	0.97		0.84	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1792	1900	1900	1827	1900	1900	1900	1900	1881	1881	1900
Adj Flow Rate, veh/h	187	121	109	5	71	226	107	883	5	71	625	146
Adj No. of Lanes	1	2	0	0	2	0	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	4	4	4	0	0	0	1	1	1
Cap, veh/h	227	529	413	38	315	216	364	2013	11	90	1136	265
Arrive On Green	0.10	0.31	0.31	0.18	0.18	0.18	0.20	0.55	0.55	0.05	0.40	0.40
Sat Flow, veh/h	1707	1728	1348	57	1732	1187	1810	3680	21	1792	2865	668
Grp Volume(v), veh/h	187	119	111	76	0	226	107	433	455	71	389	382
Grp Sat Flow(s),veh/h/ln	1707	1703	1374	1788	0	1187	1810	1805	1896	1792	1787	1746
Q Serve(g_s), s	12.1	7.3	8.5	0.0	0.0	25.5	7.0	20.0	20.0	5.5	23.5	23.6
Cycle Q Clear(g_c), s	12.1	7.3	8.5	4.9	0.0	25.5	7.0	20.0	20.0	5.5	23.5	23.6
Prop In Lane	1.00		0.98	0.07		1.00	1.00		0.01	1.00		0.38
Lane Grp Cap(c), veh/h	227	521	421	575	0	216	364	987	1037	90	708	692
V/C Ratio(X)	0.83	0.23	0.26	0.13	0.00	1.05	0.29	0.44	0.44	0.79	0.55	0.55
Avail Cap(c_a), veh/h	320	614	495	575	0	216	364	987	1037	198	708	692
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	0.98	0.00	0.98	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	36.2	36.7	48.8	0.0	57.3	47.5	18.9	18.9	65.7	32.6	32.6
Incr Delay (d2), s/veh	11.4	0.2	0.3	0.0	0.0	72.9	0.1	1.2	1.2	5.6	3.1	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.5	3.3	2.1	0.0	12.7	3.5	10.3	10.8	2.9	12.2	11.9
LnGrp Delay(d),s/veh	52.8	36.4	37.0	48.9	0.0	130.2	47.6	20.1	20.0	71.3	35.7	35.8
LnGrp LOS	D	D	D	D		F	D	C	C	E	D	D
Approach Vol, veh/h		417			302			995			842	
Approach Delay, s/veh		43.9			109.7			23.0			38.7	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	81.1	17.4	30.0	32.6	60.0		47.4
Change Period (Y+Rc), s	4.5	4.5	3.0	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.5	60.5	22.0	25.5	20.5	55.5		50.5
Max Q Clear Time (g_c+I1), s	7.5	22.0	14.1	27.5	9.0	25.6		10.5
Green Ext Time (p_c), s	0.0	5.8	0.3	0.0	3.3	0.7		3.3

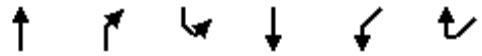
Intersection Summary	
HCM 2010 Ctrl Delay	41.8
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	20	0	44	28	71	0	1506	62	19	545	274
Future Volume (vph)	152	20	0	44	28	71	0	1506	62	19	545	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Lane Util. Factor	0.95	0.95			0.95	1.00		0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85		0.99			1.00	0.85
Flt Protected	0.95	0.96			0.97	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1618	1640			3274	1509		3549			3533	1537
Flt Permitted	0.70	0.72			0.70	1.00		1.00			0.85	1.00
Satd. Flow (perm)	1199	1229			2351	1509		3549			2999	1537
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	162	21	0	47	30	76	0	1602	66	20	580	291
RTOR Reduction (vph)	0	0	0	0	0	54	0	1	0	0	0	50
Lane Group Flow (vph)	91	92	0	0	77	22	0	1667	0	0	600	241
Confl. Peds. (#/hr)							7		2	2		7
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	Perm
Protected Phases		2			2			1			1	
Permitted Phases	2			2		2				1		1
Actuated Green, G (s)	15.0	15.0			15.0	15.0		116.0			116.0	116.0
Effective Green, g (s)	15.0	15.0			15.0	15.0		116.0			116.0	116.0
Actuated g/C Ratio	0.11	0.11			0.11	0.11		0.83			0.83	0.83
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0		0.2			0.2	0.2
Lane Grp Cap (vph)	128	131			251	161		2940			2484	1273
v/s Ratio Prot								c0.47				
v/s Ratio Perm	c0.08	0.07			0.03	0.01					0.20	0.16
v/c Ratio	0.71	0.70			0.31	0.13		0.57			0.24	0.19
Uniform Delay, d1	60.4	60.3			57.7	56.6		3.9			2.6	2.4
Progression Factor	0.55	0.55			1.00	1.00		1.05			0.49	0.48
Incremental Delay, d2	14.1	12.7			0.3	0.1		0.6			0.2	0.3
Delay (s)	47.3	46.1			58.0	56.8		4.7			1.5	1.5
Level of Service	D	D			E	E		A			A	A
Approach Delay (s)		46.7			57.4			4.7			1.5	
Approach LOS		D			E			A			A	

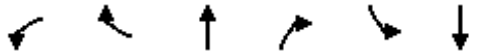
Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	921	1508	0	698	629	0
Future Volume (vph)	921	1508	0	698	629	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	0.95	0.88		0.95	0.97	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	3574	2814		3610	3433	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	3574	2814		3610	3433	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	949	1555	0	720	648	0
RTOR Reduction (vph)	0	741	0	0	0	0
Lane Group Flow (vph)	949	814	0	720	648	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	2%
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			2	1	
Permitted Phases		2				
Actuated Green, G (s)	73.3	73.3		73.3	57.7	
Effective Green, g (s)	73.3	73.3		73.3	57.7	
Actuated g/C Ratio	0.52	0.52		0.52	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	0.2	
Lane Grp Cap (vph)	1871	1473		1890	1414	
v/s Ratio Prot	0.27			0.20	c0.19	
v/s Ratio Perm		c0.29				
v/c Ratio	0.51	0.55		0.38	0.46	
Uniform Delay, d1	21.6	22.4		19.8	29.8	
Progression Factor	1.00	1.00		0.37	0.62	
Incremental Delay, d2	0.1	0.3		0.0	1.1	
Delay (s)	21.7	22.6		7.5	19.6	
Level of Service	C	C		A	B	
Approach Delay (s)	22.3			7.5	19.6	
Approach LOS	C			A	B	

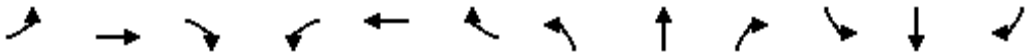
Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	0	0	0	153	1359
Future Volume (veh/h)	100	0	0	0	153	1359
Number	7	14			5	2
Initial Q (Qb), veh	0	0			0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	
Parking Bus, Adj	1.00	1.00			1.00	1.00
Adj Sat Flow, veh/h/ln	1881	0			1900	1863
Adj Flow Rate, veh/h	109	0			166	1477
Adj No. of Lanes	1	0			0	2
Peak Hour Factor	0.92	0.92			0.92	0.92
Percent Heavy Veh, %	1	0			2	2
Cap, veh/h	0	0			346	2916
Arrive On Green	0.00	0.00			0.32	0.32
Sat Flow, veh/h	0				318	3139
Grp Volume(v), veh/h	0.0				871	772
Grp Sat Flow(s),veh/h/ln					1761	1610
Q Serve(g_s), s					35.4	39.0
Cycle Q Clear(g_c), s					40.3	39.0
Prop In Lane					0.19	
Lane Grp Cap(c), veh/h					1725	1538
V/C Ratio(X)					0.50	0.50
Avail Cap(c_a), veh/h					1725	1538
HCM Platoon Ratio					0.33	0.33
Upstream Filter(I)					1.00	1.00
Uniform Delay (d), s/veh					15.2	14.9
Incr Delay (d2), s/veh					1.1	1.2
Initial Q Delay(d3),s/veh					0.0	0.0
%ile BackOfQ(50%),veh/ln					20.2	17.9
LnGrp Delay(d),s/veh					16.3	16.1
LnGrp LOS					B	B
Approach Vol, veh/h						1643
Approach Delay, s/veh						16.2
Approach LOS						B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2						
Phs Duration (G+Y+Rc), s		100.0						
Change Period (Y+Rc), s		4.5						
Max Green Setting (Gmax), s		70.5						
Max Q Clear Time (g_c+I1), s		42.3						
Green Ext Time (p_c), s		2.1						

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B



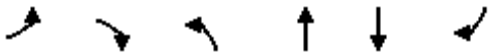
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	98	0	0	70	182	25	1006	90	0	0	0
Future Volume (vph)	60	98	0	0	70	182	25	1006	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5				
Lane Util. Factor		1.00			1.00			0.95				
Frpb, ped/bikes		1.00			0.85			0.98				
Flpb, ped/bikes		0.96			1.00			1.00				
Frt		1.00			0.90			0.99				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1782			1438			3430				
Flt Permitted		0.71			1.00			1.00				
Satd. Flow (perm)		1281			1438			3430				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	108	0	0	77	200	27	1105	99	0	0	0
RTOR Reduction (vph)	0	0	0	0	30	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	174	0	0	247	0	0	1220	0	0	0	0
Confl. Peds. (#/hr)	200		131	131		200	28		72	72		28
Confl. Bikes (#/hr)			9			26			95			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		12.4			12.4			29.1				
Effective Green, g (s)		12.4			12.4			29.1				
Actuated g/C Ratio		0.25			0.25			0.58				
Clearance Time (s)		4.0			4.0			4.5				
Vehicle Extension (s)		2.0			2.0			0.2				
Lane Grp Cap (vph)		317			356			1996				
v/s Ratio Prot					c0.17							
v/s Ratio Perm		0.14						0.36				
v/c Ratio		0.55			0.69			0.61				
Uniform Delay, d1		16.4			17.1			6.8				
Progression Factor		1.02			1.14			1.00				
Incremental Delay, d2		0.8			4.6			1.4				
Delay (s)		17.5			24.1			8.2				
Level of Service		B			C			A				
Approach Delay (s)		17.5			24.1			8.2			0.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	118	23	10	64	25	30	230	15	15	249	40
Future Volume (vph)	35	118	23	10	64	25	30	230	15	15	249	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.84			0.96			0.90	
Flpb, ped/bikes		0.90			0.95			0.95			0.98	
Frt		0.98			0.97			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1524			1465			1609			1561	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1440			1427			1530			1535	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	126	24	11	68	27	32	245	16	16	265	43
RTOR Reduction (vph)	0	2	0	0	7	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	185	0	0	99	0	0	291	0	0	321	0
Confl. Peds. (#/hr)	607		666	666		607	921		695	695		921
Confl. Bikes (#/hr)			26			34			81			29
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	7%	7%	7%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		17.0			17.0			24.5			24.5	
Effective Green, g (s)		17.0			17.0			24.5			24.5	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.5			4.5	
Lane Grp Cap (vph)		489			485			749			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.13			0.07			0.19			c0.21	
v/c Ratio		0.38			0.20			0.39			0.43	
Uniform Delay, d1		12.5			11.7			8.0			8.2	
Progression Factor		1.32			0.48			0.82			1.21	
Incremental Delay, d2		1.9			0.9			1.5			1.5	
Delay (s)		18.4			6.5			8.0			11.5	
Level of Service		B			A			A			B	
Approach Delay (s)		18.4			6.5			8.0			11.5	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	88	44	650	630	45
Future Volume (vph)	95	88	44	650	630	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.83		1.00	1.00	0.96	
Flpb, ped/bikes	1.00		0.84	1.00	1.00	
Frt	0.93		1.00	1.00	0.99	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1444		1397	3343	3163	
Flt Permitted	0.97		0.32	1.00	1.00	
Satd. Flow (perm)	1444		475	3343	3163	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	96	48	707	685	49
RTOR Reduction (vph)	14	0	0	0	10	0
Lane Group Flow (vph)	185	0	48	707	724	0
Confl. Peds. (#/hr)	736	522	298			298
Confl. Bikes (#/hr)		6				17
Heavy Vehicles (%)	0%	0%	8%	8%	9%	9%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	19.0		22.5	22.5	22.5	
Effective Green, g (s)	19.0		22.5	22.5	22.5	
Actuated g/C Ratio	0.38		0.45	0.45	0.45	
Clearance Time (s)	4.0		4.5	4.5	4.5	
Lane Grp Cap (vph)	548		213	1504	1423	
v/s Ratio Prot	c0.13			0.21	c0.23	
v/s Ratio Perm			0.10			
v/c Ratio	0.34		0.23	0.47	0.51	
Uniform Delay, d1	11.0		8.4	9.6	9.8	
Progression Factor	0.69		0.98	1.09	1.13	
Incremental Delay, d2	1.6		2.4	1.0	1.2	
Delay (s)	9.2		10.6	11.5	12.3	
Level of Service	A		B	B	B	
Approach Delay (s)	9.2			11.4	12.3	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

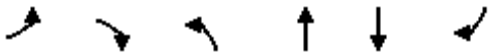
Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	150	156	0	65	133	0	94	85
Future Vol, veh/h	0	150	156	0	65	133	0	94	85
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	6	6	6	8	8	8	17	17	17
Mvmt Flow	0	170	177	0	74	151	0	107	97
Number of Lanes	0	1	0	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	12.2	9.9	11
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	49%	53%
Vol Thru, %	33%	0%	47%
Vol Right, %	67%	51%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	198	306	179
LT Vol	0	150	94
Through Vol	65	0	85
RT Vol	133	156	0
Lane Flow Rate	225	348	203
Geometry Grp	1	1	1
Degree of Util (X)	0.299	0.468	0.307
Departure Headway (Hd)	4.783	4.84	5.44
Convergence, Y/N	Yes	Yes	Yes
Cap	743	737	653
Service Time	2.87	2.914	3.531
HCM Lane V/C Ratio	0.303	0.472	0.311
HCM Control Delay	9.9	12.2	11
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.3	2.5	1.3

Movement	WBL2	WBT	WBR	NBL	NBT	NBR	NEL	NER	NER2
Lane Configurations									
Traffic Volume (vph)	129	15	85	5	278	128	333	129	210
Future Volume (vph)	129	15	85	5	278	128	333	129	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1517		1742	1780		1736	1553	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1517		1742	1780		1736	1553	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	142	16	93	5	305	141	366	142	231
RTOR Reduction (vph)	0	76	0	0	18	0	0	62	0
Lane Group Flow (vph)	142	33	0	5	428	0	366	311	0
Confl. Peds. (#/hr)			54	13					
Confl. Bikes (#/hr)			1			1			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Split	NA		Perm	NA		Prot	Perm	
Protected Phases	3	3			2		4		
Permitted Phases				2				4	
Actuated Green, G (s)	14.1	14.1		24.9	24.9		22.9	22.9	
Effective Green, g (s)	14.1	14.1		24.9	24.9		22.9	22.9	
Actuated g/C Ratio	0.18	0.18		0.32	0.32		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	324	278		564	576		516	462	
v/s Ratio Prot	c0.08	0.02			c0.24		c0.21		
v/s Ratio Perm				0.00				0.20	
v/c Ratio	0.44	0.12		0.01	0.74		0.71	0.67	
Uniform Delay, d1	27.9	26.2		17.6	23.2		24.0	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.2		0.0	6.2		5.6	5.0	
Delay (s)	28.8	26.4		17.6	29.4		29.6	28.7	
Level of Service	C	C		B	C		C	C	
Approach Delay (s)		27.8			29.2		29.1		
Approach LOS		C			C		C		

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	262	0	0	1349	165
Future Volume (vph)	0	262	0	0	1349	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			4.5	4.5
Lane Util. Factor		1.00			0.95	1.00
Frpb, ped/bikes		1.00			1.00	0.74
Flpb, ped/bikes		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			3539	1164
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			3539	1164
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	273	0	0	1405	172
RTOR Reduction (vph)	0	22	0	0	0	25
Lane Group Flow (vph)	0	251	0	0	1405	147
Confl. Peds. (#/hr)	178		117			117
Confl. Bikes (#/hr)		2				38
Heavy Vehicles (%)	4%	4%	0%	0%	2%	2%
Turn Type		Prot			NA	Perm
Protected Phases		4			2	
Permitted Phases						2
Actuated Green, G (s)		20.2			70.3	70.3
Effective Green, g (s)		20.2			70.3	70.3
Actuated g/C Ratio		0.20			0.70	0.70
Clearance Time (s)		5.0			4.5	4.5
Vehicle Extension (s)		2.0			0.2	0.2
Lane Grp Cap (vph)		319			2487	818
v/s Ratio Prot		c0.16			c0.40	
v/s Ratio Perm						0.13
v/c Ratio		0.79			0.56	0.18
Uniform Delay, d1		37.8			7.3	5.0
Progression Factor		1.00			0.46	0.39
Incremental Delay, d2		11.1			0.7	0.4
Delay (s)		49.0			4.1	2.4
Level of Service		D			A	A
Approach Delay (s)	49.0			0.0	3.9	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	49.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	0	0	0	158	1458
Future Vol, veh/h	115	0	0	0	158	1458
Conflicting Peds, #/hr	15	31	0	15	31	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	121	0	0	0	166	1535

Major/Minor	Minor1		Major2	
Conflicting Flow All	1146	-	31	0
Stage 1	31	-	-	-
Stage 2	1115	-	-	-
Critical Hdwy	6.8	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-
Follow-up Hdwy	3.5	-	2.22	-
Pot Cap-1 Maneuver	196	0	1580	-
Stage 1	-	0	-	-
Stage 2	280	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 55	-	1580	-
Mov Cap-2 Maneuver	~ 55	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 80	-	-	-

Approach	WB	SB
HCM Control Delay, s	$ 711.9	2.7
HCM LOS	F	

Minor Lane/Major Mvmt	WBLn1	SBL	SBT
Capacity (veh/h)	55	1580	-
HCM Lane V/C Ratio	2.201	0.105	-
HCM Control Delay (s)	$ 711.9	7.5	2.2
HCM Lane LOS	F	A	A
HCM 95th %tile Q(veh)	12	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	347.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	45	15	20	95	25	22	25	5	20	80	51
Future Vol, veh/h	10	45	15	20	95	25	22	25	5	20	80	51
Conflicting Peds, #/hr	416	0	450	424	0	390	450	0	424	390	0	416
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	10	10	10	0	0	0	0	0	0
Mvmt Flow	12	54	18	24	113	30	26	30	6	24	95	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1196	1135	1026	1168	1163	873	606	0	0	460	0	0
Stage 1	623	623	-	509	509	-	-	-	-	-	-	-
Stage 2	573	512	-	659	654	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.2	6.6	6.3	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.59	4.09	3.39	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	161	201	282	164	188	338	982	-	-	1112	-	-
Stage 1	470	475	-	532	525	-	-	-	-	-	-	-
Stage 2	501	533	-	440	451	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	75	110	~ 22	~ 70	143	614	-	-	727	-	-
Mov Cap-2 Maneuver	-	75	-	~ 22	~ 70	-	-	-	-	-	-	-
Stage 1	281	286	-	329	325	-	-	-	-	-	-	-
Stage 2	162	330	-	180	272	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 1021.1	4.7	1.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	614	-	-	-	57	727	-	-
HCM Lane V/C Ratio	0.043	-	-	-	2.924	0.033	-	-
HCM Control Delay (s)	11.1	0	-	$ 1021.1	10.1	0	-	
HCM Lane LOS	B	A	-	-	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	17.3	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	50	20	0	35	75	25	0	60	270	15
Future Vol, veh/h	0	5	50	20	0	35	75	25	0	60	270	15
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	1	1	1	1	5	5	5	5
Mvmt Flow	0	6	56	22	0	39	84	28	0	67	303	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.5	10.2	13.6
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	7%	26%	11%
Vol Thru, %	78%	67%	56%	80%
Vol Right, %	4%	27%	19%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	345	75	135	178
LT Vol	60	5	35	20
Through Vol	270	50	75	143
RT Vol	15	20	25	15
Lane Flow Rate	388	84	152	200
Geometry Grp	1	1	1	1
Degree of Util (X)	0.537	0.131	0.233	0.296
Departure Headway (Hd)	4.989	5.599	5.52	5.323
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	640	651	676
Service Time	2.989	3.64	3.557	3.353
HCM Lane V/C Ratio	0.532	0.131	0.233	0.296
HCM Control Delay	13.6	9.5	10.2	10.6
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.2	0.4	0.9	1.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	20	143	15
Future Vol, veh/h	0	20	143	15
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	14	14	14	14
Mvmt Flow	0	22	161	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.6
HCM LOS	B

Intersection	
Int Delay, s/veh	0

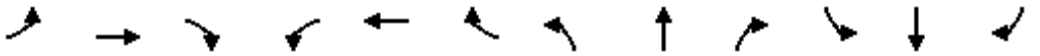
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	50	20	43	75	30	10	240	17	35	242	35
Future Vol, veh/h	10	50	20	43	75	30	10	240	17	35	242	35
Conflicting Peds, #/hr	1155	0	1256	1313	0	1212	1256	0	1313	1212	0	1155
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	13	13	13	6	6	6
Mvmt Flow	11	56	22	48	84	34	11	270	19	39	272	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3199	3250	2861	3338	3261	2804	1567	0	0	1602	0	0
Stage 1	1626	1626	-	1615	1615	-	-	-	-	-	-	-
Stage 2	1573	1624	-	1723	1646	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.23	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.317	-	-	2.254	-	-
Pot Cap-1 Maneuver	~ 6	~ 9	~ 22	~ 5	~ 9	~ 24	391	-	-	397	-	-
Stage 1	130	162	-	132	164	-	-	-	-	-	-	-
Stage 2	140	163	-	114	159	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	0	-	0	0	~ -37	-	-	~ -4	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 6	~ -8	-	~ 12	~ -15	-	-	-	-	-	-	-
Stage 2	927	~ -15	-	915	~ -7	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	-	-	+	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	15	48	70	35	105	41	553	90	90	565	63
Future Volume (vph)	41	15	48	70	35	105	41	553	90	90	565	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.87			1.00	0.60	1.00	1.00	0.48	1.00	0.94	
Flpb, ped/bikes		0.87			0.87	1.00	0.79	1.00	1.00	0.79	1.00	
Frt		0.94			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1328			1586	955	1316	3343	721	1329	3128	
Flt Permitted		0.85			0.72	1.00	0.38	1.00	1.00	0.42	1.00	
Satd. Flow (perm)		1148			1184	955	527	3343	721	584	3128	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	16	52	76	38	114	45	601	98	98	614	68
RTOR Reduction (vph)	0	37	0	0	0	89	0	0	26	0	2	0
Lane Group Flow (vph)	0	76	0	0	114	25	45	601	72	98	680	0
Confl. Peds. (#/hr)	551		182	182		551	375		217	217		375
Confl. Bikes (#/hr)			11			3			17			11
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	8%	8%	8%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Effective Green, g (s)		18.5			18.5	18.5	73.0	73.0	73.0	73.0	73.0	
Actuated g/C Ratio		0.18			0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		212			219	176	384	2440	526	426	2283	
v/s Ratio Prot								0.18			c0.22	
v/s Ratio Perm		0.07			c0.10	0.03	0.09		0.10	0.17		
v/c Ratio		0.36			0.52	0.14	0.12	0.25	0.14	0.23	0.30	
Uniform Delay, d1		35.6			36.8	34.1	4.0	4.4	4.0	4.4	4.7	
Progression Factor		0.95			1.00	1.00	0.57	0.54	0.50	0.62	0.60	
Incremental Delay, d2		1.0			2.2	0.4	0.6	0.2	0.5	1.1	0.3	
Delay (s)		34.9			39.0	34.5	2.9	2.7	2.6	3.8	3.1	
Level of Service		C			D	C	A	A	A	A	A	
Approach Delay (s)		34.9			36.7			2.7			3.2	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	95.3
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	185	15	0	235	340	25	0	5	266	265
Future Vol, veh/h	0	95	185	15	0	235	340	25	0	5	266	265
Peak Hour Factor	0.25	0.98	0.98	0.98	0.25	0.98	0.98	0.98	0.92	0.98	0.98	0.98
Heavy Vehicles, %	3	3	3	3	4	4	4	4	2	1	1	1
Mvmt Flow	0	97	189	15	0	240	347	26	0	5	271	270
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	1
HCM Control Delay	34.6	216.9	26.9
HCM LOS	D	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	32%	39%	6%
Vol Thru, %	98%	0%	63%	57%	53%
Vol Right, %	0%	100%	5%	4%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	271	265	295	600	319
LT Vol	5	0	95	235	20
Through Vol	266	0	185	340	169
RT Vol	0	265	15	25	130
Lane Flow Rate	277	270	301	612	326
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.664	0.596	0.724	1.4	0.76
Departure Headway (Hd)	9.732	8.989	9.771	8.23	9.637
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	373	406	373	441	378
Service Time	7.432	6.689	7.771	6.33	7.637
HCM Lane V/C Ratio	0.743	0.665	0.807	1.388	0.862
HCM Control Delay	29.7	24.1	34.6	216.9	37.5
HCM Lane LOS	D	C	D	F	E
HCM 95th-tile Q	4.6	3.7	5.5	29.3	6.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	20	169	130
Future Vol, veh/h	0	20	169	130
Peak Hour Factor	0.25	0.98	0.98	0.98
Heavy Vehicles, %	1	1	1	1
Mvmt Flow	0	20	172	133
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	37.5
HCM LOS	E

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NWL	NWR
Lane Configurations										
Traffic Vol, veh/h	0	0	455	0	305	0	0	25	0	0
Future Vol, veh/h	0	0	455	0	305	0	0	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	79	87	0	79
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	0	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	3	3
Mvmt Flow	0	0	495	0	332	0	0	27	0	0

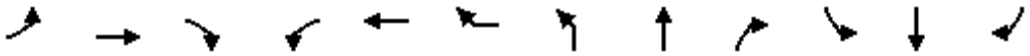
Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	0	411	419	
Stage 1	-	-	-	-	-	-	332	-	
Stage 2	-	-	-	-	-	-	79	-	
Critical Hdwy	-	-	-	-	-	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3	
Pot Cap-1 Maneuver	0	0	-	0	-	0	601	638	
Stage 1	0	0	-	0	-	0	731	-	
Stage 2	0	0	-	0	-	0	-	-	
Platoon blocked, %			-		-				
Mov Cap-1 Maneuver	-	-	-	-	-	-	601	592	
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	-	
Stage 1	-	-	-	-	-	-	731	-	
Stage 2	-	-	-	-	-	-	-	-	

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	592
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	11.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations			↑↑	↱	↰	↑↑		
Traffic Volume (vph)	0	0	857	423	86	1457	0	0
Future Volume (vph)	0	0	857	423	86	1457	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	4.5	4.5	4.5		
Lane Util. Factor			0.95	1.00	1.00	0.95		
Frpb, ped/bikes			1.00	0.92	1.00	1.00		
Flpb, ped/bikes			1.00	1.00	1.00	1.00		
Frt			1.00	0.85	1.00	1.00		
Flt Protected			1.00	1.00	0.95	1.00		
Satd. Flow (prot)			3539	1464	1752	3505		
Flt Permitted			1.00	1.00	0.95	1.00		
Satd. Flow (perm)			3539	1464	1752	3505		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	912	450	91	1550	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	912	450	91	1550	0	0
Confl. Peds. (#/hr)	17	15		17	15			
Confl. Bikes (#/hr)				156				
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%	3%	3%
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		4	2 4		
Permitted Phases				2				
Actuated Green, G (s)			36.2	36.2	13.1	58.3		
Effective Green, g (s)			36.2	36.2	13.1	58.3		
Actuated g/C Ratio			0.62	0.62	0.22	1.00		
Clearance Time (s)			4.5	4.5	4.5			
Vehicle Extension (s)			0.2	0.2	2.0			
Lane Grp Cap (vph)			2197	909	393	3505		
v/s Ratio Prot			0.26		0.05	c0.44		
v/s Ratio Perm				0.31				
v/c Ratio			0.42	0.50	0.23	0.44		
Uniform Delay, d1			5.6	6.0	18.5	0.0		
Progression Factor			1.00	1.00	1.00	1.00		
Incremental Delay, d2			0.0	0.2	0.1	0.0		
Delay (s)			5.7	6.2	18.6	0.0		
Level of Service			A	A	B	A		
Approach Delay (s)	0.0		5.9			1.1	0.0	
Approach LOS	A		A			A	A	

Intersection Summary			
HCM 2000 Control Delay	3.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



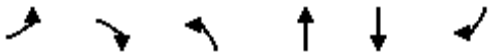
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	341	171	10	320	15	107	280	20	10	113	75
Future Volume (vph)	50	341	171	10	320	15	107	280	20	10	113	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.95			0.99			0.99			0.95	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3363			3512			1826			1763	
Flt Permitted		0.88			0.93			0.85			0.98	
Satd. Flow (perm)		2963			3286			1576			1726	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	55	375	188	11	352	16	118	308	22	11	124	82
RTOR Reduction (vph)	0	49	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	569	0	0	379	0	0	446	0	0	217	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		37.5			37.5			53.5			53.5	
Effective Green, g (s)		37.5			37.5			53.5			53.5	
Actuated g/C Ratio		0.38			0.38			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		1111			1232			843			923	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.12			c0.28			0.13	
v/c Ratio		0.51			0.31			0.53			0.24	
Uniform Delay, d1		24.2			22.1			15.1			12.4	
Progression Factor		1.00			0.91			1.00			1.00	
Incremental Delay, d2		1.7			0.6			2.4			0.6	
Delay (s)		25.9			20.7			17.5			13.0	
Level of Service		C			C			B			B	
Approach Delay (s)		25.9			20.7			17.5			13.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	270	19	5	207	10	38	190	25	20	190	90
Future Volume (veh/h)	82	270	19	5	207	10	38	190	25	20	190	90
Number	1	6	16	5	2	12	7	4	14	3	8	18
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	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	89	293	21	5	225	11	41	207	27	22	207	98
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	1127	83	50	1611	78	119	573	71	63	491	221
Arrive On Green	0.65	0.65	0.65	0.49	0.49	0.49	0.43	0.43	0.43	0.85	0.85	0.85
Sat Flow, veh/h	601	2324	171	27	3322	160	182	1349	167	59	1155	520
Grp Volume(v), veh/h	198	0	205	126	0	115	275	0	0	327	0	0
Grp Sat Flow(s),veh/h/ln	1430	0	1665	1842	0	1667	1698	0	0	1734	0	0
Q Serve(g_s), s	2.9	0.0	5.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	5.2	3.7	0.0	3.8	10.2	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.45		0.10	0.04		0.10	0.15		0.10	0.07		0.30
Lane Grp Cap(c), veh/h	746	0	808	931	0	808	763	0	0	775	0	0
V/C Ratio(X)	0.27	0.00	0.25	0.14	0.00	0.14	0.36	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	746	0	808	931	0	808	763	0	0	775	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	10.1	14.2	0.0	14.2	19.5	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.8	0.3	0.0	0.4	1.3	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.5	2.0	0.0	1.8	5.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	11.1	0.0	10.8	14.5	0.0	14.6	20.8	0.0	0.0	6.3	0.0	0.0
LnGrp LOS	B		B	B		B	C			A		
Approach Vol, veh/h		403			241			275			327	
Approach Delay, s/veh		11.0			14.6			20.8			6.3	
Approach LOS		B			B			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		53.0		47.0		53.0		47.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		42.5		48.5		42.5
Max Q Clear Time (g_c+I1), s		5.8		12.2		8.7		6.4
Green Ext Time (p_c), s		0.7		0.7		0.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	150	82	524	553	135
Future Volume (vph)	160	150	82	524	553	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		6.0	6.0	6.0	
Lane Util. Factor	0.97		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.92	
Flpb, ped/bikes	1.00		0.87	1.00	1.00	
Frt	0.93		1.00	1.00	0.97	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	2940		1423	3252	2975	
Flt Permitted	0.97		0.35	1.00	1.00	
Satd. Flow (perm)	2940		521	3252	2975	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	167	156	85	546	576	141
RTOR Reduction (vph)	0	0	0	0	21	0
Lane Group Flow (vph)	323	0	85	546	696	0
Confl. Peds. (#/hr)	6	3	383			383
Confl. Bikes (#/hr)						11
Heavy Vehicles (%)	12%	12%	11%	11%	8%	8%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	30.5		59.0	59.0	59.0	
Effective Green, g (s)	30.5		59.0	59.0	59.0	
Actuated g/C Ratio	0.30		0.59	0.59	0.59	
Clearance Time (s)	4.5		6.0	6.0	6.0	
Lane Grp Cap (vph)	896		307	1918	1755	
v/s Ratio Prot	c0.11			0.17	c0.23	
v/s Ratio Perm			0.16			
v/c Ratio	0.36		0.28	0.28	0.40	
Uniform Delay, d1	27.1		10.0	10.1	11.0	
Progression Factor	0.72		0.40	0.42	0.47	
Incremental Delay, d2	1.1		2.0	0.3	0.7	
Delay (s)	20.6		6.0	4.6	5.8	
Level of Service	C		A	A	A	
Approach Delay (s)	20.6			4.8	5.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	131.5
Intersection LOS	F

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	330	287	0	133	315	0	408	206
Future Vol, veh/h	0	330	287	0	133	315	0	408	206
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0
Mvmt Flow	0	359	312	0	145	342	0	443	224
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	152.2	61.4	161.8
HCM LOS	F	F	F

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	66%	0%	30%
Vol Thru, %	0%	53%	70%
Vol Right, %	34%	47%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	614	617	448
LT Vol	408	0	133
Through Vol	0	330	315
RT Vol	206	287	0
Lane Flow Rate	667	671	487
Geometry Grp	1	1	1
Degree of Util (X)	1.275	1.249	0.955
Departure Headway (Hd)	7.318	7.475	8.214
Convergence, Y/N	Yes	Yes	Yes
Cap	501	490	448
Service Time	5.318	5.475	6.214
HCM Lane V/C Ratio	1.331	1.369	1.087
HCM Control Delay	161.8	152.2	61.4
HCM Lane LOS	F	F	F
HCM 95th-tile Q	26	24.3	11.4

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	95	53	56	0	50	41	50	0	35	262	25
Future Vol, veh/h	0	95	53	56	0	50	41	50	0	35	262	25
Peak Hour Factor	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89	0.85	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	2	2	2	2	7	7	7	7
Mvmt Flow	0	107	60	63	0	56	46	56	0	39	294	28
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.3	11.9	17
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	47%	35%	3%
Vol Thru, %	81%	26%	29%	77%
Vol Right, %	8%	27%	35%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	322	204	141	289
LT Vol	35	95	50	10
Through Vol	262	53	41	222
RT Vol	25	56	50	57
Lane Flow Rate	362	229	158	325
Geometry Grp	1	1	1	1
Degree of Util (X)	0.59	0.396	0.279	0.522
Departure Headway (Hd)	5.873	6.213	6.341	5.782
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	578	566	627
Service Time	3.886	4.261	4.395	3.795
HCM Lane V/C Ratio	0.585	0.396	0.279	0.518
HCM Control Delay	17	13.3	11.9	14.9
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.8	1.9	1.1	3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	10	222	57
Future Vol, veh/h	0	10	222	57
Peak Hour Factor	0.85	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	249	64
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.9
HCM LOS	B

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	20	68	10	0	35	111	25	0	5	213	16
Future Vol, veh/h	0	20	68	10	0	35	111	25	0	5	213	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	1	2	2	2	2	3	3	3	3
Mvmt Flow	0	23	78	11	0	40	128	29	0	6	245	18
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

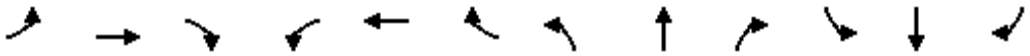
Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.8	10.8	11.4
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	20%	20%	2%
Vol Thru, %	91%	69%	65%	89%
Vol Right, %	7%	10%	15%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	234	98	171	219
LT Vol	5	20	35	5
Through Vol	213	68	111	194
RT Vol	16	10	25	20
Lane Flow Rate	269	113	197	252
Geometry Grp	1	1	1	1
Degree of Util (X)	0.386	0.175	0.297	0.358
Departure Headway (Hd)	5.163	5.602	5.441	5.126
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	640	660	702
Service Time	3.193	3.642	3.476	3.159
HCM Lane V/C Ratio	0.386	0.177	0.298	0.359
HCM Control Delay	11.4	9.8	10.8	11
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.8	0.6	1.2	1.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	5	194	20
Future Vol, veh/h	0	5	194	20
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	6	223	23
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11
HCM LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	32	26	112	109	149	23	426	54	92	572	34
Future Volume (vph)	31	32	26	112	109	149	23	426	54	92	572	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.84			1.00	0.57	1.00	0.96		1.00	0.98	
Flpb, ped/bikes		0.91			0.78	1.00	0.90	1.00		0.86	1.00	
Frt		0.96			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1344			1307	836	1489	3126		1427	3224	
Flt Permitted		0.86			0.82	1.00	0.26	1.00		0.35	1.00	
Satd. Flow (perm)		1179			1096	836	401	3126		527	3224	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	34	27	118	115	157	24	448	57	97	602	36
RTOR Reduction (vph)	0	15	0	0	0	110	0	10	0	0	4	0
Lane Group Flow (vph)	0	79	0	0	233	47	24	495	0	97	634	0
Confl. Peds. (#/hr)	825		1636	1636		825	184		194	194		184
Confl. Bikes (#/hr)			223			90			26			12
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	9%	9%	9%	9%	9%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1		1	2			2		
Actuated Green, G (s)		30.0			30.0	30.0	30.5	30.5		30.5	30.5	
Effective Green, g (s)		30.0			30.0	30.0	30.5	30.5		30.5	30.5	
Actuated g/C Ratio		0.30			0.30	0.30	0.30	0.30		0.30	0.30	
Clearance Time (s)		3.0			3.0	3.0	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)		353			328	250	122	953		160	983	
v/s Ratio Prot								0.16			c0.20	
v/s Ratio Perm		0.07			c0.21	0.06	0.06			0.18		
v/c Ratio		0.22			0.71	0.19	0.20	0.52		0.61	0.64	
Uniform Delay, d1		26.3			31.1	26.0	25.7	28.7		29.6	30.1	
Progression Factor		1.00			1.00	1.00	1.33	1.29		0.71	0.70	
Incremental Delay, d2		1.5			12.3	1.7	3.0	1.7		15.0	3.1	
Delay (s)		27.7			43.4	27.6	37.2	38.9		36.1	24.2	
Level of Service		C			D	C	D	D		D	C	
Approach Delay (s)		27.7			37.1			38.8			25.7	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Lane Configurations									
Traffic Vol, veh/h	0	5	153	0	15	20	0	260	5
Future Vol, veh/h	0	5	153	0	15	20	0	260	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	11	11	0	0	0	14	14	14
Mvmt Flow	0	6	178	0	17	23	0	302	6
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.6	8.3	11.2
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	0%	43%
Vol Thru, %	0%	3%	57%
Vol Right, %	2%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	265	158	35
LT Vol	260	0	15
Through Vol	0	5	20
RT Vol	5	153	0
Lane Flow Rate	308	184	41
Geometry Grp	1	1	1
Degree of Util (X)	0.413	0.222	0.056
Departure Headway (Hd)	4.827	4.351	4.99
Convergence, Y/N	Yes	Yes	Yes
Cap	746	825	717
Service Time	2.859	2.374	3.025
HCM Lane V/C Ratio	0.413	0.223	0.057
HCM Control Delay	11.2	8.6	8.3
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2	0.8	0.2

Intersection	
Intersection Delay, s/veh	101.6
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations									
Traffic Vol, veh/h	0	519	480	0	135	591	0	360	60
Future Vol, veh/h	0	519	480	0	135	591	0	360	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4
Mvmt Flow	0	546	505	0	142	622	0	379	63
Number of Lanes	0	1	1	0	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	106.2	124.4	51.2
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	591	519	480	360	60
LT Vol	0	0	519	0	360	0
Through Vol	135	0	0	0	0	60
RT Vol	0	591	0	480	0	0
Lane Flow Rate	142	622	546	505	379	63
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.312	1.243	1.231	0.966	0.916	0.144
Departure Headway (Hd)	8.184	7.458	8.561	7.322	9.251	8.731
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	442	491	426	500	394	413
Service Time	5.884	5.158	6.261	5.022	6.951	6.431
HCM Lane V/C Ratio	0.321	1.267	1.282	1.01	0.962	0.153
HCM Control Delay	14.6	149.5	149.5	59.3	57.6	12.9
HCM Lane LOS	B	F	F	F	F	B
HCM 95th-tile Q	1.3	24	21.3	12.3	9.7	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	779	92	15	848	121	15
Future Volume (vph)	779	92	15	848	121	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.99		1.00	1.00	0.99	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	1816		1787	1881	1746	
Flt Permitted	1.00		0.21	1.00	0.96	
Satd. Flow (perm)	1816		396	1881	1746	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	838	99	16	912	130	16
RTOR Reduction (vph)	4	0	0	0	5	0
Lane Group Flow (vph)	933	0	16	912	141	0
Confl. Peds. (#/hr)		34	34		28	18
Confl. Bikes (#/hr)		5				17
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			2	4	
Permitted Phases			2			
Actuated Green, G (s)	72.6		72.6	72.6	17.4	
Effective Green, g (s)	72.6		72.6	72.6	17.4	
Actuated g/C Ratio	0.73		0.73	0.73	0.17	
Clearance Time (s)	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	0.2		0.2	0.2	2.0	
Lane Grp Cap (vph)	1318		287	1365	303	
v/s Ratio Prot	c0.51			0.48	c0.08	
v/s Ratio Perm			0.04			
v/c Ratio	0.71		0.06	0.67	0.47	
Uniform Delay, d1	7.7		3.9	7.3	37.1	
Progression Factor	1.00		0.20	0.85	1.00	
Incremental Delay, d2	3.2		0.3	2.2	0.4	
Delay (s)	11.0		1.1	8.4	37.5	
Level of Service	B		A	A	D	
Approach Delay (s)	11.0			8.3	37.5	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

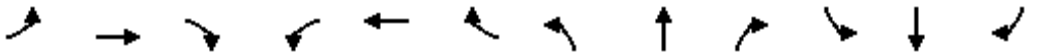
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	914	5	35	680	88	45	105	30	93	40	210
Future Volume (veh/h)	159	914	5	35	680	88	45	105	30	93	40	210
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.89	1.00		0.80	1.00		0.83
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	1845	1845	1900	1881	1881	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	173	993	5	38	739	96	49	114	33	101	43	228
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	1	1	1	6	6	6	4	4	4
Cap, veh/h	394	1633	8	187	1054	137	85	194	56	200	47	249
Arrive On Green	0.22	0.46	0.46	0.21	0.67	0.67	0.05	0.15	0.15	0.11	0.22	0.22
Sat Flow, veh/h	1757	3574	18	1792	3129	406	1707	1257	364	1740	215	1140
Grp Volume(v), veh/h	173	487	511	38	422	413	49	0	147	101	0	271
Grp Sat Flow(s),veh/h/ln	1757	1752	1839	1792	1787	1748	1707	0	1621	1740	0	1356
Q Serve(g_s), s	8.5	20.9	20.9	1.8	14.6	14.6	2.8	0.0	8.4	5.5	0.0	19.5
Cycle Q Clear(g_c), s	8.5	20.9	20.9	1.8	14.6	14.6	2.8	0.0	8.4	5.5	0.0	19.5
Prop In Lane	1.00		0.01	1.00		0.23	1.00		0.22	1.00		0.84
Lane Grp Cap(c), veh/h	394	801	841	187	602	589	85	0	250	200	0	296
V/C Ratio(X)	0.44	0.61	0.61	0.20	0.70	0.70	0.57	0.00	0.59	0.51	0.00	0.91
Avail Cap(c_a), veh/h	394	801	841	187	602	589	119	0	313	209	0	329
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.89	0.89	0.89	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	20.4	20.4	36.1	13.2	13.2	46.5	0.0	39.4	41.6	0.0	38.1
Incr Delay (d2), s/veh	0.2	2.2	2.1	0.2	6.0	6.1	2.3	0.0	0.8	0.7	0.0	26.0
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	4.1	10.5	11.0	0.9	7.8	7.9	1.4	0.0	3.9	2.7	0.0	9.4
LnGrp Delay(d),s/veh	33.6	22.6	22.5	36.3	19.1	19.3	48.7	0.0	40.2	42.3	0.0	64.2
LnGrp LOS	C	C	C	D	B	B	D		D	D		E
Approach Vol, veh/h		1171			873			196			372	
Approach Delay, s/veh		24.2			20.0			42.3			58.3	
Approach LOS		C			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.4	38.2	15.5	19.9	14.4	50.2	9.0	26.4
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	18.0	33.7	12.0	19.3	6.0	45.7	7.0	24.3
Max Q Clear Time (g_c+I1), s	10.5	16.6	7.5	10.4	3.8	22.9	4.8	21.5
Green Ext Time (p_c), s	0.2	3.4	0.1	0.3	0.1	4.4	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	949	0	5	704	63	40	60	70	183	5	58
Future Volume (vph)	88	949	0	5	704	63	40	60	70	183	5	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.89		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99	1.00		0.94	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	
Satd. Flow (prot)	1787	3574		1752	3310			1839	1445		1622	
Flt Permitted	0.95	1.00		0.95	1.00			0.84	1.00		0.72	
Satd. Flow (perm)	1787	3574		1752	3310			1570	1445		1205	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	90	968	0	5	718	64	41	61	71	187	5	59
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	51	0	12	0
Lane Group Flow (vph)	90	968	0	5	776	0	0	102	20	0	239	0
Confl. Peds. (#/hr)	263		207	207		263	54		95	95		54
Confl. Bikes (#/hr)						6						2
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	10.2	57.8		1.0	48.6			28.2	28.2		28.2	
Effective Green, g (s)	10.2	57.8		1.0	48.6			28.2	28.2		28.2	
Actuated g/C Ratio	0.10	0.58		0.01	0.49			0.28	0.28		0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	182	2065		17	1608			442	407		339	
v/s Ratio Prot	c0.05	c0.27		0.00	0.23							
v/s Ratio Perm								0.06	0.01		c0.20	
v/c Ratio	0.49	0.47		0.29	0.48			0.23	0.05		0.70	
Uniform Delay, d1	42.5	12.2		49.1	17.3			27.6	26.1		32.2	
Progression Factor	0.64	0.53		0.77	0.06			1.00	1.00		1.00	
Incremental Delay, d2	0.7	0.7		2.5	0.7			0.3	0.1		6.5	
Delay (s)	28.0	7.1		40.5	1.7			27.8	26.2		38.7	
Level of Service	C	A		D	A			C	C		D	
Approach Delay (s)		8.9			1.9			27.2			38.7	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	1135	15	58	667	234	15	212	302	477	138	90
Future Volume (vph)	52	1135	15	58	667	234	15	212	302	477	138	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		0.95		0.95	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.88		0.81		1.00	0.93	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.98	
Satd. Flow (prot)	1787	3537		1703	3406	1343		2643		1573	1450	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00		0.95	0.98	
Satd. Flow (perm)	1787	3537		1703	3406	1343		2643		1573	1450	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	55	1207	16	62	710	249	16	226	321	507	147	96
RTOR Reduction (vph)	0	1	0	0	0	31	0	96	0	0	12	0
Lane Group Flow (vph)	55	1222	0	62	710	218	0	467	0	375	363	0
Confl. Peds. (#/hr)	141		435	435		141	199		265	265		199
Confl. Bikes (#/hr)			2			28			37			18
Heavy Vehicles (%)	1%	1%	1%	6%	6%	6%	1%	1%	1%	9%	9%	9%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	6		5	2	4	3	3		4	4	
Permitted Phases						2						
Actuated Green, G (s)	4.6	32.5		4.0	31.9	56.0		21.4		24.1	24.1	
Effective Green, g (s)	4.6	32.5		4.0	31.9	56.0		21.4		24.1	24.1	
Actuated g/C Ratio	0.05	0.32		0.04	0.32	0.56		0.21		0.24	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)	2.0	0.2		2.0	0.2	3.0		2.0		3.0	3.0	
Lane Grp Cap (vph)	82	1149		68	1086	812		565		379	349	
v/s Ratio Prot	0.03	c0.35		0.04	c0.21	0.06		c0.18		0.24	c0.25	
v/s Ratio Perm						0.10						
v/c Ratio	0.67	1.06		0.91	0.65	0.27		0.83		0.99	1.04	
Uniform Delay, d1	47.0	33.8		47.8	29.3	11.4		37.5		37.8	38.0	
Progression Factor	0.86	0.83		1.00	1.00	1.00		1.00		0.92	0.93	
Incremental Delay, d2	14.5	44.3		77.6	3.1	0.2		9.2		37.3	52.8	
Delay (s)	55.0	72.4		125.4	32.4	11.6		46.7		72.0	88.0	
Level of Service	E	E		F	C	B		D		E	F	
Approach Delay (s)		71.7			32.9			46.7			80.0	
Approach LOS		E			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	58.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	157	116	60	65	15
Future Vol, veh/h	30	157	116	60	65	15
Conflicting Peds, #/hr	77	0	0	54	54	77
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	6	6	4	4
Mvmt Flow	33	173	127	66	71	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	270	0	-	0	529	314
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	292	-
Critical Hdwy	4.13	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.227	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1288	-	-	-	507	722
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1205	-	-	-	431	632
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	684	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	14.7
HCM LOS			B

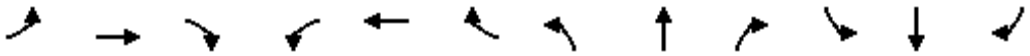
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1205	-	-	-	458
HCM Lane V/C Ratio	0.027	-	-	-	0.192
HCM Control Delay (s)	8.1	0	-	-	14.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection	
Intersection Delay, s/veh	18.3
Intersection LOS	C

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	145	77	0	136	364	0	126	40
Future Vol, veh/h	0	145	77	0	136	364	0	126	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	2	2	2	3	3	3
Mvmt Flow	0	161	86	0	151	404	0	140	44
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.6	23.4	10.4
HCM LOS	B	C	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	27%	65%	0%
Vol Thru, %	73%	0%	76%
Vol Right, %	0%	35%	24%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	500	222	166
LT Vol	136	145	0
Through Vol	364	0	126
RT Vol	0	77	40
Lane Flow Rate	556	247	184
Geometry Grp	1	1	1
Degree of Util (X)	0.778	0.395	0.273
Departure Headway (Hd)	5.042	5.772	5.325
Convergence, Y/N	Yes	Yes	Yes
Cap	722	622	673
Service Time	3.042	3.815	3.363
HCM Lane V/C Ratio	0.77	0.397	0.273
HCM Control Delay	23.4	12.6	10.4
HCM Lane LOS	C	B	B
HCM 95th-tile Q	7.6	1.9	1.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Yield			Stop			Stop			Stop	
Traffic Volume (vph)	10	148	10	5	485	5	0	0	5	0	0	10
Future Volume (vph)	10	148	10	5	485	5	0	0	5	0	0	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	156	11	5	511	5	0	0	5	0	0	11

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	11	167	521	5	11
Volume Left (vph)	11	0	5	0	0
Volume Right (vph)	0	11	5	5	11
Hadj (s)	0.62	0.07	0.08	-0.60	-0.60
Departure Headway (s)	5.5	5.0	4.3	4.9	4.8
Degree Utilization, x	0.02	0.23	0.62	0.01	0.01
Capacity (veh/h)	642	710	822	642	642
Control Delay (s)	7.4	8.2	14.2	7.9	7.9
Approach Delay (s)	8.2		14.2	7.9	7.9
Approach LOS	A		B	A	A

Intersection Summary				
Delay	12.6			
Level of Service	B			
Intersection Capacity Utilization	49.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	139	2340	91	91	1096
Future Vol, veh/h	109	139	2340	91	91	1096
Conflicting Peds, #/hr	0	3	0	0	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	115	146	2463	96	96	1154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3282	1285	0	0	2562	0
Stage 1	2514	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Critical Hdwy	7.5	6.9	-	-	4.14	-
Critical Hdwy Stg 1	6.5	-	-	-	-	-
Critical Hdwy Stg 2	6.5	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	~ 4	158	-	-	170	-
Stage 1	~ 29	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	157	-	-	170	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	~ 29	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	3.9
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	170	-
HCM Lane V/C Ratio	-	-	-	0.563	-
HCM Control Delay (s)	-	-	-	50.5	-
HCM Lane LOS	-	-	-	F	-
HCM 95th %tile Q(veh)	-	-	-	2.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	40	2366	20	0	1210
Future Vol, veh/h	5	40	2366	20	0	1210
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	5	42	2491	21	0	1274

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3144	1262	0	0	-	-
Stage 1	2504	-	-	-	-	-
Stage 2	640	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	8	161	-	-	0	-
Stage 1	47	-	-	-	0	-
Stage 2	487	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	8	160	-	-	-	-
Mov Cap-2 Maneuver	44	-	-	-	-	-
Stage 1	47	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	50.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	124	-
HCM Lane V/C Ratio	-	-	0.382	-
HCM Control Delay (s)	-	-	50.9	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	1.6	-

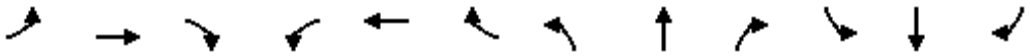
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	2391	25	10	1200
Future Vol, veh/h	0	5	2391	25	10	1200
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	5	2491	26	10	1250

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1268	0	0	2522	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.22	-
Pot Cap-1 Maneuver	0	162	-	-	176	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	161	-	-	175	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

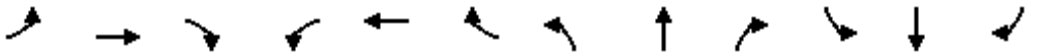
Approach	WB	NB	SB
HCM Control Delay, s	28.1	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	175	-
HCM Lane V/C Ratio	-	-	0.032	0.06	-
HCM Control Delay (s)	-	-	28.1	26.9	-
HCM Lane LOS	-	-	D	D	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	508	31	80	189	0	99	0	1749	5	39	985	176
Future Volume (vph)	508	31	80	189	0	99	0	1749	5	39	985	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Lane Util. Factor	0.95	0.95	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.86	1.00		0.99		1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.94		1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00			0.98	
Flt Protected	0.95	0.96	1.00	0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1681	1695	1364	1695		1594		3568			3360	
Flt Permitted	0.95	0.96	1.00	0.38		1.00		1.00			0.69	
Satd. Flow (perm)	1681	1695	1364	675		1594		3568			2327	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	529	32	83	197	0	103	0	1822	5	41	1026	183
RTOR Reduction (vph)	0	0	59	0	0	10	0	0	0	0	11	0
Lane Group Flow (vph)	280	281	24	197	0	93	0	1827	0	0	1239	0
Confl. Peds. (#/hr)			76	76			37		176	176		37
Confl. Bikes (#/hr)			8			1						1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4		4	4		4				2		
Actuated Green, G (s)	35.1	35.1	35.1	35.1		35.1		75.9			75.9	
Effective Green, g (s)	35.1	35.1	35.1	35.1		35.1		75.9			75.9	
Actuated g/C Ratio	0.29	0.29	0.29	0.29		0.29		0.63			0.63	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5			4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		0.2			0.2	
Lane Grp Cap (vph)	491	495	398	197		466		2256			1471	
v/s Ratio Prot								0.51				
v/s Ratio Perm	0.17	0.17	0.02	c0.29		0.06					c0.53	
v/c Ratio	0.57	0.57	0.06	1.00		0.20		0.81			0.84	
Uniform Delay, d1	36.0	36.0	30.6	42.5		31.9		16.6			17.3	
Progression Factor	0.71	0.71	1.51	1.00		1.00		0.64			1.00	
Incremental Delay, d2	0.7	0.6	0.0	64.1		0.1		1.5			6.0	
Delay (s)	26.4	26.3	46.2	106.6		32.0		12.1			23.4	
Level of Service	C	C	D	F		C		B			C	
Approach Delay (s)		28.9			81.0			12.1			23.4	
Approach LOS		C			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



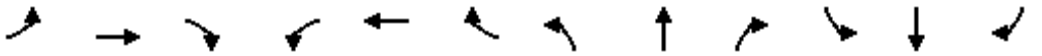
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	504	1335	60	45	728	40	0	0	0	0	0	231
Future Volume (vph)	504	1335	60	45	728	40	0	0	0	0	0	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95							1.00
Frpb, ped/bikes	1.00	1.00	0.62	1.00	0.98							1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.97	1.00							1.00
Frt	1.00	1.00	0.85	1.00	0.99							0.86
Flt Protected	0.95	1.00	1.00	0.95	1.00							1.00
Satd. Flow (prot)	1805	3610	1009	1758	3519							1565
Flt Permitted	0.95	1.00	1.00	0.13	1.00							1.00
Satd. Flow (perm)	1805	3610	1009	249	3519							1565
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	542	1435	65	48	783	43	0	0	0	0	0	248
RTOR Reduction (vph)	0	0	33	0	6	0	0	0	0	0	0	24
Lane Group Flow (vph)	542	1435	32	48	820	0	0	0	0	0	0	224
Confl. Peds. (#/hr)			215	215		448			748	748		
Confl. Bikes (#/hr)			8			9		9				1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	6%	6%	6%	5%	5%	5%
Turn Type	Prot	NA	Perm	Perm	NA							Over
Protected Phases	2	1			1							2
Permitted Phases			1	1								
Actuated Green, G (s)	20.3	29.7	29.7	29.7	29.7							20.3
Effective Green, g (s)	20.3	29.7	29.7	29.7	29.7							20.3
Actuated g/C Ratio	0.34	0.49	0.49	0.49	0.49							0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0							5.0
Vehicle Extension (s)	2.0	0.2	0.2	0.2	0.2							2.0
Lane Grp Cap (vph)	610	1786	499	123	1741							529
v/s Ratio Prot	c0.30	c0.40			0.23							0.14
v/s Ratio Perm			0.03	0.19								
v/c Ratio	0.89	0.80	0.06	0.39	0.47							0.42
Uniform Delay, d1	18.8	12.7	7.9	9.5	10.0							15.3
Progression Factor	1.00	1.00	1.00	0.64	0.69							1.16
Incremental Delay, d2	14.3	3.9	0.2	8.7	0.9							0.2
Delay (s)	33.1	16.6	8.2	14.8	7.8							17.9
Level of Service	C	B	A	B	A							B
Approach Delay (s)		20.7			8.2			0.0			17.9	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1320	15	40	808	65	65
Future Volume (vph)	1320	15	40	808	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.75	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3438	1150	1656	3312	1805	1591
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3438	1150	1656	3312	1805	1591
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1404	16	43	860	69	69
RTOR Reduction (vph)	0	1	0	0	0	64
Lane Group Flow (vph)	1404	15	43	860	69	5
Confl. Peds. (#/hr)		78	78		44	
Confl. Bikes (#/hr)		8				1
Heavy Vehicles (%)	5%	5%	9%	9%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	Perm
Protected Phases	2		7!	6!	1!	
Permitted Phases		2		3	3!	1
Actuated Green, G (s)	83.3	83.3	14.1	96.9	9.1	9.1
Effective Green, g (s)	83.3	83.3	14.1	96.9	9.1	9.1
Actuated g/C Ratio	0.69	0.69	0.12	0.81	0.08	0.08
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	0.2	0.2	2.0	0.2	2.0	2.0
Lane Grp Cap (vph)	2386	798	194	2674	136	120
v/s Ratio Prot	c0.41		c0.03	0.26	c0.04	
v/s Ratio Perm		0.01				0.00
v/c Ratio	0.59	0.02	0.22	0.32	0.51	0.04
Uniform Delay, d1	9.5	5.7	48.0	3.0	53.3	51.4
Progression Factor	1.35	1.72	0.74	3.23	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.0	1.1	0.1
Delay (s)	13.4	9.8	35.6	9.7	54.4	51.5
Level of Service	B	A	D	A	D	D
Approach Delay (s)	13.4			10.9	52.9	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1385	0	71	20	752	1734	42	5	1219	20
Future Volume (vph)	0	0	1385	0	71	20	752	1734	42	5	1219	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.5		5.0	5.0	7.0	5.0		6.0	5.0	5.0
Lane Util. Factor			0.88		1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes			1.00		1.00	1.00	1.00	0.99		1.00	1.00	0.66
Flpb, ped/bikes			1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt			0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)			2787		1863	1583	3433	3476		1752	3505	1030
Flt Permitted			1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)			2787		1863	1583	3433	3476		1752	3505	1030
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	1428	0	73	21	775	1788	43	5	1257	21
RTOR Reduction (vph)	0	0	271	0	0	19	0	2	0	0	0	12
Lane Group Flow (vph)	0	0	1157	0	73	2	775	1829	0	5	1257	9
Confl. Peds. (#/hr)							255		334	334		255
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type			Perm		NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases					3!		4 5	1 5		7!	1	
Permitted Phases			9 1 3			3						1
Actuated Green, G (s)			102.2		12.6	12.6	30.2	66.0		1.0	53.2	53.2
Effective Green, g (s)			97.2		12.6	12.6	30.2	59.0		1.0	53.2	53.2
Actuated g/C Ratio			0.81		0.10	0.10	0.25	0.49		0.01	0.44	0.44
Clearance Time (s)					5.0	5.0				6.0	5.0	5.0
Vehicle Extension (s)					2.0	2.0				2.0	0.2	0.2
Lane Grp Cap (vph)			2257		195	166	863	1709		14	1553	456
v/s Ratio Prot					0.04		c0.23	c0.53		0.00	0.36	
v/s Ratio Perm			c0.42			0.00						0.01
v/c Ratio			0.51		0.37	0.01	0.90	1.07		0.36	0.81	0.02
Uniform Delay, d1			3.7		50.0	48.1	43.4	30.5		59.2	29.0	18.8
Progression Factor			1.00		1.00	1.00	0.75	1.26		0.85	0.71	1.00
Incremental Delay, d2			0.1		0.4	0.0	10.1	41.8		3.2	2.7	0.0
Delay (s)			3.8		50.5	48.1	42.8	80.2		53.6	23.4	18.8
Level of Service			A		D	D	D	F		D	C	B
Approach Delay (s)		3.8			49.9			69.0			23.4	
Approach LOS		A			D			E			C	

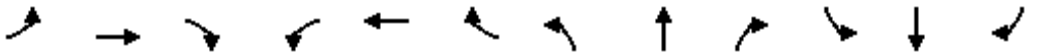
Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	NWR
Lane Configurations								
Traffic Volume (vph)	877	200	1846	30	30	1972	577	30
Future Volume (vph)	877	200	1846	30	30	1972	577	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.5	4.0	4.5		4.0
Lane Util. Factor	0.88	0.97	0.95	1.00	1.00	0.91		1.00
Frt	0.85	1.00	1.00	0.85	1.00	0.96		0.86
Flt Protected	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	2787	3433	3539	1583	1770	4907		1611
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	2787	3433	3539	1583	1770	4907		1611
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.96	0.92	0.92
Adj. Flow (vph)	914	217	1923	33	33	2054	627	33
RTOR Reduction (vph)	244	0	0	16	0	33	0	0
Lane Group Flow (vph)	670	217	1923	17	33	2648	0	33
Turn Type	custom	Prot	NA	Perm	Prot	NA		Prot
Protected Phases	3 1	5	2		1	6		4
Permitted Phases				2		3		
Actuated Green, G (s)	36.0	10.0	61.9	61.9	18.0	87.9		5.6
Effective Green, g (s)	36.0	10.0	61.9	61.9	18.0	87.9		5.6
Actuated g/C Ratio	0.30	0.08	0.52	0.52	0.15	0.73		0.05
Clearance Time (s)		4.0	4.5	4.5	4.0	4.5		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	836	286	1825	816	265	3594		75
v/s Ratio Prot	c0.24	0.06	c0.54		0.02	0.43		c0.02
v/s Ratio Perm				0.01		0.11		
v/c Ratio	0.80	0.76	1.05	0.02	0.12	0.74		0.44
Uniform Delay, d1	38.7	53.8	29.1	14.2	44.2	9.3		55.7
Progression Factor	1.00	0.97	0.96	1.00	0.82	2.62		1.00
Incremental Delay, d2	5.6	8.1	34.0	0.0	0.2	0.7		4.1
Delay (s)	44.3	60.4	62.0	14.3	36.6	25.1		59.8
Level of Service	D	E	E	B	D	C		E
Approach Delay (s)			61.1			25.2		
Approach LOS			E			C		

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	608	25	60	115	5	425	90	808	5	165	960	846
Future Volume (vph)	608	25	60	115	5	425	90	808	5	165	960	846
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.90
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1438	1752	1845	1568	3367	3463		1752	3505	1415
Flt Permitted	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1438	1752	1845	1568	3367	3463		1752	3505	1415
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	640	26	63	121	5	447	95	851	5	174	1011	891
RTOR Reduction (vph)	0	0	49	0	0	64	0	0	0	0	0	530
Lane Group Flow (vph)	333	333	14	121	5	383	95	856	0	174	1011	361
Confl. Peds. (#/hr)	3		60	60		3	111		170	170		111
Confl. Bikes (#/hr)						5			8			10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA	custom	Prot	NA		Prot	NA	Perm
Protected Phases	3	3		4	4	4 1	6	2		1	5	
Permitted Phases			3			4						5
Actuated Green, G (s)	26.6	26.6	26.6	20.7	20.7	39.7	6.1	40.2		14.5	48.6	48.6
Effective Green, g (s)	26.6	26.6	26.6	20.7	20.7	39.7	6.1	40.2		14.5	48.6	48.6
Actuated g/C Ratio	0.22	0.22	0.22	0.17	0.17	0.33	0.05	0.34		0.12	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.0	0.2		2.0	0.2	0.2
Lane Grp Cap (vph)	372	375	318	302	318	518	171	1160		211	1419	573
v/s Ratio Prot	c0.20	0.20		0.07	0.00	c0.24	0.03	c0.25		0.10	0.29	
v/s Ratio Perm			0.01									0.25
v/c Ratio	0.90	0.89	0.04	0.40	0.02	0.74	0.56	0.74		0.82	0.71	0.63
Uniform Delay, d1	45.3	45.3	36.7	44.1	41.2	35.6	55.6	35.2		51.5	29.9	28.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.94	0.91	3.01
Incremental Delay, d2	22.5	21.0	0.0	0.9	0.0	5.6	2.2	4.2		15.7	2.1	3.6
Delay (s)	67.8	66.3	36.7	45.0	41.2	41.2	57.8	39.5		63.8	29.3	89.5
Level of Service	E	E	D	D	D	D	E	D		E	C	F
Approach Delay (s)		64.4			42.0			41.3			58.1	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	53.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

2 ARTERIAL OPERATIONS

2.1 SUMMARY & CALCULATIONS

2.2 SYNCHRO 9 REPORTS

PM PEAK HOUR TRAVEL TIMES

Arterial LOS was evaluated along six corridors within the study area. Arterial performance is based on the average vehicle speed and the arterial class of the corridor, as defined by Highway Capacity Manual 2000, Exhibit 15-2. The average speed along the corridor includes vehicle travel time as well as delay from traffic signals. Signal delay for arterial LOS is based on Synchro 9 methodology and the arterial class is determined by Synchro 9 based on the speed limit and intersection spacing of the corridor. Travel time projections and average speeds reported from the Synchro model were calibrated to data measured in the field. The adjustment or calibration factor accounts for operational impacts from vehicle queuing, mid-block pedestrian crossing, on-street parking maneuvers, etc. not reflected in the Synchro delay calculations. Future travel times from the Synchro model are multiplied by the adjustment factor to determine future travel times calibrated to field conditions and accounting for the factors described (i.e., queuing, parking, etc.).

Existing	Field Travel Time (m:ss)	Field Speed (mph)	Synchro Travel Time (m:ss)	Synchro Speed (mph)	Travel Time Factor	Speed Factor	Factored Travel Time (m:ss)	Factored Speed (mph)	LOS
NE 45th St Eastbound	08:25	11.7	07:29	13.2	1.1	0.9	08:25	11.7	D
NE 45th St Westbound	07:51	12.0	06:22	14.8	1.2	0.8	07:51	12.0	D
Pacific St Eastbound	04:32	15.9	02:30	28.7	1.8	0.6	04:32	15.9	D
Pacific St Westbound	03:30	20.6	02:07	33.9	1.6	0.6	03:30	20.6	C
11th Ave Northbound	04:19	8.5	02:25	15.1	1.8	0.6	04:19	8.5	E
Roosevelt Way Southbound	05:21	14.4	02:39	29.0	2.0	0.5	05:21	14.4	C
15th Ave Northbound	06:58	8.2	05:12	11.0	1.3	0.7	06:58	8.2	E
15th Ave Southbound	06:03	9.4	04:43	12.1	1.3	0.8	06:03	9.4	D
Montlake Blvd Northbound	05:32	14.0	02:50	27.3	1.9	0.5	05:32	14.0	E
Montlake Blvd Southbound	11:01	8.0	04:05	21.4	2.7	0.4	11:01	8.0	F

No Action	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	447.6	08:24	13.2	11.7	D
NE 45th St Westbound	426.8	08:45	13.2	10.8	D
Pacific St Eastbound	132.2	03:59	32.7	18.1	C
Pacific St Westbound	122.3	03:21	35.3	21.5	C
11th Ave Northbound	145.6	04:20	15.1	8.5	E
Roosevelt Way Southbound	190.5	06:24	24.2	12.0	D
15th Ave Northbound	283.3	06:19	12.1	9.0	E
15th Ave Southbound	290.7	06:13	11.8	9.2	D
Montlake Blvd Northbound	219.9	07:08	21.1	10.8	E
Montlake Blvd Southbound	231.6	10:24	22.7	8.4	F

Alternative 1	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	491.4	09:13	12.0	10.7	D
NE 45th St Westbound	469.9	09:38	12.0	9.8	D
Pacific St Eastbound	252.7	07:37	17.1	9.5	F
Pacific St Westbound	132.2	03:37	32.7	19.9	C
11th Ave Northbound	160.6	04:46	13.7	7.7	E
Roosevelt Way Southbound	193.5	06:30	23.8	11.8	D
15th Ave Northbound	286.9	06:24	11.9	8.9	E
15th Ave Southbound	350.3	07:30	9.8	7.6	E
Montlake Blvd Northbound	249.9	08:06	18.6	9.5	F
Montlake Blvd Southbound	233.7	10:29	22.5	8.4	F

Alternative 2	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	494.3	09:16	11.9	10.6	D
NE 45th St Westbound	468.2	09:36	12.1	9.8	D
Pacific St Eastbound	264.8	07:59	16.3	9.0	F
Pacific St Westbound	129.7	03:33	33.3	20.3	C
11th Ave Northbound	158.2	04:42	13.9	7.8	E
Roosevelt Way Southbound	193.4	06:30	23.8	11.8	D
15th Ave Northbound	285.2	06:22	12.0	9.0	E
15th Ave Southbound	345.8	07:24	9.9	7.7	E
Montlake Blvd Northbound	246.2	07:59	18.9	9.7	F
Montlake Blvd Southbound	238.2	10:42	22.1	8.2	F

Alternative 3	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	491.6	09:13	12.0	10.7	D
NE 45th St Westbound	466.1	09:34	12.1	9.9	D
Pacific St Eastbound	291.5	08:47	14.8	8.2	F
Pacific St Westbound	133.3	03:39	32.4	19.7	C
11th Ave Northbound	162.1	04:49	13.5	7.6	E
Roosevelt Way Southbound	194.0	06:31	23.8	11.8	D
15th Ave Northbound	287.4	06:25	11.9	8.9	E
15th Ave Southbound	341.7	07:19	10.0	7.8	E
Montlake Blvd Northbound	246.4	08:00	18.8	9.7	F
Montlake Blvd Southbound	231.4	10:23	22.7	8.4	F

Alternative 4	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	494.3	09:16	11.9	10.6	D
NE 45th St Westbound	480.7	09:52	11.8	9.6	D
Pacific St Eastbound	218.7	06:36	19.8	10.9	E
Pacific St Westbound	134.8	03:42	32.0	19.5	C
11th Ave Northbound	158.7	04:43	13.8	7.8	E
Roosevelt Way Southbound	193.6	06:30	23.8	11.8	D
15th Ave Northbound	285.8	06:22	12.0	8.9	E
15th Ave Southbound	314.8	06:44	10.9	8.5	E
Montlake Blvd Northbound	246.5	08:00	18.8	9.7	F
Montlake Blvd Southbound	241.2	10:50	21.8	8.1	F

Alternative 5.1	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	491.3	09:13	12.0	10.7	D
NE 45th St Westbound	470.2	09:39	12.0	9.8	D
Pacific St Eastbound	231.7	06:59	18.6	10.3	E
Pacific St Westbound	124.0	03:24	34.8	21.2	C
11th Ave Northbound	160.6	04:46	13.7	7.7	E
Roosevelt Way Southbound	193.8	06:31	23.8	11.8	D
15th Ave Northbound	290.4	06:29	11.8	8.8	E
15th Ave Southbound	331.7	07:06	10.3	8.0	E
Montlake Blvd Northbound	249.9	08:06	18.6	9.5	F
Montlake Blvd Southbound	233.5	10:29	22.5	8.4	F

Alternative 5.2	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	494.2	09:16	11.9	10.6	D
NE 45th St Westbound	467.8	09:36	12.1	9.8	D
Pacific St Eastbound	226.8	06:50	19.0	10.5	E
Pacific St Westbound	123.9	03:24	34.9	21.2	C
11th Ave Northbound	158.2	04:42	13.9	7.8	E
Roosevelt Way Southbound	193.4	06:30	23.8	11.8	D
15th Ave Northbound	289.7	06:28	11.8	8.8	E
15th Ave Southbound	328.5	07:02	10.4	8.1	E
Montlake Blvd Northbound	246.2	07:59	18.9	9.7	F
Montlake Blvd Southbound	238.2	10:42	22.1	8.2	F

Alternative 5.3	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	491.7	09:13	12.0	10.7	D
NE 45th St Westbound	465.8	09:33	12.1	9.9	D
Pacific St Eastbound	233.2	07:02	18.5	10.2	E
Pacific St Westbound	123.3	03:23	35.0	21.3	C
11th Ave Northbound	162.1	04:49	13.5	7.6	E
Roosevelt Way Southbound	194.0	06:31	23.8	11.8	D
15th Ave Northbound	291.8	06:30	11.7	8.8	E
15th Ave Southbound	341.6	07:18	10.0	7.8	E
Montlake Blvd Northbound	246.4	08:00	18.8	9.7	F
Montlake Blvd Southbound	231.4	10:23	22.7	8.4	F

Alternative 5.4	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	494.3	09:16	11.9	10.6	D
NE 45th St Westbound	480.7	09:52	11.8	9.6	D
Pacific St Eastbound	174.4	05:15	24.8	13.7	E
Pacific St Westbound	125.1	03:26	34.5	21.0	C
11th Ave Northbound	158.7	04:43	13.8	7.8	E
Roosevelt Way Southbound	193.6	06:30	23.8	11.8	D
15th Ave Northbound	289.4	06:27	11.8	8.8	E
15th Ave Southbound	315.3	06:45	10.8	8.5	E
Montlake Blvd Northbound	246.5	08:00	18.8	9.7	F
Montlake Blvd Southbound	241.2	10:50	21.8	8.1	F

Corridor	Arterial Class (as defined in Synchro)
NE 45th St Eastbound	IV
NE 45th St Westbound	IV
Pacific St Eastbound	III
Pacific St Westbound	III
11th Ave Northbound	IV
Roosevelt Way Southbound	IV
15th Ave Northbound	IV
15th Ave Southbound	IV
Montlake Blvd Northbound	III
Montlake Blvd Southbound	III

EXHIBIT 15-2. URBAN STREET LOS BY CLASS

Urban Street Class	I	II	III	IV
Range of free-flow speeds (FFS)	55 to 45 mi/h	45 to 35 mi/h	35 to 30 mi/h	35 to 25 mi/h
Typical FFS	50 mi/h	40 mi/h	35 mi/h	30 mi/h
LOS	Average Travel Speed (mi/h)			
A	> 42	> 35	> 30	> 25
B	> 34–42	> 28–35	> 24–30	> 19–25
C	> 27–34	> 22–28	> 18–24	> 13–19
D	> 21–27	> 17–22	> 14–18	> 9–13

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	14.6	33.1	0.10	11.2	D
NE 45th St	IV	30	18.0	17.7	35.7	0.10	10.1	D
	IV	30	19.0	6.1	25.1	0.13	18.2	C
NE 50th St	IV	30	18.9	32.2	51.1	0.13	8.9	E
Total	IV		74.4	70.6	145.0	0.46	11.3	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	31.4	50.4	0.13	9.1	D
	IV	30	22.6	31.4	54.0	0.15	10.1	D
NE Campus Pkwy	IV	30	12.4	7.2	19.6	0.05	10.0	D
UW Campus Parking Ac	IV	30	10.8	1.6	12.4	0.05	13.8	C
NE 42nd St	IV	30	18.4	17.3	35.7	0.10	10.3	D
NE 43rd St	IV	30	18.8	13.4	32.2	0.10	11.6	D
NE 45th St	IV	30	18.2	41.6	59.8	0.10	6.1	F
NE 47th St	IV	30	19.0	17.0	36.0	0.13	12.7	D
NE 50th St	IV	30	22.4	40.0	62.4	0.12	7.2	E
Total	IV		161.6	200.9	362.5	0.94	9.3	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	16.1	37.2	0.14	13.6	C
NE 47th St	IV	30	22.4	15.4	37.8	0.12	11.9	D
NE 45th St	IV	30	19.0	29.9	48.9	0.13	9.3	D
NE 43rd St	IV	30	18.2	12.0	30.2	0.10	12.0	D
NE 42nd St	IV	30	18.8	11.9	30.7	0.10	12.2	D
NE 41st St	IV	30	18.4	1.0	19.4	0.10	18.9	C
NE Campus Pkwy	IV	30	10.8	12.1	22.9	0.05	7.5	E
NE 40th St	IV	30	12.4	13.1	25.5	0.05	7.7	E
NE Pacific St	IV	30	22.6	45.1	67.7	0.15	8.0	E
Total	IV		163.7	156.6	320.3	0.95	10.7	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	31.1	48.5	0.13	9.6	F
E Hamlin St	III	30	15.1	0.2	15.3	0.11	25.1	B
Husky Stadium Parkin	III	30	29.8	19.3	49.1	0.23	17.2	D
Husky Stadium Parkin	III	30	19.2	5.7	24.9	0.14	20.8	C
Montlake Blvd NE	III	34	61.5	3.5	65.0	0.58	31.9	A
NE 44th St	III	35	13.3	2.7	16.0	0.10	22.2	C
Total	III		156.3	62.5	218.8	1.29	21.2	C

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	30	37.5	14.4	51.9	0.30	20.5	C
Montlake Blvd NE	III	35	13.3	21.6	34.9	0.10	10.2	E
	III	34	61.5	6.8	68.3	0.58	30.4	A
NE Pacific St	III	30	19.2	22.9	42.1	0.14	12.3	E
E Hamlin St	III	30	29.8	0.1	29.9	0.23	28.3	B
SR-520 EB Ramps	III	30	15.1	55.0	70.1	0.11	5.5	F
Total	III		176.4	120.8	297.2	1.46	17.6	D

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	29.5	61.7	0.24	14.3	C
	IV	30	17.0	28.1	45.1	0.09	7.5	E
Roosevelt Way NE	IV	30	23.3	16.7	40.0	0.16	14.0	C
11th Ave NE	IV	30	10.3	5.8	16.1	0.05	10.2	D
12th Ave NE	IV	30	12.2	3.1	15.3	0.05	12.7	D
Brooklyn Ave NE	IV	30	11.5	5.0	16.5	0.05	11.1	D
University Way NE	IV	30	11.8	9.3	21.1	0.05	8.9	E
15th Ave NE	IV	30	12.2	9.2	21.4	0.05	9.0	D
Memorial Way NE	IV	30	20.2	13.8	34.0	0.11	11.9	D
18th Ave NE	IV	30	12.7	1.9	14.6	0.06	13.8	C
19th Ave NE	IV	30	13.1	4.7	17.8	0.06	11.7	D
20th Ave NE	IV	30	7.6	2.1	9.7	0.03	12.4	D
Montlake Blvd NE	IV	30	52.3	62.8	115.1	0.40	12.4	D
Union Bay Pl NE	IV	30	30.6	51.5	82.1	0.23	10.2	D
Total	IV		267.0	243.5	510.5	1.64	11.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	55.1	80.4	0.18	8.1	E
Montlake Blvd NE	IV	30	30.6	20.8	51.4	0.23	16.3	C
20th Ave NE	IV	30	52.3	16.6	68.9	0.40	20.7	B
19th Ave NE	IV	30	7.6	2.7	10.3	0.03	11.7	D
18th Ave NE	IV	30	13.1	3.4	16.5	0.06	12.6	D
17th Ave NE	IV	30	12.7	16.2	28.9	0.06	7.0	F
15th Ave NE	IV	30	20.2	26.0	46.2	0.11	8.8	E
University Way NE	IV	30	12.2	6.4	18.6	0.05	10.4	D
Brooklyn Ave NE	IV	30	11.8	8.2	20.0	0.05	9.3	D
12th Ave NE	IV	30	11.5	3.8	15.3	0.05	11.9	D
11th Ave NE	IV	30	12.2	11.7	23.9	0.05	8.1	E
Roosevelt Way NE	IV	30	10.3	2.2	12.5	0.05	13.1	C
7th Ave NE	IV	30	23.3	21.3	44.6	0.16	12.5	D
5th Ave NE	IV	30	17.0	8.2	25.2	0.09	13.5	C
Total	IV		260.1	202.6	462.7	1.57	12.2	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	45.3	54.4	0.06	3.9	F
	III	30	34.6	12.9	47.5	0.27	20.6	C
Hospital Access	III	30	15.2	18.2	33.4	0.11	11.6	E
Montlake Blvd NE	III	30	11.6	3.5	15.1	0.07	17.8	D
Total	III		70.5	79.9	150.4	0.51	12.3	E

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	16.5	28.1	0.07	9.6	F
NE Pacific Pl	III	30	15.2	7.0	22.2	0.11	17.5	D
15th Ave NE	III	30	34.6	31.0	65.6	0.27	14.9	D
University Way NE	III	30	9.1	2.5	11.6	0.06	18.2	C
Total	III		70.5	57.0	127.5	0.51	14.5	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	27.7	49.6	0.15	10.6	D
NE 47th St	IV	30	18.9	6.4	25.3	0.13	17.9	C
NE 45th St	IV	30	19.1	46.3	65.4	0.13	7.0	F
NE 42nd St (north)	IV	30	28.3	5.0	33.3	0.20	21.9	B
NE 42nd St (south)	IV	30	13.6	5.6	19.2	0.06	11.2	D
NE Campus Pkwy	IV	30	15.6	0.3	15.9	0.09	19.6	B
Total	IV		117.4	91.3	208.7	0.75	12.9	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	9.3	27.1	0.13	17.6	D
Total	III		17.8	9.3	27.1	0.13	17.6	D

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	16.2	34.7	0.10	10.6	D
NE 45th St	IV	30	18.0	19.7	37.7	0.10	9.6	D
	IV	30	19.0	6.9	25.9	0.13	17.6	C
NE 50th St	IV	30	18.9	28.4	47.3	0.13	9.6	D
Total	IV		74.4	71.2	145.6	0.46	11.3	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	34.5	53.5	0.13	8.5	E
	IV	30	22.6	40.7	63.3	0.15	8.6	E
NE Campus Pkwy	IV	30	12.4	4.7	17.1	0.05	11.5	D
UW Campus Parking Ac	IV	30	10.8	2.9	13.7	0.05	12.5	D
NE 42nd St	IV	30	18.4	11.4	29.8	0.10	12.3	D
NE 43rd St	IV	30	18.8	13.3	32.1	0.10	11.7	D
NE 45th St	IV	30	18.2	50.2	68.4	0.10	5.3	F
NE 47th St	IV	30	19.0	6.9	25.9	0.13	17.6	C
NE 50th St	IV	30	22.4	10.6	33.0	0.12	13.6	C
Total	IV		161.6	175.2	336.8	0.94	10.0	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	13.6	34.7	0.14	14.6	C
NE 47th St	IV	30	22.4	7.5	29.9	0.12	15.0	C
NE 45th St	IV	30	19.0	23.1	42.1	0.13	10.9	D
NE 43rd St	IV	30	18.2	8.6	26.8	0.10	13.6	C
NE 42nd St	IV	30	18.8	11.4	30.2	0.10	12.4	D
NE 41st St	IV	30	18.4	2.9	21.3	0.10	17.3	C
NE Campus Pkwy	IV	30	10.8	5.6	16.4	0.05	10.4	D
NE 40th St	IV	30	12.4	25.4	37.8	0.05	5.2	F
NE Pacific St	IV	30	22.6	63.6	86.2	0.15	6.3	F
Total	IV		163.7	161.7	325.4	0.95	10.5	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.5	57.9	0.13	8.1	F
520 EB/WB HOV Ramp	III	30	9.7	34.5	44.2	0.06	5.1	F
E Hamlin St	III	30	6.8	0.2	7.0	0.04	22.7	C
Husky Stadium Parkin	III	30	29.8	28.2	58.0	0.23	14.6	D
Husky Stadium Parkin	III	30	19.2	9.4	28.6	0.14	18.1	C
Montlake Blvd NE	III	34	61.5	2.5	64.0	0.58	32.4	A
NE 44th St	III	35	13.3	3.3	16.6	0.10	21.4	C
Total	III		157.7	118.6	276.3	1.29	16.8	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	18.8	54.2	0.30	19.6	C
Montlake Blvd NE	III	35	13.3	11.6	24.9	0.10	14.3	D
	III	34	61.5	9.2	70.7	0.58	29.3	B
NE Pacific St	III	30	19.2	21.9	41.1	0.14	12.6	E
E Hamlin St	III	30	29.8	1.5	31.3	0.23	27.0	B
	III	30	6.8	17.1	23.9	0.04	6.6	F
SR-520 EB Ramps	III	30	9.7	30.0	39.7	0.06	5.7	F
Total	III		175.7	110.1	285.8	1.46	18.3	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	35.0	67.2	0.24	13.1	C
	IV	30	17.0	19.5	36.5	0.09	9.3	D
Roosevelt Way NE	IV	30	23.3	22.9	46.2	0.16	12.1	D
11th Ave NE	IV	30	10.3	3.8	14.1	0.05	11.6	D
12th Ave NE	IV	30	12.2	2.8	15.0	0.05	12.9	D
Brooklyn Ave NE	IV	30	11.5	1.8	13.3	0.05	13.7	C
University Way NE	IV	30	11.8	8.9	20.7	0.05	9.0	D
15th Ave NE	IV	30	12.2	16.4	28.6	0.05	6.7	F
Memorial Way NE	IV	30	20.2	9.0	29.2	0.11	13.9	C
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	11.9	25.0	0.06	8.3	E
20th Ave NE	IV	30	7.6	1.5	9.1	0.03	13.3	C
Montlake Blvd NE	IV	30	52.3	69.7	122.0	0.40	11.7	D
Union Bay Pl NE	IV	30	30.6	43.6	74.2	0.23	11.3	D
Total	IV		267.0	247.8	514.8	1.64	11.4	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	78.6	103.9	0.18	6.3	F
Montlake Blvd NE	IV	30	30.6	21.0	51.6	0.23	16.2	C
20th Ave NE	IV	30	52.3	24.2	76.5	0.40	18.6	C
19th Ave NE	IV	30	7.6	8.9	16.5	0.03	7.3	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	14.4	27.1	0.06	7.4	E
15th Ave NE	IV	30	20.2	22.0	42.2	0.11	9.6	D
University Way NE	IV	30	12.2	9.6	21.8	0.05	8.9	E
Brooklyn Ave NE	IV	30	11.8	6.6	18.4	0.05	10.2	D
12th Ave NE	IV	30	11.5	11.6	23.1	0.05	7.9	E
11th Ave NE	IV	30	12.2	11.7	23.9	0.05	8.1	E
Roosevelt Way NE	IV	30	10.3	6.2	16.5	0.05	9.9	D
7th Ave NE	IV	30	23.3	45.0	68.3	0.16	8.2	E
5th Ave NE	IV	30	17.0	10.5	27.5	0.09	12.3	D
Total	IV		260.1	270.6	530.7	1.57	10.7	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	31.8	40.9	0.06	5.2	F
	III	30	34.6	12.2	46.8	0.27	20.9	C
Hospital Access	III	30	15.2	13.9	29.1	0.11	13.4	E
Montlake Blvd NE	III	30	11.6	3.8	15.4	0.07	17.5	D
Total	III		70.5	61.7	132.2	0.51	14.0	E

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	14.4	26.0	0.07	10.4	E
NE Pacific Pl	III	30	15.2	9.2	24.4	0.11	15.9	D
15th Ave NE	III	30	34.6	25.4	60.0	0.27	16.3	D
University Way NE	III	30	9.1	2.8	11.9	0.06	17.7	D
Total	III		70.5	51.8	122.3	0.51	15.1	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.5	51.4	0.15	10.2	D
NE 47th St	IV	30	18.9	15.4	34.3	0.13	13.2	C
NE 45th St	IV	30	19.1	64.4	83.5	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	10.9	39.2	0.20	18.6	C
NE 42nd St (south)	IV	30	13.6	3.9	17.5	0.06	12.3	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	124.5	241.9	0.75	11.1	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	5.8	23.6	0.13	20.2	C
Total	III		17.8	5.8	23.6	0.13	20.2	C

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	29.0	47.5	0.10	7.8	E
NE 45th St	IV	30	18.0	20.4	38.4	0.10	9.4	D
	IV	30	19.0	7.6	26.6	0.13	17.1	C
NE 50th St	IV	30	18.9	29.2	48.1	0.13	9.4	D
Total	IV		74.4	86.2	160.6	0.46	10.2	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	67.9	86.9	0.13	5.3	F
	IV	30	22.6	34.8	57.4	0.15	9.5	D
NE Campus Pkwy	IV	30	12.4	4.4	16.8	0.05	11.7	D
UW Campus Parking Ac	IV	30	10.8	2.9	13.7	0.05	12.5	D
NE 42nd St	IV	30	18.4	10.9	29.3	0.10	12.5	D
NE 43rd St	IV	30	18.8	13.9	32.7	0.10	11.5	D
NE 45th St	IV	30	18.2	55.3	73.5	0.10	4.9	F
NE 47th St	IV	30	19.0	8.4	27.4	0.13	16.7	C
NE 50th St	IV	30	22.4	13.7	36.1	0.12	12.4	D
Total	IV		161.6	212.2	373.8	0.94	9.0	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.9	36.0	0.14	14.1	C
NE 47th St	IV	30	22.4	7.2	29.6	0.12	15.2	C
NE 45th St	IV	30	19.0	24.5	43.5	0.13	10.5	D
NE 43rd St	IV	30	18.2	8.9	27.1	0.10	13.4	C
NE 42nd St	IV	30	18.8	12.1	30.9	0.10	12.1	D
NE 41st St	IV	30	18.4	3.6	22.0	0.10	16.7	C
NE Campus Pkwy	IV	30	10.8	5.3	16.1	0.05	10.6	D
NE 40th St	IV	30	12.4	24.1	36.5	0.05	5.4	F
NE Pacific St	IV	30	22.6	122.0	144.6	0.15	3.8	F
Total	IV		163.7	222.6	386.3	0.95	8.9	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.3	57.7	0.13	8.1	F
520 EB/WB HOV Ramp	III	30	9.7	55.4	65.1	0.06	3.5	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	34.1	63.9	0.23	13.2	E
Husky Stadium Parkin	III	30	19.2	12.7	31.9	0.14	16.2	D
Montlake Blvd NE	III	34	61.5	2.4	63.9	0.58	32.5	A
NE 44th St	III	35	13.3	4.9	18.2	0.10	19.5	C
Total	III		157.7	149.9	307.6	1.29	15.1	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	23.3	58.7	0.30	18.1	C
Montlake Blvd NE	III	35	13.3	7.9	21.2	0.10	16.8	D
	III	34	61.5	15.6	77.1	0.58	26.9	B
NE Pacific St	III	30	19.2	21.4	40.6	0.14	12.7	E
E Hamlin St	III	30	29.8	1.5	31.3	0.23	27.0	B
	III	30	6.8	16.8	23.6	0.04	6.7	F
SR-520 EB Ramps	III	30	9.7	30.2	39.9	0.06	5.7	F
Total	III		175.7	116.7	292.4	1.46	17.9	D

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	37.2	69.4	0.24	12.7	D
	IV	30	17.0	19.3	36.3	0.09	9.4	D
Roosevelt Way NE	IV	30	23.3	26.7	50.0	0.16	11.2	D
11th Ave NE	IV	30	10.3	5.5	15.8	0.05	10.4	D
12th Ave NE	IV	30	12.2	3.3	15.5	0.05	12.5	D
Brooklyn Ave NE	IV	30	11.5	1.4	12.9	0.05	14.2	C
University Way NE	IV	30	11.8	13.3	25.1	0.05	7.4	E
15th Ave NE	IV	30	12.2	17.8	30.0	0.05	6.4	F
Memorial Way NE	IV	30	20.2	12.0	32.2	0.11	12.6	D
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	14.3	27.4	0.06	7.6	E
20th Ave NE	IV	30	7.6	1.7	9.3	0.03	13.0	D
Montlake Blvd NE	IV	30	52.3	74.4	126.7	0.40	11.3	D
Union Bay Pl NE	IV	30	30.6	65.9	96.5	0.23	8.7	E
Total	IV		267.0	293.8	560.8	1.64	10.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	85.4	110.7	0.18	5.9	F
Montlake Blvd NE	IV	30	30.6	26.0	56.6	0.23	14.8	C
20th Ave NE	IV	30	52.3	26.7	79.0	0.40	18.1	C
19th Ave NE	IV	30	7.6	10.2	17.8	0.03	6.8	F
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	17.3	30.0	0.06	6.7	F
15th Ave NE	IV	30	20.2	22.1	42.3	0.11	9.6	D
University Way NE	IV	30	12.2	11.6	23.8	0.05	8.1	E
Brooklyn Ave NE	IV	30	11.8	8.0	19.8	0.05	9.4	D
12th Ave NE	IV	30	11.5	9.6	21.1	0.05	8.7	E
11th Ave NE	IV	30	12.2	13.6	25.8	0.05	7.5	E
Roosevelt Way NE	IV	30	10.3	7.8	18.1	0.05	9.0	D
7th Ave NE	IV	30	23.3	71.3	94.6	0.16	5.9	F
5th Ave NE	IV	30	17.0	10.6	27.6	0.09	12.3	D
Total	IV		260.1	320.5	580.6	1.57	9.8	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	139.9	149.0	0.06	1.4	F
	III	30	34.6	20.6	55.2	0.27	17.8	D
Hospital Access	III	30	15.2	16.4	31.6	0.11	12.3	E
Montlake Blvd NE	III	30	11.6	5.3	16.9	0.07	15.9	D
Total	III		70.5	182.2	252.7	0.51	7.3	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	11.1	22.7	0.07	11.9	E
NE Pacific Pl	III	30	15.2	7.9	23.1	0.11	16.8	D
15th Ave NE	III	30	34.6	37.5	72.1	0.27	13.6	E
University Way NE	III	30	9.1	5.2	14.3	0.06	14.7	D
Total	III		70.5	61.7	132.2	0.51	14.0	E

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.2	51.1	0.15	10.3	D
NE 47th St	IV	30	18.9	16.8	35.7	0.13	12.7	D
NE 45th St	IV	30	19.1	64.4	83.5	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	11.8	40.1	0.20	18.2	C
NE 42nd St (south)	IV	30	13.6	4.6	18.2	0.06	11.8	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	127.2	244.6	0.75	11.0	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	6.5	24.3	0.13	19.6	C
Total	III		17.8	6.5	24.3	0.13	19.6	C

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	26.2	44.7	0.10	8.3	E
NE 45th St	IV	30	18.0	21.1	39.1	0.10	9.2	D
	IV	30	19.0	7.2	26.2	0.13	17.4	C
NE 50th St	IV	30	18.9	29.3	48.2	0.13	9.4	D
Total	IV		74.4	83.8	158.2	0.46	10.4	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	60.6	79.6	0.13	5.7	F
	IV	30	22.6	34.6	57.2	0.15	9.5	D
NE Campus Pkwy	IV	30	12.4	4.0	16.4	0.05	12.0	D
UW Campus Parking Ac	IV	30	10.8	3.1	13.9	0.05	12.3	D
NE 42nd St	IV	30	18.4	10.8	29.2	0.10	12.6	D
NE 43rd St	IV	30	18.8	13.9	32.7	0.10	11.5	D
NE 45th St	IV	30	18.2	54.3	72.5	0.10	5.0	F
NE 47th St	IV	30	19.0	8.3	27.3	0.13	16.7	C
NE 50th St	IV	30	22.4	13.6	36.0	0.12	12.5	D
Total	IV		161.6	203.2	364.8	0.94	9.3	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.9	36.0	0.14	14.1	C
NE 47th St	IV	30	22.4	7.3	29.7	0.12	15.1	C
NE 45th St	IV	30	19.0	24.5	43.5	0.13	10.5	D
NE 43rd St	IV	30	18.2	8.8	27.0	0.10	13.5	C
NE 42nd St	IV	30	18.8	12.1	30.9	0.10	12.1	D
NE 41st St	IV	30	18.4	3.8	22.2	0.10	16.6	C
NE Campus Pkwy	IV	30	10.8	4.9	15.7	0.05	10.9	D
NE 40th St	IV	30	12.4	24.0	36.4	0.05	5.4	F
NE Pacific St	IV	30	22.6	117.8	140.4	0.15	3.9	F
Total	IV		163.7	218.1	381.8	0.95	9.0	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.7	58.1	0.13	8.0	F
520 EB/WB HOV Ramp	III	30	9.7	51.9	61.6	0.06	3.7	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	33.5	63.3	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	13.1	32.3	0.14	16.0	D
Montlake Blvd NE	III	34	61.5	2.5	64.0	0.58	32.4	A
NE 44th St	III	35	13.3	4.8	18.1	0.10	19.6	C
Total	III		157.7	146.6	304.3	1.29	15.3	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	23.2	58.6	0.30	18.1	C
Montlake Blvd NE	III	35	13.3	7.7	21.0	0.10	16.9	D
	III	34	61.5	21.3	82.8	0.58	25.0	B
NE Pacific St	III	30	19.2	20.4	39.6	0.14	13.1	E
E Hamlin St	III	30	29.8	1.4	31.2	0.23	27.1	B
	III	30	6.8	17.1	23.9	0.04	6.6	F
SR-520 EB Ramps	III	30	9.7	30.0	39.7	0.06	5.7	F
Total	III		175.7	121.1	296.8	1.46	17.6	D

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	37.2	69.4	0.24	12.7	D
	IV	30	17.0	19.1	36.1	0.09	9.4	D
Roosevelt Way NE	IV	30	23.3	26.8	50.1	0.16	11.1	D
11th Ave NE	IV	30	10.3	4.6	14.9	0.05	11.0	D
12th Ave NE	IV	30	12.2	3.2	15.4	0.05	12.6	D
Brooklyn Ave NE	IV	30	11.5	1.4	12.9	0.05	14.2	C
University Way NE	IV	30	11.8	13.5	25.3	0.05	7.4	E
15th Ave NE	IV	30	12.2	18.1	30.3	0.05	6.4	F
Memorial Way NE	IV	30	20.2	12.3	32.5	0.11	12.5	D
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	14.7	27.8	0.06	7.5	E
20th Ave NE	IV	30	7.6	1.9	9.5	0.03	12.7	D
Montlake Blvd NE	IV	30	52.3	77.6	129.9	0.40	11.0	D
Union Bay Pl NE	IV	30	30.6	65.3	95.9	0.23	8.7	E
Total	IV		267.0	296.7	563.7	1.64	10.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	85.5	110.8	0.18	5.9	F
Montlake Blvd NE	IV	30	30.6	27.0	57.6	0.23	14.5	C
20th Ave NE	IV	30	52.3	26.6	78.9	0.40	18.1	C
19th Ave NE	IV	30	7.6	11.2	18.8	0.03	6.4	F
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	17.6	30.3	0.06	6.6	F
15th Ave NE	IV	30	20.2	21.7	41.9	0.11	9.7	D
University Way NE	IV	30	12.2	11.6	23.8	0.05	8.1	E
Brooklyn Ave NE	IV	30	11.8	8.0	19.8	0.05	9.4	D
12th Ave NE	IV	30	11.5	9.9	21.4	0.05	8.5	E
11th Ave NE	IV	30	12.2	12.4	24.6	0.05	7.9	E
Roosevelt Way NE	IV	30	10.3	7.9	18.2	0.05	9.0	E
7th Ave NE	IV	30	23.3	68.6	91.9	0.16	6.1	F
5th Ave NE	IV	30	17.0	10.6	27.6	0.09	12.3	D
Total	IV		260.1	318.9	579.0	1.57	9.8	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	152.6	161.7	0.06	1.3	F
	III	30	34.6	20.1	54.7	0.27	17.9	D
Hospital Access	III	30	15.2	16.4	31.6	0.11	12.3	E
Montlake Blvd NE	III	30	11.6	5.2	16.8	0.07	16.0	D
Total	III		70.5	194.3	264.8	0.51	7.0	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	11.8	23.4	0.07	11.5	E
NE Pacific Pl	III	30	15.2	7.8	23.0	0.11	16.9	D
15th Ave NE	III	30	34.6	34.3	68.9	0.27	14.2	D
University Way NE	III	30	9.1	5.3	14.4	0.06	14.6	D
Total	III		70.5	59.2	129.7	0.51	14.3	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.2	51.1	0.15	10.3	D
NE 47th St	IV	30	18.9	16.8	35.7	0.13	12.7	D
NE 45th St	IV	30	19.1	64.5	83.6	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	11.8	40.1	0.20	18.2	C
NE 42nd St (south)	IV	30	13.6	4.4	18.0	0.06	12.0	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	127.1	244.5	0.75	11.0	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	6.5	24.3	0.13	19.6	C
Total	III		17.8	6.5	24.3	0.13	19.6	C

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	30.5	49.0	0.10	7.5	E
NE 45th St	IV	30	18.0	20.5	38.5	0.10	9.4	D
	IV	30	19.0	7.6	26.6	0.13	17.1	C
NE 50th St	IV	30	18.9	29.1	48.0	0.13	9.5	D
Total	IV		74.4	87.7	162.1	0.46	10.1	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	81.0	100.0	0.13	4.6	F
	IV	30	22.6	35.6	58.2	0.15	9.3	D
NE Campus Pkwy	IV	30	12.4	3.5	15.9	0.05	12.3	D
UW Campus Parking Ac	IV	30	10.8	2.8	13.6	0.05	12.6	D
NE 42nd St	IV	30	18.4	11.0	29.4	0.10	12.5	D
NE 43rd St	IV	30	18.8	14.0	32.8	0.10	11.4	D
NE 45th St	IV	30	18.2	56.1	74.3	0.10	4.9	F
NE 47th St	IV	30	19.0	8.5	27.5	0.13	16.6	C
NE 50th St	IV	30	22.4	13.3	35.7	0.12	12.6	D
Total	IV		161.6	225.8	387.4	0.94	8.7	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.2	35.3	0.14	14.4	C
NE 47th St	IV	30	22.4	7.8	30.2	0.12	14.9	C
NE 45th St	IV	30	19.0	24.6	43.6	0.13	10.5	D
NE 43rd St	IV	30	18.2	8.8	27.0	0.10	13.5	C
NE 42nd St	IV	30	18.8	12.1	30.9	0.10	12.1	D
NE 41st St	IV	30	18.4	3.6	22.0	0.10	16.7	C
NE Campus Pkwy	IV	30	10.8	5.4	16.2	0.05	10.6	D
NE 40th St	IV	30	12.4	24.3	36.7	0.05	5.4	F
NE Pacific St	IV	30	22.6	112.5	135.1	0.15	4.0	F
Total	IV		163.7	213.3	377.0	0.95	9.1	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.4	57.8	0.13	8.1	F
520 EB/WB HOV Ramp	III	30	9.7	53.6	63.3	0.06	3.6	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	33.1	62.9	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	12.1	31.3	0.14	16.5	D
Montlake Blvd NE	III	34	61.5	2.3	63.8	0.58	32.5	A
NE 44th St	III	35	13.3	4.9	18.2	0.10	19.5	C
Total	III		157.7	146.5	304.2	1.29	15.3	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	23.3	58.7	0.30	18.1	C
Montlake Blvd NE	III	35	13.3	7.8	21.1	0.10	16.8	D
	III	34	61.5	13.3	74.8	0.58	27.7	B
NE Pacific St	III	30	19.2	22.2	41.4	0.14	12.5	E
E Hamlin St	III	30	29.8	1.3	31.1	0.23	27.2	B
	III	30	6.8	16.3	23.1	0.04	6.9	F
SR-520 EB Ramps	III	30	9.7	30.2	39.9	0.06	5.7	F
Total	III		175.7	114.4	290.1	1.46	18.1	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	37.2	69.4	0.24	12.7	D
	IV	30	17.0	19.3	36.3	0.09	9.4	D
Roosevelt Way NE	IV	30	23.3	26.8	50.1	0.16	11.1	D
11th Ave NE	IV	30	10.3	5.5	15.8	0.05	10.4	D
12th Ave NE	IV	30	12.2	3.2	15.4	0.05	12.6	D
Brooklyn Ave NE	IV	30	11.5	1.6	13.1	0.05	13.9	C
University Way NE	IV	30	11.8	13.6	25.4	0.05	7.4	E
15th Ave NE	IV	30	12.2	17.7	29.9	0.05	6.5	F
Memorial Way NE	IV	30	20.2	11.8	32.0	0.11	12.7	D
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	13.8	26.9	0.06	7.7	E
20th Ave NE	IV	30	7.6	2.0	9.6	0.03	12.6	D
Montlake Blvd NE	IV	30	52.3	74.4	126.7	0.40	11.3	D
Union Bay Pl NE	IV	30	30.6	66.1	96.7	0.23	8.6	E
Total	IV		267.0	294.0	561.0	1.64	10.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	85.2	110.5	0.18	5.9	F
Montlake Blvd NE	IV	30	30.6	23.8	54.4	0.23	15.4	C
20th Ave NE	IV	30	52.3	26.6	78.9	0.40	18.1	C
19th Ave NE	IV	30	7.6	9.4	17.0	0.03	7.1	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	16.7	29.4	0.06	6.8	F
15th Ave NE	IV	30	20.2	22.2	42.4	0.11	9.6	D
University Way NE	IV	30	12.2	11.8	24.0	0.05	8.0	E
Brooklyn Ave NE	IV	30	11.8	8.1	19.9	0.05	9.4	D
12th Ave NE	IV	30	11.5	9.8	21.3	0.05	8.6	E
11th Ave NE	IV	30	12.2	13.1	25.3	0.05	7.7	E
Roosevelt Way NE	IV	30	10.3	8.0	18.3	0.05	8.9	E
7th Ave NE	IV	30	23.3	70.9	94.2	0.16	5.9	F
5th Ave NE	IV	30	17.0	10.6	27.6	0.09	12.3	D
Total	IV		260.1	316.5	576.6	1.57	9.8	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	176.8	185.9	0.06	1.1	F
	III	30	34.6	22.0	56.6	0.27	17.3	D
Hospital Access	III	30	15.2	16.6	31.8	0.11	12.2	E
Montlake Blvd NE	III	30	11.6	5.6	17.2	0.07	15.7	D
Total	III		70.5	221.0	291.5	0.51	6.3	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	10.6	22.2	0.07	12.1	E
NE Pacific Pl	III	30	15.2	7.9	23.1	0.11	16.8	D
15th Ave NE	III	30	34.6	38.9	73.5	0.27	13.3	E
University Way NE	III	30	9.1	5.4	14.5	0.06	14.5	D
Total	III		70.5	62.8	133.3	0.51	13.9	E

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.2	51.1	0.15	10.3	D
NE 47th St	IV	30	18.9	16.9	35.8	0.13	12.7	D
NE 45th St	IV	30	19.1	64.6	83.7	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	11.9	40.2	0.20	18.1	C
NE 42nd St (south)	IV	30	13.6	4.7	18.3	0.06	11.8	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	127.7	245.1	0.75	11.0	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	6.5	24.3	0.13	19.6	C
Total	III		17.8	6.5	24.3	0.13	19.6	C

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	26.8	45.3	0.10	8.2	E
NE 45th St	IV	30	18.0	21.1	39.1	0.10	9.2	D
	IV	30	19.0	7.2	26.2	0.13	17.4	C
NE 50th St	IV	30	18.9	29.2	48.1	0.13	9.4	D
Total	IV		74.4	84.3	158.7	0.46	10.3	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	41.0	60.0	0.13	7.6	E
	IV	30	22.6	34.0	56.6	0.15	9.6	D
NE Campus Pkwy	IV	30	12.4	5.7	18.1	0.05	10.8	D
UW Campus Parking Ac	IV	30	10.8	2.9	13.7	0.05	12.5	D
NE 42nd St	IV	30	18.4	11.2	29.6	0.10	12.4	D
NE 43rd St	IV	30	18.8	13.6	32.4	0.10	11.6	D
NE 45th St	IV	30	18.2	54.2	72.4	0.10	5.0	F
NE 47th St	IV	30	19.0	8.2	27.2	0.13	16.8	C
NE 50th St	IV	30	22.4	13.4	35.8	0.12	12.5	D
Total	IV		161.6	184.2	345.8	0.94	9.8	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.9	36.0	0.14	14.1	C
NE 47th St	IV	30	22.4	7.0	29.4	0.12	15.3	C
NE 45th St	IV	30	19.0	23.1	42.1	0.13	10.9	D
NE 43rd St	IV	30	18.2	9.5	27.7	0.10	13.1	C
NE 42nd St	IV	30	18.8	12.2	31.0	0.10	12.1	D
NE 41st St	IV	30	18.4	3.4	21.8	0.10	16.9	C
NE Campus Pkwy	IV	30	10.8	5.5	16.3	0.05	10.5	D
NE 40th St	IV	30	12.4	24.2	36.6	0.05	5.4	F
NE Pacific St	IV	30	22.6	87.3	109.9	0.15	4.9	F
Total	IV		163.7	187.1	350.8	0.95	9.8	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.9	58.3	0.13	8.0	F
520 EB/WB HOV Ramp	III	30	9.7	52.6	62.3	0.06	3.6	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	33.1	62.9	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	12.9	32.1	0.14	16.1	D
Montlake Blvd NE	III	34	61.5	2.5	64.0	0.58	32.4	A
NE 44th St	III	35	13.3	5.0	18.3	0.10	19.4	C
Total	III		157.7	147.1	304.8	1.29	15.2	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	24.1	59.5	0.30	17.9	D
Montlake Blvd NE	III	35	13.3	7.7	21.0	0.10	16.9	D
	III	34	61.5	24.8	86.3	0.58	24.0	B
NE Pacific St	III	30	19.2	19.8	39.0	0.14	13.3	E
E Hamlin St	III	30	29.8	1.5	31.3	0.23	27.0	B
	III	30	6.8	17.0	23.8	0.04	6.7	F
SR-520 EB Ramps	III	30	9.7	30.1	39.8	0.06	5.7	F
Total	III		175.7	125.0	300.7	1.46	17.4	D

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	37.2	69.4	0.24	12.7	D
	IV	30	17.0	19.6	36.6	0.09	9.3	D
Roosevelt Way NE	IV	30	23.3	26.7	50.0	0.16	11.2	D
11th Ave NE	IV	30	10.3	4.6	14.9	0.05	11.0	D
12th Ave NE	IV	30	12.2	3.3	15.5	0.05	12.5	D
Brooklyn Ave NE	IV	30	11.5	1.4	12.9	0.05	14.2	C
University Way NE	IV	30	11.8	13.9	25.7	0.05	7.3	E
15th Ave NE	IV	30	12.2	18.0	30.2	0.05	6.4	F
Memorial Way NE	IV	30	20.2	10.4	30.6	0.11	13.2	C
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	14.6	27.7	0.06	7.5	E
20th Ave NE	IV	30	7.6	2.2	9.8	0.03	12.3	D
Montlake Blvd NE	IV	30	52.3	79.3	131.6	0.40	10.8	D
Union Bay Pl NE	IV	30	30.6	64.5	95.1	0.23	8.8	E
Total	IV		267.0	296.7	563.7	1.64	10.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	84.8	110.1	0.18	5.9	F
Montlake Blvd NE	IV	30	30.6	29.0	59.6	0.23	14.0	C
20th Ave NE	IV	30	52.3	26.4	78.7	0.40	18.1	C
19th Ave NE	IV	30	7.6	12.1	19.7	0.03	6.1	F
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	15.6	28.3	0.06	7.1	E
15th Ave NE	IV	30	20.2	23.3	43.5	0.11	9.3	D
University Way NE	IV	30	12.2	11.7	23.9	0.05	8.1	E
Brooklyn Ave NE	IV	30	11.8	8.1	19.9	0.05	9.4	D
12th Ave NE	IV	30	11.5	10.3	21.8	0.05	8.4	E
11th Ave NE	IV	30	12.2	12.4	24.6	0.05	7.9	E
Roosevelt Way NE	IV	30	10.3	8.0	18.3	0.05	8.9	E
7th Ave NE	IV	30	23.3	78.0	101.3	0.16	5.5	F
5th Ave NE	IV	30	17.0	10.7	27.7	0.09	12.3	D
Total	IV		260.1	330.7	590.8	1.57	9.6	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	108.8	117.9	0.06	1.8	F
	III	30	34.6	18.2	52.8	0.27	18.6	C
Hospital Access	III	30	15.2	16.3	31.5	0.11	12.3	E
Montlake Blvd NE	III	30	11.6	4.9	16.5	0.07	16.3	D
Total	III		70.5	148.2	218.7	0.51	8.5	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	12.7	24.3	0.07	11.1	E
NE Pacific Pl	III	30	15.2	8.0	23.2	0.11	16.8	D
15th Ave NE	III	30	34.6	38.4	73.0	0.27	13.4	E
University Way NE	III	30	9.1	5.2	14.3	0.06	14.7	D
Total	III		70.5	64.3	134.8	0.51	13.7	E

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.2	51.1	0.15	10.3	D
NE 47th St	IV	30	18.9	16.8	35.7	0.13	12.7	D
NE 45th St	IV	30	19.1	64.5	83.6	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	11.8	40.1	0.20	18.2	C
NE 42nd St (south)	IV	30	13.6	4.6	18.2	0.06	11.8	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	127.3	244.7	0.75	11.0	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	6.5	24.3	0.13	19.6	C
Total	III		17.8	6.5	24.3	0.13	19.6	C

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	29.0	47.5	0.10	7.8	E
NE 45th St	IV	30	18.0	20.4	38.4	0.10	9.4	D
	IV	30	19.0	7.6	26.6	0.13	17.1	C
NE 50th St	IV	30	18.9	29.2	48.1	0.13	9.4	D
Total	IV		74.4	86.2	160.6	0.46	10.2	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	64.0	83.0	0.13	5.5	F
	IV	30	22.6	38.9	61.5	0.15	8.8	E
NE Campus Pkwy	IV	30	12.4	3.5	15.9	0.05	12.3	D
UW Campus Parking Ac	IV	30	10.8	2.9	13.7	0.05	12.5	D
NE 42nd St	IV	30	18.4	11.2	29.6	0.10	12.4	D
NE 43rd St	IV	30	18.8	13.9	32.7	0.10	11.5	D
NE 45th St	IV	30	18.2	55.3	73.5	0.10	4.9	F
NE 47th St	IV	30	19.0	8.4	27.4	0.13	16.7	C
NE 50th St	IV	30	22.4	13.7	36.1	0.12	12.4	D
Total	IV		161.6	211.8	373.4	0.94	9.0	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.9	36.0	0.14	14.1	C
NE 47th St	IV	30	22.4	7.2	29.6	0.12	15.2	C
NE 45th St	IV	30	19.0	24.5	43.5	0.13	10.5	D
NE 43rd St	IV	30	18.2	8.9	27.1	0.10	13.4	C
NE 42nd St	IV	30	18.8	12.1	30.9	0.10	12.1	D
NE 41st St	IV	30	18.4	3.6	22.0	0.10	16.7	C
NE Campus Pkwy	IV	30	10.8	5.3	16.1	0.05	10.6	D
NE 40th St	IV	30	12.4	24.1	36.5	0.05	5.4	F
NE Pacific St	IV	30	22.6	103.4	126.0	0.15	4.3	F
Total	IV		163.7	204.0	367.7	0.95	9.3	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.3	57.7	0.13	8.1	F
520 EB/WB HOV Ramp	III	30	9.7	55.4	65.1	0.06	3.5	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	34.1	63.9	0.23	13.2	E
Husky Stadium Parkin	III	30	19.2	12.7	31.9	0.14	16.2	D
Montlake Blvd NE	III	34	61.5	2.4	63.9	0.58	32.5	A
NE 44th St	III	35	13.3	4.9	18.2	0.10	19.5	C
Total	III		157.7	149.9	307.6	1.29	15.1	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	23.3	58.7	0.30	18.1	C
Montlake Blvd NE	III	35	13.3	7.9	21.2	0.10	16.8	D
	III	34	61.5	15.6	77.1	0.58	26.9	B
NE Pacific St	III	30	19.2	21.4	40.6	0.14	12.7	E
E Hamlin St	III	30	29.8	1.4	31.2	0.23	27.1	B
	III	30	6.8	16.7	23.5	0.04	6.8	F
SR-520 EB Ramps	III	30	9.7	30.2	39.9	0.06	5.7	F
Total	III		175.7	116.5	292.2	1.46	17.9	D

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	37.2	69.4	0.24	12.7	D
	IV	30	17.0	19.3	36.3	0.09	9.4	D
Roosevelt Way NE	IV	30	23.3	26.7	50.0	0.16	11.2	D
11th Ave NE	IV	30	10.3	5.5	15.8	0.05	10.4	D
12th Ave NE	IV	30	12.2	3.3	15.5	0.05	12.5	D
Brooklyn Ave NE	IV	30	11.5	1.4	12.9	0.05	14.2	C
University Way NE	IV	30	11.8	13.3	25.1	0.05	7.4	E
15th Ave NE	IV	30	12.2	17.8	30.0	0.05	6.4	F
Memorial Way NE	IV	30	20.2	11.9	32.1	0.11	12.6	D
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	14.3	27.4	0.06	7.6	E
20th Ave NE	IV	30	7.6	1.7	9.3	0.03	13.0	D
Montlake Blvd NE	IV	30	52.3	74.4	126.7	0.40	11.3	D
Union Bay Pl NE	IV	30	30.6	65.9	96.5	0.23	8.7	E
Total	IV		267.0	293.7	560.7	1.64	10.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	85.4	110.7	0.18	5.9	F
Montlake Blvd NE	IV	30	30.6	26.0	56.6	0.23	14.8	C
20th Ave NE	IV	30	52.3	26.7	79.0	0.40	18.1	C
19th Ave NE	IV	30	7.6	10.2	17.8	0.03	6.8	F
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	17.3	30.0	0.06	6.7	F
15th Ave NE	IV	30	20.2	22.1	42.3	0.11	9.6	D
University Way NE	IV	30	12.2	11.6	23.8	0.05	8.1	E
Brooklyn Ave NE	IV	30	11.8	8.0	19.8	0.05	9.4	D
12th Ave NE	IV	30	11.5	9.6	21.1	0.05	8.7	E
11th Ave NE	IV	30	12.2	13.6	25.8	0.05	7.5	E
Roosevelt Way NE	IV	30	10.3	7.8	18.1	0.05	9.0	D
7th Ave NE	IV	30	23.3	71.6	94.9	0.16	5.9	F
5th Ave NE	IV	30	17.0	10.6	27.6	0.09	12.3	D
Total	IV		260.1	320.8	580.9	1.57	9.8	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	118.9	128.0	0.06	1.6	F
	III	30	34.6	20.6	55.2	0.27	17.8	D
Hospital Access	III	30	15.2	16.4	31.6	0.11	12.3	E
Montlake Blvd NE	III	30	11.6	5.3	16.9	0.07	15.9	D
Total	III		70.5	161.2	231.7	0.51	8.0	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	11.1	22.7	0.07	11.9	E
NE Pacific Pl	III	30	15.2	7.9	23.1	0.11	16.8	D
15th Ave NE	III	30	34.6	32.9	67.5	0.27	14.5	D
University Way NE	III	30	9.1	1.6	10.7	0.06	19.7	C
Total	III		70.5	53.5	124.0	0.51	14.9	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.2	51.1	0.15	10.3	D
NE 47th St	IV	30	18.9	16.9	35.8	0.13	12.7	D
NE 45th St	IV	30	19.1	64.5	83.6	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	11.9	40.2	0.20	18.1	C
NE 42nd St (south)	IV	30	13.6	4.6	18.2	0.06	11.8	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	127.5	244.9	0.75	11.0	D

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	26.2	44.7	0.10	8.3	E
NE 45th St	IV	30	18.0	21.1	39.1	0.10	9.2	D
	IV	30	19.0	7.2	26.2	0.13	17.4	C
NE 50th St	IV	30	18.9	29.3	48.2	0.13	9.4	D
Total	IV		74.4	83.8	158.2	0.46	10.4	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	62.9	81.9	0.13	5.6	F
	IV	30	22.6	39.1	61.7	0.15	8.8	E
NE Campus Pkwy	IV	30	12.4	3.7	16.1	0.05	12.2	D
UW Campus Parking Ac	IV	30	10.8	3.1	13.9	0.05	12.3	D
NE 42nd St	IV	30	18.4	11.1	29.5	0.10	12.5	D
NE 43rd St	IV	30	18.8	13.9	32.7	0.10	11.5	D
NE 45th St	IV	30	18.2	54.3	72.5	0.10	5.0	F
NE 47th St	IV	30	19.0	8.3	27.3	0.13	16.7	C
NE 50th St	IV	30	22.4	13.6	36.0	0.12	12.5	D
Total	IV		161.6	210.0	371.6	0.94	9.1	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.9	36.0	0.14	14.1	C
NE 47th St	IV	30	22.4	7.3	29.7	0.12	15.1	C
NE 45th St	IV	30	19.0	24.5	43.5	0.13	10.5	D
NE 43rd St	IV	30	18.2	8.8	27.0	0.10	13.5	C
NE 42nd St	IV	30	18.8	12.1	30.9	0.10	12.1	D
NE 41st St	IV	30	18.4	3.8	22.2	0.10	16.6	C
NE Campus Pkwy	IV	30	10.8	4.9	15.7	0.05	10.9	D
NE 40th St	IV	30	12.4	24.0	36.4	0.05	5.4	F
NE Pacific St	IV	30	22.6	100.5	123.1	0.15	4.4	F
Total	IV		163.7	200.8	364.5	0.95	9.4	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.7	58.1	0.13	8.0	F
520 EB/WB HOV Ramp	III	30	9.7	51.9	61.6	0.06	3.7	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	33.5	63.3	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	13.1	32.3	0.14	16.0	D
Montlake Blvd NE	III	34	61.5	2.5	64.0	0.58	32.4	A
NE 44th St	III	35	13.3	4.8	18.1	0.10	19.6	C
Total	III		157.7	146.6	304.3	1.29	15.3	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	23.2	58.6	0.30	18.1	C
Montlake Blvd NE	III	35	13.3	7.7	21.0	0.10	16.9	D
	III	34	61.5	21.3	82.8	0.58	25.0	B
NE Pacific St	III	30	19.2	20.4	39.6	0.14	13.1	E
E Hamlin St	III	30	29.8	1.4	31.2	0.23	27.1	B
	III	30	6.8	17.1	23.9	0.04	6.6	F
SR-520 EB Ramps	III	30	9.7	30.0	39.7	0.06	5.7	F
Total	III		175.7	121.1	296.8	1.46	17.6	D

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	37.2	69.4	0.24	12.7	D
	IV	30	17.0	19.1	36.1	0.09	9.4	D
Roosevelt Way NE	IV	30	23.3	26.7	50.0	0.16	11.2	D
11th Ave NE	IV	30	10.3	4.6	14.9	0.05	11.0	D
12th Ave NE	IV	30	12.2	3.2	15.4	0.05	12.6	D
Brooklyn Ave NE	IV	30	11.5	1.4	12.9	0.05	14.2	C
University Way NE	IV	30	11.8	13.5	25.3	0.05	7.4	E
15th Ave NE	IV	30	12.2	18.1	30.3	0.05	6.4	F
Memorial Way NE	IV	30	20.2	12.3	32.5	0.11	12.5	D
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	14.7	27.8	0.06	7.5	E
20th Ave NE	IV	30	7.6	1.9	9.5	0.03	12.7	D
Montlake Blvd NE	IV	30	52.3	77.6	129.9	0.40	11.0	D
Union Bay Pl NE	IV	30	30.6	65.3	95.9	0.23	8.7	E
Total	IV		267.0	296.6	563.6	1.64	10.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	85.5	110.8	0.18	5.9	F
Montlake Blvd NE	IV	30	30.6	27.0	57.6	0.23	14.5	C
20th Ave NE	IV	30	52.3	26.6	78.9	0.40	18.1	C
19th Ave NE	IV	30	7.6	11.2	18.8	0.03	6.4	F
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	17.6	30.3	0.06	6.6	F
15th Ave NE	IV	30	20.2	21.7	41.9	0.11	9.7	D
University Way NE	IV	30	12.2	11.6	23.8	0.05	8.1	E
Brooklyn Ave NE	IV	30	11.8	8.0	19.8	0.05	9.4	D
12th Ave NE	IV	30	11.5	9.9	21.4	0.05	8.5	E
11th Ave NE	IV	30	12.2	12.4	24.6	0.05	7.9	E
Roosevelt Way NE	IV	30	10.3	7.9	18.2	0.05	9.0	E
7th Ave NE	IV	30	23.3	68.3	91.6	0.16	6.1	F
5th Ave NE	IV	30	17.0	10.5	27.5	0.09	12.3	D
Total	IV		260.1	318.5	578.6	1.57	9.8	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	114.6	123.7	0.06	1.7	F
	III	30	34.6	20.1	54.7	0.27	17.9	D
Hospital Access	III	30	15.2	16.4	31.6	0.11	12.3	E
Montlake Blvd NE	III	30	11.6	5.2	16.8	0.07	16.0	D
Total	III		70.5	156.3	226.8	0.51	8.2	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	11.8	23.4	0.07	11.5	E
NE Pacific Pl	III	30	15.2	7.8	23.0	0.11	16.9	D
15th Ave NE	III	30	34.6	32.2	66.8	0.27	14.7	D
University Way NE	III	30	9.1	1.6	10.7	0.06	19.7	C
Total	III		70.5	53.4	123.9	0.51	14.9	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.2	51.1	0.15	10.3	D
NE 47th St	IV	30	18.9	16.8	35.7	0.13	12.7	D
NE 45th St	IV	30	19.1	64.5	83.6	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	11.8	40.1	0.20	18.2	C
NE 42nd St (south)	IV	30	13.6	4.4	18.0	0.06	12.0	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	127.1	244.5	0.75	11.0	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	6.5	24.3	0.13	19.6	C
Total	III		17.8	6.5	24.3	0.13	19.6	C

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	30.5	49.0	0.10	7.5	E
NE 45th St	IV	30	18.0	20.5	38.5	0.10	9.4	D
	IV	30	19.0	7.6	26.6	0.13	17.1	C
NE 50th St	IV	30	18.9	29.1	48.0	0.13	9.5	D
Total	IV		74.4	87.7	162.1	0.46	10.1	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	86.5	105.5	0.13	4.3	F
	IV	30	22.6	39.7	62.3	0.15	8.7	E
NE Campus Pkwy	IV	30	12.4	3.5	15.9	0.05	12.3	D
UW Campus Parking Ac	IV	30	10.8	2.8	13.6	0.05	12.6	D
NE 42nd St	IV	30	18.4	11.3	29.7	0.10	12.4	D
NE 43rd St	IV	30	18.8	14.0	32.8	0.10	11.4	D
NE 45th St	IV	30	18.2	56.1	74.3	0.10	4.9	F
NE 47th St	IV	30	19.0	8.5	27.5	0.13	16.6	C
NE 50th St	IV	30	22.4	13.3	35.7	0.12	12.6	D
Total	IV		161.6	235.7	397.3	0.94	8.5	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.2	35.3	0.14	14.4	C
NE 47th St	IV	30	22.4	7.7	30.1	0.12	14.9	C
NE 45th St	IV	30	19.0	24.6	43.6	0.13	10.5	D
NE 43rd St	IV	30	18.2	8.8	27.0	0.10	13.5	C
NE 42nd St	IV	30	18.8	12.1	30.9	0.10	12.1	D
NE 41st St	IV	30	18.4	3.6	22.0	0.10	16.7	C
NE Campus Pkwy	IV	30	10.8	5.4	16.2	0.05	10.6	D
NE 40th St	IV	30	12.4	24.3	36.7	0.05	5.4	F
NE Pacific St	IV	30	22.6	112.5	135.1	0.15	4.0	F
Total	IV		163.7	213.2	376.9	0.95	9.1	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.4	57.8	0.13	8.1	F
520 EB/WB HOV Ramp	III	30	9.7	53.6	63.3	0.06	3.6	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	33.1	62.9	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	12.1	31.3	0.14	16.5	D
Montlake Blvd NE	III	34	61.5	2.3	63.8	0.58	32.5	A
NE 44th St	III	35	13.3	4.9	18.2	0.10	19.5	C
Total	III		157.7	146.5	304.2	1.29	15.3	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	23.3	58.7	0.30	18.1	C
Montlake Blvd NE	III	35	13.3	7.8	21.1	0.10	16.8	D
	III	34	61.5	13.3	74.8	0.58	27.7	B
NE Pacific St	III	30	19.2	22.2	41.4	0.14	12.5	E
E Hamlin St	III	30	29.8	1.3	31.1	0.23	27.2	B
	III	30	6.8	16.3	23.1	0.04	6.9	F
SR-520 EB Ramps	III	30	9.7	30.2	39.9	0.06	5.7	F
Total	III		175.7	114.4	290.1	1.46	18.1	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	37.2	69.4	0.24	12.7	D
	IV	30	17.0	19.3	36.3	0.09	9.4	D
Roosevelt Way NE	IV	30	23.3	26.9	50.2	0.16	11.1	D
11th Ave NE	IV	30	10.3	5.5	15.8	0.05	10.4	D
12th Ave NE	IV	30	12.2	3.2	15.4	0.05	12.6	D
Brooklyn Ave NE	IV	30	11.5	1.6	13.1	0.05	13.9	C
University Way NE	IV	30	11.8	13.6	25.4	0.05	7.4	E
15th Ave NE	IV	30	12.2	17.7	29.9	0.05	6.5	F
Memorial Way NE	IV	30	20.2	11.8	32.0	0.11	12.7	D
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	13.8	26.9	0.06	7.7	E
20th Ave NE	IV	30	7.6	2.0	9.6	0.03	12.6	D
Montlake Blvd NE	IV	30	52.3	74.4	126.7	0.40	11.3	D
Union Bay Pl NE	IV	30	30.6	66.1	96.7	0.23	8.6	E
Total	IV		267.0	294.1	561.1	1.64	10.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	85.4	110.7	0.18	5.9	F
Montlake Blvd NE	IV	30	30.6	23.8	54.4	0.23	15.4	C
20th Ave NE	IV	30	52.3	26.6	78.9	0.40	18.1	C
19th Ave NE	IV	30	7.6	9.4	17.0	0.03	7.1	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	16.7	29.4	0.06	6.8	F
15th Ave NE	IV	30	20.2	22.2	42.4	0.11	9.6	D
University Way NE	IV	30	12.2	11.8	24.0	0.05	8.0	E
Brooklyn Ave NE	IV	30	11.8	8.1	19.9	0.05	9.4	D
12th Ave NE	IV	30	11.5	9.8	21.3	0.05	8.6	E
11th Ave NE	IV	30	12.2	13.1	25.3	0.05	7.7	E
Roosevelt Way NE	IV	30	10.3	8.0	18.3	0.05	8.9	E
7th Ave NE	IV	30	23.3	70.6	93.9	0.16	5.9	F
5th Ave NE	IV	30	17.0	10.6	27.6	0.09	12.3	D
Total	IV		260.1	316.4	576.5	1.57	9.8	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	118.5	127.6	0.06	1.7	F
	III	30	34.6	22.0	56.6	0.27	17.3	D
Hospital Access	III	30	15.2	16.6	31.8	0.11	12.2	E
Montlake Blvd NE	III	30	11.6	5.6	17.2	0.07	15.7	D
Total	III		70.5	162.7	233.2	0.51	7.9	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	10.6	22.2	0.07	12.1	E
NE Pacific Pl	III	30	15.2	7.9	23.1	0.11	16.8	D
15th Ave NE	III	30	34.6	32.7	67.3	0.27	14.6	D
University Way NE	III	30	9.1	1.6	10.7	0.06	19.7	C
Total	III		70.5	52.8	123.3	0.51	15.0	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.2	51.1	0.15	10.3	D
NE 47th St	IV	30	18.9	16.9	35.8	0.13	12.7	D
NE 45th St	IV	30	19.1	64.6	83.7	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	11.9	40.2	0.20	18.1	C
NE 42nd St (south)	IV	30	13.6	4.7	18.3	0.06	11.8	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	127.7	245.1	0.75	11.0	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	6.5	24.3	0.13	19.6	C
Total	III		17.8	6.5	24.3	0.13	19.6	C

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	26.8	45.3	0.10	8.2	E
NE 45th St	IV	30	18.0	21.1	39.1	0.10	9.2	D
	IV	30	19.0	7.2	26.2	0.13	17.4	C
NE 50th St	IV	30	18.9	29.2	48.1	0.13	9.4	D
Total	IV		74.4	84.3	158.7	0.46	10.3	D

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	42.5	61.5	0.13	7.4	E
	IV	30	22.6	38.3	60.9	0.15	8.9	E
NE Campus Pkwy	IV	30	12.4	4.6	17.0	0.05	11.6	D
UW Campus Parking Ac	IV	30	10.8	2.9	13.7	0.05	12.5	D
NE 42nd St	IV	30	18.4	11.6	30.0	0.10	12.2	D
NE 43rd St	IV	30	18.8	13.6	32.4	0.10	11.6	D
NE 45th St	IV	30	18.2	54.2	72.4	0.10	5.0	F
NE 47th St	IV	30	19.0	8.2	27.2	0.13	16.8	C
NE 50th St	IV	30	22.4	13.4	35.8	0.12	12.5	D
Total	IV		161.6	189.3	350.9	0.94	9.6	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.9	36.0	0.14	14.1	C
NE 47th St	IV	30	22.4	7.0	29.4	0.12	15.3	C
NE 45th St	IV	30	19.0	23.1	42.1	0.13	10.9	D
NE 43rd St	IV	30	18.2	9.5	27.7	0.10	13.1	C
NE 42nd St	IV	30	18.8	12.2	31.0	0.10	12.1	D
NE 41st St	IV	30	18.4	3.4	21.8	0.10	16.9	C
NE Campus Pkwy	IV	30	10.8	5.5	16.3	0.05	10.5	D
NE 40th St	IV	30	12.4	24.2	36.6	0.05	5.4	F
NE Pacific St	IV	30	22.6	87.8	110.4	0.15	4.9	F
Total	IV		163.7	187.6	351.3	0.95	9.8	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	40.9	58.3	0.13	8.0	F
520 EB/WB HOV Ramp	III	30	9.7	52.6	62.3	0.06	3.6	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	33.1	62.9	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	12.9	32.1	0.14	16.1	D
Montlake Blvd NE	III	34	61.5	2.5	64.0	0.58	32.4	A
NE 44th St	III	35	13.3	5.0	18.3	0.10	19.4	C
Total	III		157.7	147.1	304.8	1.29	15.2	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	24.1	59.5	0.30	17.9	D
Montlake Blvd NE	III	35	13.3	7.7	21.0	0.10	16.9	D
	III	34	61.5	24.8	86.3	0.58	24.0	B
NE Pacific St	III	30	19.2	19.8	39.0	0.14	13.3	E
E Hamlin St	III	30	29.8	1.5	31.3	0.23	27.0	B
	III	30	6.8	17.0	23.8	0.04	6.7	F
SR-520 EB Ramps	III	30	9.7	30.1	39.8	0.06	5.7	F
Total	III		175.7	125.0	300.7	1.46	17.4	D

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	37.2	69.4	0.24	12.7	D
	IV	30	17.0	19.6	36.6	0.09	9.3	D
Roosevelt Way NE	IV	30	23.3	26.7	50.0	0.16	11.2	D
11th Ave NE	IV	30	10.3	4.6	14.9	0.05	11.0	D
12th Ave NE	IV	30	12.2	3.3	15.5	0.05	12.5	D
Brooklyn Ave NE	IV	30	11.5	1.4	12.9	0.05	14.2	C
University Way NE	IV	30	11.8	13.9	25.7	0.05	7.3	E
15th Ave NE	IV	30	12.2	18.0	30.2	0.05	6.4	F
Memorial Way NE	IV	30	20.2	10.4	30.6	0.11	13.2	C
18th Ave NE	IV	30	12.7	1.0	13.7	0.06	14.7	C
19th Ave NE	IV	30	13.1	14.6	27.7	0.06	7.5	E
20th Ave NE	IV	30	7.6	2.2	9.8	0.03	12.3	D
Montlake Blvd NE	IV	30	52.3	79.3	131.6	0.40	10.8	D
Union Bay Pl NE	IV	30	30.6	64.5	95.1	0.23	8.8	E
Total	IV		267.0	296.7	563.7	1.64	10.5	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	84.8	110.1	0.18	5.9	F
Montlake Blvd NE	IV	30	30.6	29.0	59.6	0.23	14.0	C
20th Ave NE	IV	30	52.3	26.4	78.7	0.40	18.1	C
19th Ave NE	IV	30	7.6	12.1	19.7	0.03	6.1	F
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	15.6	28.3	0.06	7.1	E
15th Ave NE	IV	30	20.2	23.3	43.5	0.11	9.3	D
University Way NE	IV	30	12.2	11.7	23.9	0.05	8.1	E
Brooklyn Ave NE	IV	30	11.8	8.1	19.9	0.05	9.4	D
12th Ave NE	IV	30	11.5	10.3	21.8	0.05	8.4	E
11th Ave NE	IV	30	12.2	12.4	24.6	0.05	7.9	E
Roosevelt Way NE	IV	30	10.3	8.0	18.3	0.05	8.9	E
7th Ave NE	IV	30	23.3	78.0	101.3	0.16	5.5	F
5th Ave NE	IV	30	17.0	10.7	27.7	0.09	12.3	D
Total	IV		260.1	330.7	590.8	1.57	9.6	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	64.5	73.6	0.06	2.9	F
	III	30	34.6	18.2	52.8	0.27	18.6	C
Hospital Access	III	30	15.2	16.3	31.5	0.11	12.3	E
Montlake Blvd NE	III	30	11.6	4.9	16.5	0.07	16.3	D
Total	III		70.5	103.9	174.4	0.51	10.6	E

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	12.7	24.3	0.07	11.1	E
NE Pacific Pl	III	30	15.2	8.0	23.2	0.11	16.8	D
15th Ave NE	III	30	34.6	32.3	66.9	0.27	14.7	D
University Way NE	III	30	9.1	1.6	10.7	0.06	19.7	C
Total	III		70.5	54.6	125.1	0.51	14.8	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	29.2	51.1	0.15	10.3	D
NE 47th St	IV	30	18.9	16.8	35.7	0.13	12.7	D
NE 45th St	IV	30	19.1	64.5	83.6	0.13	5.5	F
NE 42nd St (north)	IV	30	28.3	11.8	40.1	0.20	18.2	C
NE 42nd St (south)	IV	30	13.6	4.6	18.2	0.06	11.8	D
NE Campus Pkwy	IV	30	15.6	0.4	16.0	0.09	19.5	B
Total	IV		117.4	127.3	244.7	0.75	11.0	D

Arterial Level of Service: NB University Bridge

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Campus Pkwy	III	30	17.8	6.5	24.3	0.13	19.6	C
Total	III		17.8	6.5	24.3	0.13	19.6	C

3 CUMULATIVE ANALYSIS ARTERIAL OPERATIONS

3.1 SUMMARY & CALCULATIONS

3.2 SYNCHRO 9 REPORTS

PM PEAK HOUR TRAVEL TIMES - CUMULATIVE ANALYSIS

Arterial LOS was evaluated along six corridors within the study area. Arterial performance is based on the average vehicle speed and the arterial class of the corridor, as defined by Highway Capacity Manual 2000, Exhibit 15-2. The average speed along the corridor includes vehicle travel time as well as delay from traffic signals. Signal delay for arterial LOS is based on Synchro 9 methodology and the arterial class is determined by Synchro 9 based on the speed limit and intersection spacing of the corridor. Travel time projections and average speeds reported from the Synchro model were calibrated to data measured in the field. The adjustment or calibration factor accounts for operational impacts from vehicle queuing, mid-block pedestrian crossing, on-street parking maneuvers, etc. not reflected in the Synchro delay calculations. Future travel times from the Synchro model are multiplied by the adjustment factor to determine future travel times calibrated to field conditions and accounting for the factors described (i.e., queuing, parking, etc.).

Existing	Field Travel Time (m:ss)	Field Speed (mph)	Synchro Travel Time (m:ss)	Synchro Speed (mph)	Travel Time Factor	Speed Factor	Factored Travel Time (m:ss)	Factored Speed (mph)	LOS
NE 45th St Eastbound	08:25	11.7	07:29	13.2	1.1	0.9	08:25	11.7	D
NE 45th St Westbound	07:51	12.0	06:22	14.8	1.2	0.8	07:51	12.0	D
Pacific St Eastbound	04:32	15.9	02:30	28.7	1.8	0.6	04:32	15.9	D
Pacific St Westbound	03:30	20.6	02:07	33.9	1.6	0.6	03:30	20.6	C
11th Ave Northbound	04:19	8.5	02:25	15.1	1.8	0.6	04:19	8.5	E
Roosevelt Way Southbound	05:21	14.4	02:39	29.0	2.0	0.5	05:21	14.4	C
15th Ave Northbound	06:58	8.2	05:12	11.0	1.3	0.7	06:58	8.2	E
15th Ave Southbound	06:03	9.4	04:43	12.1	1.3	0.8	06:03	9.4	D
Montlake Blvd Northbound	05:32	14.0	02:50	27.3	1.9	0.5	05:32	14.0	E
Montlake Blvd Southbound	11:01	8.0	04:05	21.4	2.7	0.4	11:01	8.0	F

No Action - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	437.5	08:12	13.5	12.0	D
NE 45th St Westbound	395.9	08:07	14.3	11.6	D
Pacific St Eastbound	130.2	03:55	33.2	18.3	C
Pacific St Westbound	120.0	03:17	36.0	21.9	C
11th Ave Northbound	247.1	07:21	8.9	5.0	F
Roosevelt Way Southbound	219.4	07:22	21.0	10.4	D
15th Ave Northbound	318.2	07:06	10.7	8.0	E
15th Ave Southbound	290.2	06:13	11.8	9.2	D
Montlake Blvd Northbound	206.8	06:43	22.5	11.5	E
Montlake Blvd Southbound	530.2	23:48	9.9	3.7	F

Alternative 1 - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	463.2	08:41	12.7	11.3	D
NE 45th St Westbound	417.8	08:34	13.5	11.0	D
Pacific St Eastbound	205.9	06:12	21.0	11.6	E
Pacific St Westbound	126.8	03:28	34.1	20.7	C
11th Ave Northbound	313.0	09:18	7.0	3.9	F
Roosevelt Way Southbound	258.9	08:42	17.8	8.8	E
15th Ave Northbound	342.2	07:38	10.0	7.5	E
15th Ave Southbound	381.9	08:10	9.0	7.0	F
Montlake Blvd Northbound	241.9	07:51	19.2	9.9	F
Montlake Blvd Southbound	229.9	10:19	22.9	8.5	F

Alternative 2 - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	465.2	08:44	12.7	11.3	D
NE 45th St Westbound	417.0	08:33	13.6	11.0	D
Pacific St Eastbound	216.1	06:31	20.0	11.1	E
Pacific St Westbound	127.3	03:29	33.9	20.6	C
11th Ave Northbound	307.1	09:07	7.2	4.0	F
Roosevelt Way Southbound	256.7	08:37	18.0	8.9	E
15th Ave Northbound	338.2	07:33	10.1	7.6	E
15th Ave Southbound	377.3	08:04	9.1	7.1	E
Montlake Blvd Northbound	245.6	07:58	18.9	9.7	F
Montlake Blvd Southbound	231.9	10:25	22.7	8.4	F

Alternative 3 - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	463.1	08:41	12.7	11.3	D
NE 45th St Westbound	416.0	08:32	13.6	11.0	D
Pacific St Eastbound	239.4	07:13	18.0	10.0	F
Pacific St Westbound	127.4	03:29	33.9	20.6	C
11th Ave Northbound	316.7	09:25	6.9	3.9	F
Roosevelt Way Southbound	261.1	08:46	17.6	8.8	E
15th Ave Northbound	345.1	07:42	9.9	7.4	E
15th Ave Southbound	370.7	07:56	9.2	7.2	E
Montlake Blvd Northbound	237.9	07:43	19.5	10.0	F
Montlake Blvd Southbound	227.7	10:13	23.1	8.6	F

Alternative 4 - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	465.2	08:44	12.7	11.3	D
NE 45th St Westbound	424.1	08:42	13.3	10.8	D
Pacific St Eastbound	200.2	06:02	21.6	11.9	E
Pacific St Westbound	126.6	03:28	34.1	20.8	C
11th Ave Northbound	308.6	09:10	7.1	4.0	F
Roosevelt Way Southbound	257.3	08:39	17.9	8.9	E
15th Ave Northbound	339.1	07:34	10.1	7.5	E
15th Ave Southbound	393.0	08:24	8.7	6.8	F
Montlake Blvd Northbound	238.5	07:44	19.5	10.0	F
Montlake Blvd Southbound	224.6	10:05	23.4	8.7	F

Alternative 5.1 - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	463.1	08:41	12.7	11.3	D
NE 45th St Westbound	417.9	08:34	13.5	11.0	D
Pacific St Eastbound	184.9	05:34	23.4	12.9	E
Pacific St Westbound	120.7	03:18	35.8	21.8	C
11th Ave Northbound	312.9	09:18	7.0	3.9	F
Roosevelt Way Southbound	259.2	08:42	17.8	8.8	E
15th Ave Northbound	344.6	07:41	9.9	7.4	E
15th Ave Southbound	361.3	07:44	9.5	7.4	E
Montlake Blvd Northbound	241.9	07:51	19.2	9.9	F
Montlake Blvd Southbound	230.0	10:19	22.9	8.5	F

Alternative 5.2 - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	465.2	08:44	12.7	11.3	D
NE 45th St Westbound	417.0	08:33	13.6	11.0	D
Pacific St Eastbound	180.5	05:26	23.9	13.2	E
Pacific St Westbound	120.7	03:18	35.8	21.8	C
11th Ave Northbound	307.3	09:08	7.1	4.0	F
Roosevelt Way Southbound	256.8	08:38	17.9	8.9	E
15th Ave Northbound	341.5	07:37	10.0	7.5	E
15th Ave Southbound	357.5	07:39	9.6	7.5	E
Montlake Blvd Northbound	245.8	07:58	18.9	9.7	F
Montlake Blvd Southbound	231.6	10:24	22.7	8.4	F

Alternative 5.3 - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	463.1	08:41	12.7	11.3	D
NE 45th St Westbound	416.0	08:32	13.6	11.0	D
Pacific St Eastbound	186.4	05:37	23.2	12.8	E
Pacific St Westbound	119.8	03:17	36.1	21.9	C
11th Ave Northbound	155.6	04:37	14.1	7.9	E
Roosevelt Way Southbound	261.3	08:47	17.6	8.7	E
15th Ave Northbound	348.3	07:46	9.8	7.3	E
15th Ave Southbound	370.8	07:56	9.2	7.2	E
Montlake Blvd Northbound	237.8	07:43	19.5	10.0	F
Montlake Blvd Southbound	228.0	10:14	23.1	8.6	F

Alternative 5.4 - Cumulative	Synchro Travel Time (s)	Factored Travel Time (m:ss)	Synchro Speed	Factored Speed (mph)	LOS
NE 45th St Eastbound	465.2	08:44	12.7	11.3	D
NE 45th St Westbound	424.1	08:42	13.3	10.8	D
Pacific St Eastbound	150.2	04:32	28.8	15.9	D
Pacific St Westbound	121.7	03:20	35.5	21.6	C
11th Ave Northbound	308.9	09:11	7.1	4.0	F
Roosevelt Way Southbound	256.9	08:38	17.9	8.9	E
15th Ave Northbound	339.0	07:34	10.1	7.5	E
15th Ave Southbound	341.4	07:18	10.0	7.8	E
Montlake Blvd Northbound	246.1	07:59	18.9	9.7	F
Montlake Blvd Southbound	233.8	10:30	22.5	8.3	F

Corridor	Arterial Class (as defined in Synchro)
NE 45th St Eastbound	IV
NE 45th St Westbound	IV
Pacific St Eastbound	III
Pacific St Westbound	III
11th Ave Northbound	IV
Roosevelt Way Southbound	IV
15th Ave Northbound	IV
15th Ave Southbound	IV
Montlake Blvd Northbound	III
Montlake Blvd Southbound	III

EXHIBIT 15-2. URBAN STREET LOS BY CLASS

Urban Street Class	I	II	III	IV
Range of free-flow speeds (FFS)	55 to 45 mi/h	45 to 35 mi/h	35 to 30 mi/h	35 to 25 mi/h
Typical FFS	50 mi/h	40 mi/h	35 mi/h	30 mi/h
LOS	Average Travel Speed (mi/h)			
A	> 42	> 35	> 30	> 25
B	> 34–42	> 28–35	> 24–30	> 19–25
C	> 27–34	> 22–28	> 18–24	> 13–19
D	> 21–27	> 17–22	> 14–18	> 9–13

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	87.1	105.6	0.10	3.5	F
NE 45th St	IV	30	18.0	20.7	38.7	0.10	9.3	D
	IV	30	19.0	6.9	25.9	0.13	17.6	C
NE 50th St	IV	30	18.9	58.0	76.9	0.13	5.9	F
Total	IV		74.4	172.7	247.1	0.46	6.6	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	35.4	54.4	0.13	8.4	E
	IV	30	22.6	42.2	64.8	0.15	8.4	E
NE Campus Pkwy	IV	30	12.4	4.5	16.9	0.05	11.6	D
UW Campus Parking Ac	IV	30	10.8	1.8	12.6	0.05	13.6	C
NE 42nd St	IV	30	18.4	12.9	31.3	0.10	11.7	D
NE 43rd St	IV	30	18.8	14.1	32.9	0.10	11.4	D
NE 45th St	IV	30	18.2	76.9	95.1	0.10	3.8	F
NE 47th St	IV	30	19.0	8.9	27.9	0.13	16.4	C
NE 50th St	IV	30	22.4	14.3	36.7	0.12	12.2	D
Total	IV		161.6	211.0	372.6	0.94	9.1	D

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	13.9	35.0	0.14	14.5	C
NE 47th St	IV	30	22.4	8.9	31.3	0.12	14.3	C
NE 45th St	IV	30	19.0	22.5	41.5	0.13	11.0	D
NE 43rd St	IV	30	18.2	7.1	25.3	0.10	14.4	C
NE 42nd St	IV	30	18.8	10.9	29.7	0.10	12.6	D
NE 41st St	IV	30	18.4	3.0	21.4	0.10	17.2	C
NE Campus Pkwy	IV	30	10.8	5.9	16.7	0.05	10.2	D
NE 40th St	IV	30	12.4	23.4	35.8	0.05	5.5	F
NE Pacific St	IV	30	22.6	65.9	88.5	0.15	6.1	F
Total	IV		163.7	161.5	325.2	0.95	10.5	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	44.5	61.9	0.13	7.5	F
520 EB/WB HOV Ramp	III	30	9.7	26.4	36.1	0.06	6.3	F
E Hamlin St	III	30	6.8	0.2	7.0	0.04	22.7	C
Husky Stadium Parkin	III	30	29.8	26.9	56.7	0.23	14.9	D
Husky Stadium Parkin	III	30	19.2	8.1	27.3	0.14	18.9	C
Montlake Blvd NE	III	34	61.5	3.0	64.5	0.58	32.2	A
NE 44th St	III	35	13.3	1.9	15.2	0.10	23.4	C
Total	III		157.7	111.0	268.7	1.29	17.3	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	17.7	53.1	0.30	20.0	C
Montlake Blvd NE	III	35	13.3	15.7	29.0	0.10	12.2	E
	III	34	61.5	7.3	68.8	0.58	30.1	A
NE Pacific St	III	30	19.2	22.4	41.6	0.14	12.4	E
E Hamlin St	III	30	29.8	1.3	31.1	0.23	27.2	B
	III	30	6.8	16.7	23.5	0.04	6.8	F
SR-520 EB Ramps	III	30	9.7	26.5	36.2	0.06	6.2	F
Total	III		175.7	107.6	283.3	1.46	18.5	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	34.4	66.6	0.24	13.2	C
	IV	30	17.0	18.9	35.9	0.09	9.5	D
Roosevelt Way NE	IV	30	23.3	23.8	47.1	0.16	11.9	D
11th Ave NE	IV	30	10.3	2.8	13.1	0.05	12.5	D
12th Ave NE	IV	30	12.2	4.7	16.9	0.05	11.5	D
Brooklyn Ave NE	IV	30	11.5	2.0	13.5	0.05	13.5	C
University Way NE	IV	30	11.8	6.1	17.9	0.05	10.4	D
15th Ave NE	IV	30	12.2	17.5	29.7	0.05	6.5	F
Memorial Way NE	IV	30	20.2	7.0	27.2	0.11	14.9	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	9.7	22.8	0.06	9.1	D
20th Ave NE	IV	30	7.6	1.4	9.0	0.03	13.4	C
Montlake Blvd NE	IV	30	52.3	68.0	120.3	0.40	11.9	D
Union Bay Pl NE	IV	30	30.6	39.6	70.2	0.23	11.9	D
Total	IV		267.0	237.1	504.1	1.64	11.7	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	63.4	88.7	0.18	7.3	E
Montlake Blvd NE	IV	30	30.6	12.1	42.7	0.23	19.6	B
20th Ave NE	IV	30	52.3	21.2	73.5	0.40	19.4	B
19th Ave NE	IV	30	7.6	7.3	14.9	0.03	8.1	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	11.6	24.3	0.06	8.3	E
15th Ave NE	IV	30	20.2	22.9	43.1	0.11	9.4	D
University Way NE	IV	30	12.2	7.5	19.7	0.05	9.8	D
Brooklyn Ave NE	IV	30	11.8	6.0	17.8	0.05	10.5	D
12th Ave NE	IV	30	11.5	10.5	22.0	0.05	8.3	E
11th Ave NE	IV	30	12.2	12.3	24.5	0.05	7.9	E
Roosevelt Way NE	IV	30	10.3	5.2	15.5	0.05	10.6	D
7th Ave NE	IV	30	23.3	35.4	58.7	0.16	9.5	D
5th Ave NE	IV	30	17.0	8.8	25.8	0.09	13.2	C
Total	IV		260.1	224.5	484.6	1.57	11.7	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	29.0	38.1	0.06	5.5	F
	III	30	34.6	10.9	45.5	0.27	21.5	C
Hospital Access	III	30	15.2	15.6	30.8	0.11	12.6	E
Montlake Blvd NE	III	30	11.6	4.2	15.8	0.07	17.0	D
Total	III		70.5	59.7	130.2	0.51	14.2	D

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	13.4	25.0	0.07	10.8	E
NE Pacific Pl	III	30	15.2	7.2	22.4	0.11	17.3	D
15th Ave NE	III	30	34.6	27.6	62.2	0.27	15.8	D
University Way NE	III	30	9.1	1.3	10.4	0.06	20.3	C
Total	III		70.5	49.5	120.0	0.51	15.4	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.3	57.2	0.15	9.2	D
NE 47th St	IV	30	18.9	24.0	42.9	0.13	10.6	D
NE 45th St	IV	30	19.1	75.0	94.1	0.13	4.9	F
NE 42nd St (north)	IV	30	28.3	15.3	43.6	0.20	16.7	C
NE 42nd St (south)	IV	30	13.6	9.1	22.7	0.06	9.5	D
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	159.2	276.6	0.75	9.7	D

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	139.1	157.6	0.10	2.3	F
NE 45th St	IV	30	18.0	21.8	39.8	0.10	9.1	D
	IV	30	19.0	11.6	30.6	0.13	14.9	C
NE 50th St	IV	30	18.9	66.1	85.0	0.13	5.3	F
Total	IV		74.4	238.6	313.0	0.46	5.2	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	69.5	88.5	0.13	5.2	F
	IV	30	22.6	36.2	58.8	0.15	9.2	D
NE Campus Pkwy	IV	30	12.4	4.6	17.0	0.05	11.6	D
UW Campus Parking Ac	IV	30	10.8	1.8	12.6	0.05	13.6	C
NE 42nd St	IV	30	18.4	12.4	30.8	0.10	11.9	D
NE 43rd St	IV	30	18.8	14.7	33.5	0.10	11.2	D
NE 45th St	IV	30	18.2	101.0	119.2	0.10	3.0	F
NE 47th St	IV	30	19.0	10.0	29.0	0.13	15.8	C
NE 50th St	IV	30	22.4	18.9	41.3	0.12	10.9	D
Total	IV		161.6	269.1	430.7	0.94	7.8	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	15.3	36.4	0.14	13.9	C
NE 47th St	IV	30	22.4	8.9	31.3	0.12	14.3	C
NE 45th St	IV	30	19.0	25.5	44.5	0.13	10.3	D
NE 43rd St	IV	30	18.2	7.4	25.6	0.10	14.2	C
NE 42nd St	IV	30	18.8	11.7	30.5	0.10	12.3	D
NE 41st St	IV	30	18.4	3.7	22.1	0.10	16.6	C
NE Campus Pkwy	IV	30	10.8	5.2	16.0	0.05	10.7	D
NE 40th St	IV	30	12.4	22.5	34.9	0.05	5.6	F
NE Pacific St	IV	30	22.6	154.4	177.0	0.15	3.1	F
Total	IV		163.7	254.6	418.3	0.95	8.2	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	45.9	63.3	0.13	7.4	F
520 EB/WB HOV Ramp	III	30	9.7	50.5	60.2	0.06	3.7	F
E Hamlin St	III	30	6.8	0.2	7.0	0.04	22.7	C
Husky Stadium Parkin	III	30	29.8	33.4	63.2	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	11.0	30.2	0.14	17.1	D
Montlake Blvd NE	III	34	61.5	2.6	64.1	0.58	32.4	A
NE 44th St	III	35	13.3	3.9	17.2	0.10	20.7	C
Total	III		157.7	147.5	305.2	1.29	15.2	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	21.7	57.1	0.30	18.6	C
Montlake Blvd NE	III	35	13.3	11.0	24.3	0.10	14.6	D
	III	34	61.5	11.9	73.4	0.58	28.3	B
NE Pacific St	III	30	19.2	22.8	42.0	0.14	12.3	E
E Hamlin St	III	30	29.8	1.2	31.0	0.23	27.3	B
	III	30	6.8	16.4	23.2	0.04	6.8	F
SR-520 EB Ramps	III	30	9.7	26.3	36.0	0.06	6.3	F
Total	III		175.7	111.3	287.0	1.46	18.3	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	36.6	68.8	0.24	12.8	D
	IV	30	17.0	18.3	35.3	0.09	9.6	D
Roosevelt Way NE	IV	30	23.3	25.3	48.6	0.16	11.5	D
11th Ave NE	IV	30	10.3	4.4	14.7	0.05	11.1	D
12th Ave NE	IV	30	12.2	5.5	17.7	0.05	10.9	D
Brooklyn Ave NE	IV	30	11.5	1.3	12.8	0.05	14.3	C
University Way NE	IV	30	11.8	9.5	21.3	0.05	8.8	E
15th Ave NE	IV	30	12.2	18.2	30.4	0.05	6.3	F
Memorial Way NE	IV	30	20.2	9.1	29.3	0.11	13.8	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	11.2	24.3	0.06	8.6	E
20th Ave NE	IV	30	7.6	1.6	9.2	0.03	13.1	C
Montlake Blvd NE	IV	30	52.3	71.9	124.2	0.40	11.5	D
Union Bay Pl NE	IV	30	30.6	50.9	81.5	0.23	10.3	D
Total	IV		267.0	265.0	532.0	1.64	11.1	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	65.7	91.0	0.18	7.1	E
Montlake Blvd NE	IV	30	30.6	14.0	44.6	0.23	18.7	C
20th Ave NE	IV	30	52.3	23.4	75.7	0.40	18.8	C
19th Ave NE	IV	30	7.6	7.5	15.1	0.03	8.0	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	14.4	27.1	0.06	7.4	E
15th Ave NE	IV	30	20.2	23.0	43.2	0.11	9.4	D
University Way NE	IV	30	12.2	9.7	21.9	0.05	8.8	E
Brooklyn Ave NE	IV	30	11.8	6.6	18.4	0.05	10.2	D
12th Ave NE	IV	30	11.5	7.9	19.4	0.05	9.4	D
11th Ave NE	IV	30	12.2	16.2	28.4	0.05	6.8	F
Roosevelt Way NE	IV	30	10.3	6.1	16.4	0.05	10.0	D
7th Ave NE	IV	30	23.3	44.4	67.7	0.16	8.2	E
5th Ave NE	IV	30	17.0	9.5	26.5	0.09	12.8	D
Total	IV		260.1	248.7	508.8	1.57	11.1	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	93.9	103.0	0.06	2.0	F
	III	30	34.6	18.8	53.4	0.27	18.4	C
Hospital Access	III	30	15.2	17.4	32.6	0.11	11.9	E
Montlake Blvd NE	III	30	11.6	5.3	16.9	0.07	15.9	D
Total	III		70.5	135.4	205.9	0.51	9.0	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	9.7	21.3	0.07	12.6	E
NE Pacific Pl	III	30	15.2	7.1	22.3	0.11	17.4	D
15th Ave NE	III	30	34.6	33.9	68.5	0.27	14.3	D
University Way NE	III	30	9.1	5.6	14.7	0.06	14.3	D
Total	III		70.5	56.3	126.8	0.51	14.6	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.1	57.0	0.15	9.2	D
NE 47th St	IV	30	18.9	25.8	44.7	0.13	10.2	D
NE 45th St	IV	30	19.1	109.6	128.7	0.13	3.6	F
NE 42nd St (north)	IV	30	28.3	16.4	44.7	0.20	16.3	C
NE 42nd St (south)	IV	30	13.6	11.1	24.7	0.06	8.7	E
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	198.5	315.9	0.75	8.5	E

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	132.3	150.8	0.10	2.5	F
NE 45th St	IV	30	18.0	22.5	40.5	0.10	8.9	E
	IV	30	19.0	11.1	30.1	0.13	15.2	C
NE 50th St	IV	30	18.9	66.8	85.7	0.13	5.3	F
Total	IV		74.4	232.7	307.1	0.46	5.3	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	62.2	81.2	0.13	5.6	F
	IV	30	22.6	35.7	58.3	0.15	9.3	D
NE Campus Pkwy	IV	30	12.4	4.3	16.7	0.05	11.8	D
UW Campus Parking Ac	IV	30	10.8	1.9	12.7	0.05	13.5	C
NE 42nd St	IV	30	18.4	12.6	31.0	0.10	11.9	D
NE 43rd St	IV	30	18.8	14.6	33.4	0.10	11.2	D
NE 45th St	IV	30	18.2	97.8	116.0	0.10	3.1	F
NE 47th St	IV	30	19.0	10.0	29.0	0.13	15.8	C
NE 50th St	IV	30	22.4	18.7	41.1	0.12	10.9	D
Total	IV		161.6	257.8	419.4	0.94	8.1	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	15.3	36.4	0.14	13.9	C
NE 47th St	IV	30	22.4	8.9	31.3	0.12	14.3	C
NE 45th St	IV	30	19.0	25.5	44.5	0.13	10.3	D
NE 43rd St	IV	30	18.2	7.3	25.5	0.10	14.3	C
NE 42nd St	IV	30	18.8	11.7	30.5	0.10	12.3	D
NE 41st St	IV	30	18.4	3.9	22.3	0.10	16.5	C
NE Campus Pkwy	IV	30	10.8	5.0	15.8	0.05	10.8	D
NE 40th St	IV	30	12.4	22.3	34.7	0.05	5.7	F
NE Pacific St	IV	30	22.6	150.1	172.7	0.15	3.1	F
Total	IV		163.7	250.0	413.7	0.95	8.3	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	46.6	64.0	0.13	7.3	F
520 EB/WB HOV Ramp	III	30	9.7	54.1	63.8	0.06	3.5	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	33.2	63.0	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	11.5	30.7	0.14	16.8	D
Montlake Blvd NE	III	34	61.5	2.6	64.1	0.58	32.4	A
NE 44th St	III	35	13.3	3.8	17.1	0.10	20.8	C
Total	III		157.7	151.9	309.6	1.29	15.0	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	21.6	57.0	0.30	18.6	C
Montlake Blvd NE	III	35	13.3	11.0	24.3	0.10	14.6	D
	III	34	61.5	15.7	77.2	0.58	26.9	B
NE Pacific St	III	30	19.2	20.8	40.0	0.14	12.9	E
E Hamlin St	III	30	29.8	1.2	31.0	0.23	27.3	B
	III	30	6.8	16.6	23.4	0.04	6.8	F
SR-520 EB Ramps	III	30	9.7	26.3	36.0	0.06	6.3	F
Total	III		175.7	113.2	288.9	1.46	18.1	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	36.5	68.7	0.24	12.8	D
	IV	30	17.0	18.2	35.2	0.09	9.6	D
Roosevelt Way NE	IV	30	23.3	25.6	48.9	0.16	11.4	D
11th Ave NE	IV	30	10.3	3.6	13.9	0.05	11.8	D
12th Ave NE	IV	30	12.2	5.3	17.5	0.05	11.1	D
Brooklyn Ave NE	IV	30	11.5	1.3	12.8	0.05	14.3	C
University Way NE	IV	30	11.8	9.4	21.2	0.05	8.8	E
15th Ave NE	IV	30	12.2	18.8	31.0	0.05	6.2	F
Memorial Way NE	IV	30	20.2	9.3	29.5	0.11	13.7	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	11.6	24.7	0.06	8.4	E
20th Ave NE	IV	30	7.6	1.7	9.3	0.03	13.0	D
Montlake Blvd NE	IV	30	52.3	74.0	126.3	0.40	11.3	D
Union Bay Pl NE	IV	30	30.6	50.4	81.0	0.23	10.3	D
Total	IV		267.0	266.9	533.9	1.64	11.0	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	65.7	91.0	0.18	7.1	E
Montlake Blvd NE	IV	30	30.6	14.4	45.0	0.23	18.6	C
20th Ave NE	IV	30	52.3	23.5	75.8	0.40	18.8	C
19th Ave NE	IV	30	7.6	8.2	15.8	0.03	7.6	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	15.0	27.7	0.06	7.3	E
15th Ave NE	IV	30	20.2	23.4	43.6	0.11	9.3	D
University Way NE	IV	30	12.2	9.4	21.6	0.05	8.9	E
Brooklyn Ave NE	IV	30	11.8	6.7	18.5	0.05	10.1	D
12th Ave NE	IV	30	11.5	8.1	19.6	0.05	9.3	D
11th Ave NE	IV	30	12.2	14.6	26.8	0.05	7.2	E
Roosevelt Way NE	IV	30	10.3	6.3	16.6	0.05	9.9	D
7th Ave NE	IV	30	23.3	42.9	66.2	0.16	8.4	E
5th Ave NE	IV	30	17.0	9.4	26.4	0.09	12.9	D
Total	IV		260.1	247.9	508.0	1.57	11.2	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	104.9	114.0	0.06	1.8	F
	III	30	34.6	18.3	52.9	0.27	18.5	C
Hospital Access	III	30	15.2	17.1	32.3	0.11	12.0	E
Montlake Blvd NE	III	30	11.6	5.3	16.9	0.07	15.9	D
Total	III		70.5	145.6	216.1	0.51	8.6	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	10.3	21.9	0.07	12.3	E
NE Pacific Pl	III	30	15.2	7.3	22.5	0.11	17.3	D
15th Ave NE	III	30	34.6	33.6	68.2	0.27	14.4	D
University Way NE	III	30	9.1	5.6	14.7	0.06	14.3	D
Total	III		70.5	56.8	127.3	0.51	14.5	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.1	57.0	0.15	9.2	D
NE 47th St	IV	30	18.9	25.7	44.6	0.13	10.2	D
NE 45th St	IV	30	19.1	108.2	127.3	0.13	3.6	F
NE 42nd St (north)	IV	30	28.3	16.5	44.8	0.20	16.3	C
NE 42nd St (south)	IV	30	13.6	10.3	23.9	0.06	9.0	D
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	196.3	313.7	0.75	8.6	E

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	142.6	161.1	0.10	2.3	F
NE 45th St	IV	30	18.0	21.8	39.8	0.10	9.1	D
	IV	30	19.0	11.7	30.7	0.13	14.9	C
NE 50th St	IV	30	18.9	66.2	85.1	0.13	5.3	F
Total	IV		74.4	242.3	316.7	0.46	5.2	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	83.6	102.6	0.13	4.5	F
	IV	30	22.6	36.7	59.3	0.15	9.2	D
NE Campus Pkwy	IV	30	12.4	4.1	16.5	0.05	11.9	D
UW Campus Parking Ac	IV	30	10.8	1.7	12.5	0.05	13.7	C
NE 42nd St	IV	30	18.4	12.5	30.9	0.10	11.9	D
NE 43rd St	IV	30	18.8	15.2	34.0	0.10	11.0	D
NE 45th St	IV	30	18.2	103.8	122.0	0.10	3.0	F
NE 47th St	IV	30	19.0	10.1	29.1	0.13	15.7	C
NE 50th St	IV	30	22.4	18.4	40.8	0.12	11.0	D
Total	IV		161.6	286.1	447.7	0.94	7.5	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.7	35.8	0.14	14.2	C
NE 47th St	IV	30	22.4	9.5	31.9	0.12	14.1	C
NE 45th St	IV	30	19.0	25.8	44.8	0.13	10.2	D
NE 43rd St	IV	30	18.2	7.4	25.6	0.10	14.2	C
NE 42nd St	IV	30	18.8	11.7	30.5	0.10	12.3	D
NE 41st St	IV	30	18.4	3.7	22.1	0.10	16.6	C
NE Campus Pkwy	IV	30	10.8	5.2	16.0	0.05	10.7	D
NE 40th St	IV	30	12.4	22.6	35.0	0.05	5.6	F
NE Pacific St	IV	30	22.6	142.2	164.8	0.15	3.3	F
Total	IV		163.7	242.8	406.5	0.95	8.4	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	45.9	63.3	0.13	7.4	F
520 EB/WB HOV Ramp	III	30	9.7	48.0	57.7	0.06	3.9	F
E Hamlin St	III	30	6.8	0.2	7.0	0.04	22.7	C
Husky Stadium Parkin	III	30	29.8	32.3	62.1	0.23	13.6	E
Husky Stadium Parkin	III	30	19.2	10.5	29.7	0.14	17.4	D
Montlake Blvd NE	III	34	61.5	2.6	64.1	0.58	32.4	A
NE 44th St	III	35	13.3	4.0	17.3	0.10	20.5	C
Total	III		157.7	143.5	301.2	1.29	15.4	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	21.8	57.2	0.30	18.6	C
Montlake Blvd NE	III	35	13.3	10.9	24.2	0.10	14.7	D
	III	34	61.5	10.6	72.1	0.58	28.8	B
NE Pacific St	III	30	19.2	22.9	42.1	0.14	12.3	E
E Hamlin St	III	30	29.8	1.0	30.8	0.23	27.4	B
	III	30	6.8	15.8	22.6	0.04	7.0	F
SR-520 EB Ramps	III	30	9.7	26.2	35.9	0.06	6.3	F
Total	III		175.7	109.2	284.9	1.46	18.4	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	36.5	68.7	0.24	12.8	D
	IV	30	17.0	18.3	35.3	0.09	9.6	D
Roosevelt Way NE	IV	30	23.3	25.3	48.6	0.16	11.5	D
11th Ave NE	IV	30	10.3	4.4	14.7	0.05	11.1	D
12th Ave NE	IV	30	12.2	5.3	17.5	0.05	11.1	D
Brooklyn Ave NE	IV	30	11.5	1.4	12.9	0.05	14.2	C
University Way NE	IV	30	11.8	9.7	21.5	0.05	8.7	E
15th Ave NE	IV	30	12.2	18.3	30.5	0.05	6.3	F
Memorial Way NE	IV	30	20.2	8.9	29.1	0.11	13.9	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	10.7	23.8	0.06	8.7	E
20th Ave NE	IV	30	7.6	1.9	9.5	0.03	12.7	D
Montlake Blvd NE	IV	30	52.3	71.9	124.2	0.40	11.5	D
Union Bay Pl NE	IV	30	30.6	51.0	81.6	0.23	10.2	D
Total	IV		267.0	264.8	531.8	1.64	11.1	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	65.7	91.0	0.18	7.1	E
Montlake Blvd NE	IV	30	30.6	13.2	43.8	0.23	19.1	B
20th Ave NE	IV	30	52.3	23.3	75.6	0.40	18.9	C
19th Ave NE	IV	30	7.6	7.1	14.7	0.03	8.2	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	13.9	26.6	0.06	7.6	E
15th Ave NE	IV	30	20.2	23.2	43.4	0.11	9.3	D
University Way NE	IV	30	12.2	9.8	22.0	0.05	8.8	E
Brooklyn Ave NE	IV	30	11.8	6.7	18.5	0.05	10.1	D
12th Ave NE	IV	30	11.5	8.3	19.8	0.05	9.2	D
11th Ave NE	IV	30	12.2	15.4	27.6	0.05	7.0	E
Roosevelt Way NE	IV	30	10.3	6.3	16.6	0.05	9.9	D
7th Ave NE	IV	30	23.3	44.2	67.5	0.16	8.3	E
5th Ave NE	IV	30	17.0	9.5	26.5	0.09	12.8	D
Total	IV		260.1	246.9	507.0	1.57	11.2	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	125.6	134.7	0.06	1.6	F
	III	30	34.6	20.0	54.6	0.27	18.0	D
Hospital Access	III	30	15.2	17.8	33.0	0.11	11.8	E
Montlake Blvd NE	III	30	11.6	5.5	17.1	0.07	15.7	D
Total	III		70.5	168.9	239.4	0.51	7.7	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	9.1	20.7	0.07	13.0	E
NE Pacific Pl	III	30	15.2	7.0	22.2	0.11	17.5	D
15th Ave NE	III	30	34.6	35.0	69.6	0.27	14.1	D
University Way NE	III	30	9.1	5.8	14.9	0.06	14.1	D
Total	III		70.5	56.9	127.4	0.51	14.5	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.2	57.1	0.15	9.2	D
NE 47th St	IV	30	18.9	25.9	44.8	0.13	10.1	D
NE 45th St	IV	30	19.1	111.7	130.8	0.13	3.5	F
NE 42nd St (north)	IV	30	28.3	16.4	44.7	0.20	16.3	C
NE 42nd St (south)	IV	30	13.6	11.1	24.7	0.06	8.7	E
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	200.8	318.2	0.75	8.5	E

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	133.8	152.3	0.10	2.4	F
NE 45th St	IV	30	18.0	22.5	40.5	0.10	8.9	E
	IV	30	19.0	11.1	30.1	0.13	15.2	C
NE 50th St	IV	30	18.9	66.8	85.7	0.13	5.3	F
Total	IV		74.4	234.2	308.6	0.46	5.3	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	98.0	117.0	0.13	3.9	F
	IV	30	22.6	39.8	62.4	0.15	8.7	E
NE Campus Pkwy	IV	30	12.4	5.7	18.1	0.05	10.8	D
UW Campus Parking Ac	IV	30	10.8	1.7	12.5	0.05	13.7	C
NE 42nd St	IV	30	18.4	12.9	31.3	0.10	11.7	D
NE 43rd St	IV	30	18.8	14.2	33.0	0.10	11.4	D
NE 45th St	IV	30	18.2	94.6	112.8	0.10	3.2	F
NE 47th St	IV	30	19.0	9.8	28.8	0.13	15.9	C
NE 50th St	IV	30	22.4	17.8	40.2	0.12	11.2	D
Total	IV		161.6	294.5	456.1	0.94	7.4	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	15.3	36.4	0.14	13.9	C
NE 47th St	IV	30	22.4	8.5	30.9	0.12	14.5	C
NE 45th St	IV	30	19.0	23.9	42.9	0.13	10.6	D
NE 43rd St	IV	30	18.2	8.0	26.2	0.10	13.9	C
NE 42nd St	IV	30	18.8	12.0	30.8	0.10	12.2	D
NE 41st St	IV	30	18.4	3.7	22.1	0.10	16.6	C
NE Campus Pkwy	IV	30	10.8	5.6	16.4	0.05	10.4	D
NE 40th St	IV	30	12.4	23.7	36.1	0.05	5.4	F
NE Pacific St	IV	30	22.6	165.0	187.6	0.15	2.9	F
Total	IV		163.7	265.7	429.4	0.95	8.0	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	46.2	63.6	0.13	7.3	F
520 EB/WB HOV Ramp	III	30	9.7	50.1	59.8	0.06	3.8	F
E Hamlin St	III	30	6.8	0.2	7.0	0.04	22.7	C
Husky Stadium Parkin	III	30	29.8	30.7	60.5	0.23	14.0	E
Husky Stadium Parkin	III	30	19.2	10.0	29.2	0.14	17.7	D
Montlake Blvd NE	III	34	61.5	2.6	64.1	0.58	32.4	A
NE 44th St	III	35	13.3	4.3	17.6	0.10	20.2	C
Total	III		157.7	144.1	301.8	1.29	15.4	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	22.5	57.9	0.30	18.3	C
Montlake Blvd NE	III	35	13.3	11.1	24.4	0.10	14.6	D
	III	34	61.5	10.4	71.9	0.58	28.8	B
NE Pacific St	III	30	19.2	21.1	40.3	0.14	12.8	E
E Hamlin St	III	30	29.8	0.9	30.7	0.23	27.5	B
	III	30	6.8	14.9	21.7	0.04	7.3	F
SR-520 EB Ramps	III	30	9.7	25.9	35.6	0.06	6.3	F
Total	III		175.7	106.8	282.5	1.46	18.5	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	36.6	68.8	0.24	12.8	D
	IV	30	17.0	18.5	35.5	0.09	9.6	D
Roosevelt Way NE	IV	30	23.3	25.5	48.8	0.16	11.4	D
11th Ave NE	IV	30	10.3	3.7	14.0	0.05	11.7	D
12th Ave NE	IV	30	12.2	5.3	17.5	0.05	11.1	D
Brooklyn Ave NE	IV	30	11.5	1.3	12.8	0.05	14.3	C
University Way NE	IV	30	11.8	9.8	21.6	0.05	8.6	E
15th Ave NE	IV	30	12.2	18.7	30.9	0.05	6.2	F
Memorial Way NE	IV	30	20.2	7.6	27.8	0.11	14.6	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	11.9	25.0	0.06	8.3	E
20th Ave NE	IV	30	7.6	2.1	9.7	0.03	12.4	D
Montlake Blvd NE	IV	30	52.3	74.8	127.1	0.40	11.2	D
Union Bay Pl NE	IV	30	30.6	50.0	80.6	0.23	10.4	D
Total	IV		267.0	267.0	534.0	1.64	11.0	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	65.5	90.8	0.18	7.2	E
Montlake Blvd NE	IV	30	30.6	15.0	45.6	0.23	18.3	C
20th Ave NE	IV	30	52.3	23.3	75.6	0.40	18.9	C
19th Ave NE	IV	30	7.6	9.1	16.7	0.03	7.2	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	12.9	25.6	0.06	7.9	E
15th Ave NE	IV	30	20.2	25.2	45.4	0.11	8.9	E
University Way NE	IV	30	12.2	9.2	21.4	0.05	9.0	D
Brooklyn Ave NE	IV	30	11.8	6.5	18.3	0.05	10.2	D
12th Ave NE	IV	30	11.5	8.3	19.8	0.05	9.2	D
11th Ave NE	IV	30	12.2	14.9	27.1	0.05	7.1	E
Roosevelt Way NE	IV	30	10.3	6.4	16.7	0.05	9.8	D
7th Ave NE	IV	30	23.3	48.6	71.9	0.16	7.8	E
5th Ave NE	IV	30	17.0	9.6	26.6	0.09	12.8	D
Total	IV		260.1	254.8	514.9	1.57	11.0	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	86.4	95.5	0.06	2.2	F
	III	30	34.6	20.0	54.6	0.27	18.0	D
Hospital Access	III	30	15.2	17.8	33.0	0.11	11.8	E
Montlake Blvd NE	III	30	11.6	5.5	17.1	0.07	15.7	D
Total	III		70.5	129.7	200.2	0.51	9.2	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	9.5	21.1	0.07	12.8	E
NE Pacific Pl	III	30	15.2	7.2	22.4	0.11	17.3	D
15th Ave NE	III	30	34.6	33.8	68.4	0.27	14.3	D
University Way NE	III	30	9.1	5.6	14.7	0.06	14.3	D
Total	III		70.5	56.1	126.6	0.51	14.6	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.2	57.1	0.15	9.2	D
NE 47th St	IV	30	18.9	25.8	44.7	0.13	10.2	D
NE 45th St	IV	30	19.1	107.9	127.0	0.13	3.6	F
NE 42nd St (north)	IV	30	28.3	16.5	44.8	0.20	16.3	C
NE 42nd St (south)	IV	30	13.6	11.1	24.7	0.06	8.7	E
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	197.0	314.4	0.75	8.6	E

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	139.0	157.5	0.10	2.3	F
NE 45th St	IV	30	18.0	21.8	39.8	0.10	9.1	D
	IV	30	19.0	11.6	30.6	0.13	14.9	C
NE 50th St	IV	30	18.9	66.1	85.0	0.13	5.3	F
Total	IV		74.4	238.5	312.9	0.46	5.2	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	66.1	85.1	0.13	5.4	F
	IV	30	22.6	38.8	61.4	0.15	8.9	E
NE Campus Pkwy	IV	30	12.4	4.2	16.6	0.05	11.8	D
UW Campus Parking Ac	IV	30	10.8	1.8	12.6	0.05	13.6	C
NE 42nd St	IV	30	18.4	12.6	31.0	0.10	11.9	D
NE 43rd St	IV	30	18.8	14.7	33.5	0.10	11.2	D
NE 45th St	IV	30	18.2	101.0	119.2	0.10	3.0	F
NE 47th St	IV	30	19.0	10.0	29.0	0.13	15.8	C
NE 50th St	IV	30	22.4	18.9	41.3	0.12	10.9	D
Total	IV		161.6	268.1	429.7	0.94	7.9	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	15.3	36.4	0.14	13.9	C
NE 47th St	IV	30	22.4	8.9	31.3	0.12	14.3	C
NE 45th St	IV	30	19.0	25.5	44.5	0.13	10.3	D
NE 43rd St	IV	30	18.2	7.4	25.6	0.10	14.2	C
NE 42nd St	IV	30	18.8	11.7	30.5	0.10	12.3	D
NE 41st St	IV	30	18.4	3.7	22.1	0.10	16.6	C
NE Campus Pkwy	IV	30	10.8	5.2	16.0	0.05	10.7	D
NE 40th St	IV	30	12.4	22.5	34.9	0.05	5.6	F
NE Pacific St	IV	30	22.6	133.8	156.4	0.15	3.5	F
Total	IV		163.7	234.0	397.7	0.95	8.6	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	45.9	63.3	0.13	7.4	F
520 EB/WB HOV Ramp	III	30	9.7	50.5	60.2	0.06	3.7	F
E Hamlin St	III	30	6.8	0.2	7.0	0.04	22.7	C
Husky Stadium Parkin	III	30	29.8	33.4	63.2	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	11.0	30.2	0.14	17.1	D
Montlake Blvd NE	III	34	61.5	2.6	64.1	0.58	32.4	A
NE 44th St	III	35	13.3	3.9	17.2	0.10	20.7	C
Total	III		157.7	147.5	305.2	1.29	15.2	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	21.7	57.1	0.30	18.6	C
Montlake Blvd NE	III	35	13.3	11.0	24.3	0.10	14.6	D
	III	34	61.5	11.9	73.4	0.58	28.3	B
NE Pacific St	III	30	19.2	22.8	42.0	0.14	12.3	E
E Hamlin St	III	30	29.8	1.1	30.9	0.23	27.4	B
	III	30	6.8	16.2	23.0	0.04	6.9	F
SR-520 EB Ramps	III	30	9.7	26.7	36.4	0.06	6.2	F
Total	III		175.7	111.4	287.1	1.46	18.2	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	36.5	68.7	0.24	12.8	D
	IV	30	17.0	18.3	35.3	0.09	9.6	D
Roosevelt Way NE	IV	30	23.3	25.3	48.6	0.16	11.5	D
11th Ave NE	IV	30	10.3	4.4	14.7	0.05	11.1	D
12th Ave NE	IV	30	12.2	5.5	17.7	0.05	10.9	D
Brooklyn Ave NE	IV	30	11.5	1.3	12.8	0.05	14.3	C
University Way NE	IV	30	11.8	9.5	21.3	0.05	8.8	E
15th Ave NE	IV	30	12.2	18.2	30.4	0.05	6.3	F
Memorial Way NE	IV	30	20.2	9.0	29.2	0.11	13.9	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	11.2	24.3	0.06	8.6	E
20th Ave NE	IV	30	7.6	1.6	9.2	0.03	13.1	C
Montlake Blvd NE	IV	30	52.3	71.9	124.2	0.40	11.5	D
Union Bay Pl NE	IV	30	30.6	50.9	81.5	0.23	10.3	D
Total	IV		267.0	264.8	531.8	1.64	11.1	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	65.7	91.0	0.18	7.1	E
Montlake Blvd NE	IV	30	30.6	14.0	44.6	0.23	18.7	C
20th Ave NE	IV	30	52.3	23.4	75.7	0.40	18.8	C
19th Ave NE	IV	30	7.6	7.5	15.1	0.03	8.0	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	14.4	27.1	0.06	7.4	E
15th Ave NE	IV	30	20.2	23.0	43.2	0.11	9.4	D
University Way NE	IV	30	12.2	9.7	21.9	0.05	8.8	E
Brooklyn Ave NE	IV	30	11.8	6.7	18.5	0.05	10.1	D
12th Ave NE	IV	30	11.5	7.9	19.4	0.05	9.4	D
11th Ave NE	IV	30	12.2	16.2	28.4	0.05	6.8	F
Roosevelt Way NE	IV	30	10.3	6.1	16.4	0.05	10.0	D
7th Ave NE	IV	30	23.3	44.4	67.7	0.16	8.2	E
5th Ave NE	IV	30	17.0	9.5	26.5	0.09	12.8	D
Total	IV		260.1	248.8	508.9	1.57	11.1	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	72.9	82.0	0.06	2.6	F
	III	30	34.6	18.8	53.4	0.27	18.4	C
Hospital Access	III	30	15.2	17.4	32.6	0.11	11.9	E
Montlake Blvd NE	III	30	11.6	5.3	16.9	0.07	15.9	D
Total	III		70.5	114.4	184.9	0.51	10.0	E

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	9.7	21.3	0.07	12.6	E
NE Pacific Pl	III	30	15.2	7.1	22.3	0.11	17.4	D
15th Ave NE	III	30	34.6	31.9	66.5	0.27	14.7	D
University Way NE	III	30	9.1	1.5	10.6	0.06	19.9	C
Total	III		70.5	50.2	120.7	0.51	15.3	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.1	57.0	0.15	9.2	D
NE 47th St	IV	30	18.9	25.8	44.7	0.13	10.2	D
NE 45th St	IV	30	19.1	109.9	129.0	0.13	3.5	F
NE 42nd St (north)	IV	30	28.3	16.4	44.7	0.20	16.3	C
NE 42nd St (south)	IV	30	13.6	11.1	24.7	0.06	8.7	E
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	198.8	316.2	0.75	8.5	E

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	132.5	151.0	0.10	2.4	F
NE 45th St	IV	30	18.0	22.5	40.5	0.10	8.9	E
	IV	30	19.0	11.1	30.1	0.13	15.2	C
NE 50th St	IV	30	18.9	66.8	85.7	0.13	5.3	F
Total	IV		74.4	232.9	307.3	0.46	5.3	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	65.1	84.1	0.13	5.4	F
	IV	30	22.6	38.7	61.3	0.15	8.9	E
NE Campus Pkwy	IV	30	12.4	4.5	16.9	0.05	11.6	D
UW Campus Parking Ac	IV	30	10.8	1.9	12.7	0.05	13.5	C
NE 42nd St	IV	30	18.4	12.6	31.0	0.10	11.9	D
NE 43rd St	IV	30	18.8	14.7	33.5	0.10	11.2	D
NE 45th St	IV	30	18.2	97.8	116.0	0.10	3.1	F
NE 47th St	IV	30	19.0	10.0	29.0	0.13	15.8	C
NE 50th St	IV	30	22.4	18.7	41.1	0.12	10.9	D
Total	IV		161.6	264.0	425.6	0.94	7.9	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	15.3	36.4	0.14	13.9	C
NE 47th St	IV	30	22.4	8.9	31.3	0.12	14.3	C
NE 45th St	IV	30	19.0	25.5	44.5	0.13	10.3	D
NE 43rd St	IV	30	18.2	7.3	25.5	0.10	14.3	C
NE 42nd St	IV	30	18.8	11.6	30.4	0.10	12.3	D
NE 41st St	IV	30	18.4	3.8	22.2	0.10	16.6	C
NE Campus Pkwy	IV	30	10.8	4.9	15.7	0.05	10.9	D
NE 40th St	IV	30	12.4	22.3	34.7	0.05	5.7	F
NE Pacific St	IV	30	22.6	130.6	153.2	0.15	3.5	F
Total	IV		163.7	230.2	393.9	0.95	8.7	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	46.6	64.0	0.13	7.3	F
520 EB/WB HOV Ramp	III	30	9.7	54.1	63.8	0.06	3.5	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	33.2	63.0	0.23	13.4	E
Husky Stadium Parkin	III	30	19.2	11.5	30.7	0.14	16.8	D
Montlake Blvd NE	III	34	61.5	2.7	64.2	0.58	32.3	A
NE 44th St	III	35	13.3	3.9	17.2	0.10	20.7	C
Total	III		157.7	152.1	309.8	1.29	15.0	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	21.6	57.0	0.30	18.6	C
Montlake Blvd NE	III	35	13.3	10.7	24.0	0.10	14.8	D
	III	34	61.5	15.7	77.2	0.58	26.9	B
NE Pacific St	III	30	19.2	20.8	40.0	0.14	12.9	E
E Hamlin St	III	30	29.8	1.2	31.0	0.23	27.3	B
	III	30	6.8	16.6	23.4	0.04	6.8	F
SR-520 EB Ramps	III	30	9.7	26.3	36.0	0.06	6.3	F
Total	III		175.7	112.9	288.6	1.46	18.2	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	36.8	69.0	0.24	12.7	D
	IV	30	17.0	18.3	35.3	0.09	9.6	D
Roosevelt Way NE	IV	30	23.3	25.5	48.8	0.16	11.4	D
11th Ave NE	IV	30	10.3	3.7	14.0	0.05	11.7	D
12th Ave NE	IV	30	12.2	5.3	17.5	0.05	11.1	D
Brooklyn Ave NE	IV	30	11.5	1.3	12.8	0.05	14.3	C
University Way NE	IV	30	11.8	9.3	21.1	0.05	8.9	E
15th Ave NE	IV	30	12.2	18.8	31.0	0.05	6.2	F
Memorial Way NE	IV	30	20.2	9.3	29.5	0.11	13.7	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	11.6	24.7	0.06	8.4	E
20th Ave NE	IV	30	7.6	1.7	9.3	0.03	13.0	D
Montlake Blvd NE	IV	30	52.3	74.0	126.3	0.40	11.3	D
Union Bay Pl NE	IV	30	30.6	50.4	81.0	0.23	10.3	D
Total	IV		267.0	267.2	534.2	1.64	11.0	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	65.7	91.0	0.18	7.1	E
Montlake Blvd NE	IV	30	30.6	14.4	45.0	0.23	18.6	C
20th Ave NE	IV	30	52.3	23.5	75.8	0.40	18.8	C
19th Ave NE	IV	30	7.6	8.2	15.8	0.03	7.6	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	15.0	27.7	0.06	7.3	E
15th Ave NE	IV	30	20.2	23.4	43.6	0.11	9.3	D
University Way NE	IV	30	12.2	9.3	21.5	0.05	9.0	E
Brooklyn Ave NE	IV	30	11.8	6.7	18.5	0.05	10.1	D
12th Ave NE	IV	30	11.5	8.1	19.6	0.05	9.3	D
11th Ave NE	IV	30	12.2	14.6	26.8	0.05	7.2	E
Roosevelt Way NE	IV	30	10.3	6.3	16.6	0.05	9.9	D
7th Ave NE	IV	30	23.3	43.0	66.3	0.16	8.4	E
5th Ave NE	IV	30	17.0	9.4	26.4	0.09	12.9	D
Total	IV		260.1	247.9	508.0	1.57	11.2	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	69.3	78.4	0.06	2.7	F
	III	30	34.6	18.3	52.9	0.27	18.5	C
Hospital Access	III	30	15.2	17.1	32.3	0.11	12.0	E
Montlake Blvd NE	III	30	11.6	5.3	16.9	0.07	15.9	D
Total	III		70.5	110.0	180.5	0.51	10.2	E

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	10.3	21.9	0.07	12.3	E
NE Pacific Pl	III	30	15.2	7.3	22.5	0.11	17.3	D
15th Ave NE	III	30	34.6	31.1	65.7	0.27	14.9	D
University Way NE	III	30	9.1	1.5	10.6	0.06	19.9	C
Total	III		70.5	50.2	120.7	0.51	15.3	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.2	57.1	0.15	9.2	D
NE 47th St	IV	30	18.9	25.7	44.6	0.13	10.2	D
NE 45th St	IV	30	19.1	108.5	127.6	0.13	3.6	F
NE 42nd St (north)	IV	30	28.3	16.4	44.7	0.20	16.3	C
NE 42nd St (south)	IV	30	13.6	10.2	23.8	0.06	9.1	D
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	196.5	313.9	0.75	8.6	E

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	142.4	160.9	0.10	2.3	F
NE 45th St	IV	30	18.0	21.8	39.8	0.10	9.1	D
	IV	30	19.0	11.7	30.7	0.13	14.9	C
NE 50th St	IV	30	18.9	66.2	85.1	0.13	5.3	F
Total	IV		74.4	242.1	316.5	0.46	5.2	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	89.4	108.4	0.13	4.2	F
	IV	30	22.6	39.6	62.2	0.15	8.7	E
NE Campus Pkwy	IV	30	12.4	4.3	16.7	0.05	11.8	D
UW Campus Parking Ac	IV	30	10.8	1.8	12.6	0.05	13.6	C
NE 42nd St	IV	30	18.4	12.6	31.0	0.10	11.9	D
NE 43rd St	IV	30	18.8	15.0	33.8	0.10	11.1	D
NE 45th St	IV	30	18.2	103.9	122.1	0.10	3.0	F
NE 47th St	IV	30	19.0	10.1	29.1	0.13	15.7	C
NE 50th St	IV	30	22.4	18.4	40.8	0.12	11.0	D
Total	IV		161.6	295.1	456.7	0.94	7.4	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	14.7	35.8	0.14	14.2	C
NE 47th St	IV	30	22.4	9.5	31.9	0.12	14.1	C
NE 45th St	IV	30	19.0	25.8	44.8	0.13	10.2	D
NE 43rd St	IV	30	18.2	7.4	25.6	0.10	14.2	C
NE 42nd St	IV	30	18.8	11.7	30.5	0.10	12.3	D
NE 41st St	IV	30	18.4	3.8	22.2	0.10	16.6	C
NE Campus Pkwy	IV	30	10.8	5.2	16.0	0.05	10.7	D
NE 40th St	IV	30	12.4	22.6	35.0	0.05	5.6	F
NE Pacific St	IV	30	22.6	142.2	164.8	0.15	3.3	F
Total	IV		163.7	242.9	406.6	0.95	8.4	E

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	45.9	63.3	0.13	7.4	F
520 EB/WB HOV Ramp	III	30	9.7	48.0	57.7	0.06	3.9	F
E Hamlin St	III	30	6.8	0.2	7.0	0.04	22.7	C
Husky Stadium Parkin	III	30	29.8	32.3	62.1	0.23	13.6	E
Husky Stadium Parkin	III	30	19.2	10.5	29.7	0.14	17.4	D
Montlake Blvd NE	III	34	61.5	2.5	64.0	0.58	32.4	A
NE 44th St	III	35	13.3	4.0	17.3	0.10	20.5	C
Total	III		157.7	143.4	301.1	1.29	15.4	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	21.8	57.2	0.30	18.6	C
Montlake Blvd NE	III	35	13.3	11.1	24.4	0.10	14.6	D
	III	34	61.5	10.6	72.1	0.58	28.8	B
NE Pacific St	III	30	19.2	22.9	42.1	0.14	12.3	E
E Hamlin St	III	30	29.8	1.0	30.8	0.23	27.4	B
	III	30	6.8	15.8	22.6	0.04	7.0	F
SR-520 EB Ramps	III	30	9.7	26.3	36.0	0.06	6.3	F
Total	III		175.7	109.5	285.2	1.46	18.4	C

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	36.5	68.7	0.24	12.8	D
	IV	30	17.0	18.3	35.3	0.09	9.6	D
Roosevelt Way NE	IV	30	23.3	25.4	48.7	0.16	11.5	D
11th Ave NE	IV	30	10.3	4.4	14.7	0.05	11.1	D
12th Ave NE	IV	30	12.2	5.3	17.5	0.05	11.1	D
Brooklyn Ave NE	IV	30	11.5	1.4	12.9	0.05	14.2	C
University Way NE	IV	30	11.8	9.7	21.5	0.05	8.7	E
15th Ave NE	IV	30	12.2	18.2	30.4	0.05	6.3	F
Memorial Way NE	IV	30	20.2	8.9	29.1	0.11	13.9	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	10.7	23.8	0.06	8.7	E
20th Ave NE	IV	30	7.6	1.9	9.5	0.03	12.7	D
Montlake Blvd NE	IV	30	52.3	71.9	124.2	0.40	11.5	D
Union Bay Pl NE	IV	30	30.6	51.0	81.6	0.23	10.2	D
Total	IV		267.0	264.8	531.8	1.64	11.1	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	65.8	91.1	0.18	7.1	E
Montlake Blvd NE	IV	30	30.6	13.2	43.8	0.23	19.1	B
20th Ave NE	IV	30	52.3	23.3	75.6	0.40	18.9	C
19th Ave NE	IV	30	7.6	7.1	14.7	0.03	8.2	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	13.9	26.6	0.06	7.6	E
15th Ave NE	IV	30	20.2	23.2	43.4	0.11	9.3	D
University Way NE	IV	30	12.2	9.8	22.0	0.05	8.8	E
Brooklyn Ave NE	IV	30	11.8	6.7	18.5	0.05	10.1	D
12th Ave NE	IV	30	11.5	8.3	19.8	0.05	9.2	D
11th Ave NE	IV	30	12.2	15.4	27.6	0.05	7.0	E
Roosevelt Way NE	IV	30	10.3	6.3	16.6	0.05	9.9	D
7th Ave NE	IV	30	23.3	44.2	67.5	0.16	8.3	E
5th Ave NE	IV	30	17.0	9.5	26.5	0.09	12.8	D
Total	IV		260.1	247.0	507.1	1.57	11.2	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	72.6	81.7	0.06	2.6	F
	III	30	34.6	20.0	54.6	0.27	18.0	D
Hospital Access	III	30	15.2	17.8	33.0	0.11	11.8	E
Montlake Blvd NE	III	30	11.6	5.5	17.1	0.07	15.7	D
Total	III		70.5	115.9	186.4	0.51	9.9	F

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	9.1	20.7	0.07	13.0	E
NE Pacific Pl	III	30	15.2	7.0	22.2	0.11	17.5	D
15th Ave NE	III	30	34.6	31.7	66.3	0.27	14.8	D
University Way NE	III	30	9.1	1.5	10.6	0.06	19.9	C
Total	III		70.5	49.3	119.8	0.51	15.4	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.2	57.1	0.15	9.2	D
NE 47th St	IV	30	18.9	25.9	44.8	0.13	10.1	D
NE 45th St	IV	30	19.1	111.7	130.8	0.13	3.5	F
NE 42nd St (north)	IV	30	28.3	16.5	44.8	0.20	16.3	C
NE 42nd St (south)	IV	30	13.6	11.2	24.8	0.06	8.7	E
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	201.0	318.4	0.75	8.5	E

Arterial Level of Service: NB 11th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 43rd St	IV	30	18.5	134.1	152.6	0.10	2.4	F
NE 45th St	IV	30	18.0	22.5	40.5	0.10	8.9	E
	IV	30	19.0	11.1	30.1	0.13	15.2	C
NE 50th St	IV	30	18.9	66.8	85.7	0.13	5.3	F
Total	IV		74.4	234.5	308.9	0.46	5.3	F

Arterial Level of Service: NB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE Pacific St	IV	30	19.0	43.2	62.2	0.13	7.3	E
	IV	30	22.6	40.0	62.6	0.15	8.7	E
NE Campus Pkwy	IV	30	12.4	4.9	17.3	0.05	11.4	D
UW Campus Parking Ac	IV	30	10.8	1.8	12.6	0.05	13.6	C
NE 42nd St	IV	30	18.4	13.0	31.4	0.10	11.7	D
NE 43rd St	IV	30	18.8	14.4	33.2	0.10	11.3	D
NE 45th St	IV	30	18.2	94.7	112.9	0.10	3.2	F
NE 47th St	IV	30	19.0	9.8	28.8	0.13	15.9	C
NE 50th St	IV	30	22.4	17.8	40.2	0.12	11.2	D
Total	IV		161.6	239.6	401.2	0.94	8.4	E

Arterial Level of Service: SB 15th Ave NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.1	15.3	36.4	0.14	13.9	C
NE 47th St	IV	30	22.4	8.5	30.9	0.12	14.5	C
NE 45th St	IV	30	19.0	23.9	42.9	0.13	10.6	D
NE 43rd St	IV	30	18.2	8.0	26.2	0.10	13.9	C
NE 42nd St	IV	30	18.8	11.7	30.5	0.10	12.3	D
NE 41st St	IV	30	18.4	3.5	21.9	0.10	16.8	C
NE Campus Pkwy	IV	30	10.8	5.5	16.3	0.05	10.5	D
NE 40th St	IV	30	12.4	22.5	34.9	0.05	5.6	F
NE Pacific St	IV	30	22.6	115.2	137.8	0.15	3.9	F
Total	IV		163.7	214.1	377.8	0.95	9.1	D

Arterial Level of Service: NB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Lake Washington Bl	III	30	17.4	47.0	64.4	0.13	7.2	F
520 EB/WB HOV Ramp	III	30	9.7	54.6	64.3	0.06	3.5	F
E Hamlin St	III	30	6.8	0.1	6.9	0.04	23.0	C
Husky Stadium Parkin	III	30	29.8	32.8	62.6	0.23	13.5	E
Husky Stadium Parkin	III	30	19.2	11.4	30.6	0.14	16.9	D
Montlake Blvd NE	III	34	61.5	2.7	64.2	0.58	32.3	A
NE 44th St	III	35	13.3	4.2	17.5	0.10	20.3	C
Total	III		157.7	152.8	310.5	1.29	15.0	D

Arterial Level of Service: SB Montlake Blvd NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pend Oreille Rd NE	III	35	35.4	22.5	57.9	0.30	18.3	C
Montlake Blvd NE	III	35	13.3	10.7	24.0	0.10	14.8	D
	III	34	61.5	17.9	79.4	0.58	26.1	B
NE Pacific St	III	30	19.2	20.4	39.6	0.14	13.1	E
E Hamlin St	III	30	29.8	1.3	31.1	0.23	27.2	B
	III	30	6.8	16.7	23.5	0.04	6.8	F
SR-520 EB Ramps	III	30	9.7	26.5	36.2	0.06	6.2	F
Total	III		175.7	116.0	291.7	1.46	18.0	D

Arterial Level of Service: EB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
5th Ave NE	IV	30	32.2	36.6	68.8	0.24	12.8	D
	IV	30	17.0	18.5	35.5	0.09	9.6	D
Roosevelt Way NE	IV	30	23.3	25.5	48.8	0.16	11.4	D
11th Ave NE	IV	30	10.3	3.7	14.0	0.05	11.7	D
12th Ave NE	IV	30	12.2	5.3	17.5	0.05	11.1	D
Brooklyn Ave NE	IV	30	11.5	1.3	12.8	0.05	14.3	C
University Way NE	IV	30	11.8	9.8	21.6	0.05	8.6	E
15th Ave NE	IV	30	12.2	18.7	30.9	0.05	6.2	F
Memorial Way NE	IV	30	20.2	7.6	27.8	0.11	14.6	C
18th Ave NE	IV	30	12.7	1.2	13.9	0.06	14.5	C
19th Ave NE	IV	30	13.1	11.9	25.0	0.06	8.3	E
20th Ave NE	IV	30	7.6	2.1	9.7	0.03	12.4	D
Montlake Blvd NE	IV	30	52.3	74.8	127.1	0.40	11.2	D
Union Bay Pl NE	IV	30	30.6	50.0	80.6	0.23	10.4	D
Total	IV		267.0	267.0	534.0	1.64	11.0	D

Arterial Level of Service: WB NE 45th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 45th Pl	IV	30	25.3	65.5	90.8	0.18	7.2	E
Montlake Blvd NE	IV	30	30.6	15.0	45.6	0.23	18.3	C
20th Ave NE	IV	30	52.3	23.3	75.6	0.40	18.9	C
19th Ave NE	IV	30	7.6	9.1	16.7	0.03	7.2	E
18th Ave NE	IV	30	13.1	0.3	13.4	0.06	15.5	C
17th Ave NE	IV	30	12.7	12.9	25.6	0.06	7.9	E
15th Ave NE	IV	30	20.2	25.2	45.4	0.11	8.9	E
University Way NE	IV	30	12.2	9.2	21.4	0.05	9.0	D
Brooklyn Ave NE	IV	30	11.8	6.6	18.4	0.05	10.2	D
12th Ave NE	IV	30	11.5	8.3	19.8	0.05	9.2	D
11th Ave NE	IV	30	12.2	14.9	27.1	0.05	7.1	E
Roosevelt Way NE	IV	30	10.3	6.4	16.7	0.05	9.8	D
7th Ave NE	IV	30	23.3	48.5	71.8	0.16	7.8	E
5th Ave NE	IV	30	17.0	9.6	26.6	0.09	12.8	D
Total	IV		260.1	254.8	514.9	1.57	11.0	D

Arterial Level of Service: EB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
15th Ave NE	III	30	9.1	40.8	49.9	0.06	4.2	F
	III	30	34.6	16.8	51.4	0.27	19.1	C
Hospital Access	III	30	15.2	17.0	32.2	0.11	12.1	E
Montlake Blvd NE	III	30	11.6	5.1	16.7	0.07	16.1	D
Total	III		70.5	79.7	150.2	0.51	12.3	E

Arterial Level of Service: WB NE Pacific St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Hospital Access	III	30	11.6	11.4	23.0	0.07	11.7	E
NE Pacific Pl	III	30	15.2	7.0	22.2	0.11	17.5	D
15th Ave NE	III	30	34.6	31.3	65.9	0.27	14.9	D
University Way NE	III	30	9.1	1.5	10.6	0.06	19.9	C
Total	III		70.5	51.2	121.7	0.51	15.2	D

Arterial Level of Service: SB Roosevelt Way NE

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
NE 50th St	IV	30	21.9	35.2	57.1	0.15	9.2	D
NE 47th St	IV	30	18.9	25.8	44.7	0.13	10.2	D
NE 45th St	IV	30	19.1	107.9	127.0	0.13	3.6	F
NE 42nd St (north)	IV	30	28.3	16.3	44.6	0.20	16.3	C
NE 42nd St (south)	IV	30	13.6	10.9	24.5	0.06	8.8	E
NE Campus Pkwy	IV	30	15.6	0.5	16.1	0.09	19.4	B
Total	IV		117.4	196.6	314.0	0.75	8.6	E

4 CORDON VOLUME ANALYSIS CALCULATIONS

Int Ref #	Cordon	Location	Direction	Existing Total Volume	2028 Base Volumes Total Volume	No Action Total Volume	Project Trips	Percent Project Share	Percent Increase	Total Volume	Project Trips
15	NE 45th Street	E/O 7th Avenue NE	EB	1,070	1,130	1,135	5	0%	0%	1,283	148
	NE 45th Street	E/O 7th Avenue NE	WB	975	1,085	1,095	10	1%	1%	1,342	247
23	NE 45th Street	E/O 15th Avenue NE	EB		1,020	1,015	0	0%	0%	1,107	92
	NE 45th Street	E/O 15th Avenue NE	WB		965	965	1	0%	0%	1,068	103
29	NE 45th Street	E/O Mary Gates Memorial Drive NE	EB		1,455	1,460	2	0%	0%	1,576	116
	NE 45th Street	E/O Mary Gates Memorial Drive NE	WB		1,050	1,055	2	0%	0%	1,136	81
4	Roosevelt Way NE	S/O NE 50th Street	SB		830	835	3	0%	1%	875	40
18	Roosevelt Way NE	S/O NE 45th Street	SB		1,215	1,220	3	0%	0%	1,277	57
5	11th Avenue NE	S/O NE 50th Street	NB		1,005	1,010	1	0%	0%	1,077	67
19	11th Avenue NE	S/O NE 45th Street	NB		1,340	1,345	4	0%	0%	1,504	159
58	University Bridge	N/O NE 40th Street	NB	1,065	1,270	1,270	0	0%	0%	1,304	34
	University Bridge	N/O NE 40th Street	SB	1,325	1,495	1,495	0	0%	0%	1,546	51
8	15th Avenue NE	S/O NE 50th Street	NB		620	625	2	0%	1%	671	46
	15th Avenue NE	S/O NE 50th Street	SB		420	420	1	0%	0%	435	15
23	15th Avenue NE	S/O NE 45th Street	NB		740	745	6	1%	1%	850	105
	15th Avenue NE	S/O NE 45th Street	SB		620	625	3	0%	1%	689	64
56	15th Avenue NE	N/O NE Campus Parkway	NB		610	615	6	1%	1%	736	121
	15th Avenue NE	N/O NE Campus Parkway	SB		610	615	5	1%	1%	724	109
67	15th Avenue NE	N/O NE Pacific Street	NB		410	415	7	2%	1%	550	135
	15th Avenue NE	N/O NE Pacific Street	SB		620	630	7	1%	2%	738	108
63	NE Pacific Street	E/O 6th Avenue NE	EB	695	785	790	3	0%	1%	966	176
	NE Pacific Street	E/O 6th Avenue NE	WB	650	805	815	6	1%	1%	1,000	185
67	NE Pacific Street	E/O 15th Avenue NE	EB		1,640	1,660	16	1%	1%	1,993	333
	NE Pacific Street	E/O 15th Avenue NE	WB		745	755	8	1%	1%	990	235
77	NE Pacific Street	W/O Montlake Bouldvard NE	EB		1,230	1,245	12	1%	1%	1,444	199
	NE Pacific Street	W/O Montlake Bouldvard NE	WB		725	730	6	1%	1%	864	134
38	Montlake Boulevard NE	S/O NE 44th Street	NB		2,190	2,195	4	0%	0%	2,391	196
	Montlake Boulevard NE	S/O NE 44th Street	SB		1,115	1,120	2	0%	0%	1,286	166
71	Montlake Boulevard NE	N/O Wahkiakum Road	NB		2,240	2,245	4	0%	0%	2,441	196
	Montlake Boulevard NE	N/O Wahkiakum Road	SB		980	980	2	0%	0%	1,146	166
77	Montlake Boulevard NE	N/O NE Pacific Street	NB		1,690	1,690	0	0%	0%	1,727	37
	Montlake Boulevard NE	N/O NE Pacific Street	SB		1,120	1,115	0	0%	0%	1,187	72
78	Montlake Boulevard NE	N/O SR 520	NB	2,275	2,525	2,535	6	0%	0%	2,711	176
	Montlake Boulevard NE	N/O SR 520	SB	2,290	2,265	2,280	12	1%	1%	2,551	71
		Inbound			**9,125**	**9,160**	**22**	**0%**	**0%**	**9,996**	**836**
		Outbound			**10,920**	**10,975**	**37**	**0%**	**0%**	**12,154**	**979**

Alternative 1				Alternative 2				Alternative 3				Alternative 4
Percent Project Share	Percent Increase	Total Volume	Project Trips	Percent Project Share	Percent Increase	Total Volume	Project Trips	Percent Project Share	Percent Increase	Total Volume	Project Trips	Percent Project Share
12%	13%	1,285	150	12%	13%	1,283	148	12%	13%	1,289	154	12%
18%	23%	1,338	243	18%	22%	1,342	247	18%	23%	1,352	257	19%
8%	9%	1,115	100	9%	10%	1,097	82	7%	8%	1,135	120	11%
10%	11%	1,084	119	11%	12%	1,054	89	8%	9%	1,106	141	13%
7%	8%	1,576	116	7%	8%	1,576	116	7%	8%	1,575	115	7%
7%	8%	1,135	80	7%	8%	1,135	80	7%	8%	1,136	81	7%
5%	5%	871	36	4%	4%	881	46	5%	6%	870	35	4%
4%	5%	1,272	52	4%	4%	1,284	64	5%	5%	1,265	45	4%
6%	7%	1,069	59	6%	6%	1,081	71	7%	7%	1,068	58	5%
11%	12%	1,484	139	9%	10%	1,514	169	11%	13%	1,488	143	10%
3%	3%	1,300	30	2%	2%	1,306	36	3%	3%	1,305	35	3%
3%	3%	1,539	44	3%	3%	1,549	54	3%	4%	1,546	51	3%
7%	7%	667	42	6%	7%	678	53	8%	8%	653	28	4%
3%	4%	435	15	3%	4%	440	20	5%	5%	422	2	0%
12%	14%	842	97	12%	13%	863	118	14%	16%	815	70	9%
9%	10%	687	62	9%	10%	698	73	10%	12%	665	40	6%
16%	20%	728	113	16%	18%	755	140	19%	23%	684	69	10%
15%	18%	718	103	14%	17%	738	123	17%	20%	688	73	11%
25%	33%	541	126	23%	30%	571	156	27%	38%	498	83	17%
15%	17%	732	102	14%	16%	754	124	16%	20%	705	75	11%
18%	22%	961	171	18%	22%	974	184	19%	23%	951	161	17%
19%	23%	997	182	18%	22%	1,000	185	19%	23%	999	184	18%
17%	20%	1,976	316	16%	19%	2,027	367	18%	22%	1,914	254	13%
24%	31%	984	229	23%	30%	1,002	247	25%	33%	959	204	21%
14%	16%	1,426	181	13%	15%	1,470	225	15%	18%	1,385	140	10%
16%	18%	857	127	15%	17%	871	141	16%	19%	843	113	13%
8%	9%	2,427	232	10%	11%	2,367	172	7%	8%	2,429	234	10%
13%	15%	1,318	198	15%	18%	1,264	144	11%	13%	1,327	207	16%
8%	9%	2,477	232	9%	10%	2,417	172	7%	8%	2,479	234	9%
14%	17%	1,178	198	17%	20%	1,124	144	13%	15%	1,187	207	17%
2%	2%	1,741	51	3%	3%	1,713	23	1%	1%	1,754	64	4%
6%	6%	1,222	107	9%	10%	1,155	40	3%	4%	1,244	129	10%
6%	7%	2,722	187	7%	7%	2,700	165	6%	7%	2,723	188	7%
3%	12%	2,568	88	3%	13%	2,545	65	3%	12%	2,549	69	3%
8%	**9%**	**10,027**	**867**	**9%**	**9%**	**9,983**	**823**	**8%**	**9%**	**10,023**	**863**	**9%**
8%	**11%**	**12,181**	**1,006**	**8%**	**11%**	**12,138**	**963**	**8%**	**11%**	**12,171**	**996**	**8%**

	Alternative 5.1				Alternative 5.2				Alternative 5.3			
Percent Increase	Total Volume	Project Trips	Percent Project Share	Percent Increase	Total Volume	Project Trips	Percent Project Share	Percent Increase	Total Volume	Project Trips	Percent Project Share	Percent Increase
14%	1,282	147	11%	13%	1,284	149	12%	13%	1,284	149	12%	13%
23%	1,342	247	18%	23%	1,338	243	18%	22%	1,342	247	18%	23%
12%	1,107	92	8%	9%	1,115	100	9%	10%	1,097	82	7%	8%
15%	1,068	103	10%	11%	1,084	119	11%	12%	1,054	89	8%	9%
8%	1,576	116	7%	8%	1,576	116	7%	8%	1,576	116	7%	8%
8%	1,136	81	7%	8%	1,135	80	7%	8%	1,136	81	7%	8%
4%	876	41	5%	5%	872	37	4%	4%	881	46	5%	6%
4%	1,278	58	5%	5%	1,273	53	4%	4%	1,285	65	5%	5%
6%	1,077	67	6%	7%	1,069	59	6%	6%	1,081	71	7%	7%
11%	1,504	159	11%	12%	1,484	139	9%	10%	1,514	169	11%	13%
3%	974	34	3%	-23%	970	30	3%	-24%	975	35	4%	-23%
3%	1,546	51	3%	3%	1,539	44	3%	3%	1,549	54	3%	4%
4%	671	46	7%	7%	667	42	6%	7%	678	53	8%	8%
0%	435	15	3%	4%	435	15	3%	4%	439	19	4%	5%
9%	850	105	12%	14%	842	97	12%	13%	863	118	14%	16%
6%	688	63	9%	10%	686	61	9%	10%	697	72	10%	12%
11%	736	121	16%	20%	728	113	16%	18%	755	140	19%	23%
12%	724	109	15%	18%	718	103	14%	17%	738	123	17%	20%
20%	550	135	25%	33%	541	126	23%	30%	571	156	27%	38%
12%	738	108	15%	17%	732	102	14%	16%	754	124	16%	20%
20%	966	176	18%	22%	961	171	18%	22%	974	184	19%	23%
23%	1,000	185	19%	23%	997	182	18%	22%	999	184	18%	23%
15%	1,993	333	17%	20%	1,976	316	16%	19%	2,027	367	18%	22%
27%	990	235	24%	31%	984	229	23%	30%	1,002	247	25%	33%
11%	1,444	199	14%	16%	1,426	181	13%	15%	1,470	225	15%	18%
15%	864	134	16%	18%	857	127	15%	17%	871	141	16%	19%
11%	2,391	196	8%	9%	2,427	232	10%	11%	2,367	172	7%	8%
18%	1,286	166	13%	15%	1,318	198	15%	18%	1,264	144	11%	13%
10%	2,441	196	8%	9%	2,477	232	9%	10%	2,417	172	7%	8%
21%	1,146	166	14%	17%	1,178	198	17%	20%	1,124	144	13%	15%
4%	1,727	37	2%	2%	1,741	51	3%	3%	1,713	23	1%	1%
12%	1,187	72	6%	6%	1,222	107	9%	10%	1,155	40	3%	4%
7%	2,711	176	6%	7%	2,722	187	7%	7%	2,700	165	6%	7%
12%	2,551	271	11%	12%	2,568	288	11%	13%	2,545	265	10%	12%
9%	**9,666**	**836**	**9%**	**6%**	**9,697**	**867**	**9%**	**6%**	**9,653**	**823**	**9%**	**5%**
11%	**12,154**	**1,179**	**10%**	**11%**	**12,181**	**1,206**	**10%**	**11%**	**12,137**	**1,162**	**10%**	**11%**

		Alternative 5.4	
Total Volume	Project Trips	Percent Project Share	Percent Increase
1,289	154	12%	14%
1,352	257	19%	23%
1,135	120	11%	12%
1,106	141	13%	15%
1,575	115	7%	8%
1,136	81	7%	8%
870	35	4%	4%
1,265	45	4%	4%
1,068	58	5%	6%
1,488	143	10%	11%
975	35	4%	-23%
1,546	51	3%	3%
653	28	4%	4%
422	2	0%	0%
815	70	9%	9%
665	40	6%	6%
684	69	10%	11%
688	73	11%	12%
498	83	17%	20%
705	75	11%	12%
951	161	17%	20%
999	184	18%	23%
1,914	254	13%	15%
959	204	21%	27%
1,385	140	10%	11%
843	113	13%	15%
2,429	234	10%	11%
1,327	207	16%	18%
2,479	234	9%	10%
1,187	207	17%	21%
1,754	64	4%	4%
1,244	129	10%	12%
2,723	188	7%	7%
2,549	269	11%	12%
9,693	**863**	**9%**	**6%**
12,171	**1,196**	**10%**	**11%**

5 SCREENLINE ANALYSIS VOLUMES & CALCULATIONS

Int Ref #	Screenline	Location	Direction	Capacity 2016	Capacity 2035	Capacity 2028	LOS Standard (V/C)	Existing to No Action Comparison: 2015 Existing Volume	Existing V/C Ratio	2028 No Action Volume	2028 No Action V/C Ratio	Change	Percent Change
Screenline 5.16													
58	University Bridge	N/O NE 40th Street	NB	1,450	2,210	1,930	1.20	1065	0.73	1,270	0.66	205	19%
	University Bridge	N/O NE 40th Street	SB	1,450	2,210	1,930	1.20	1325	0.91	1,495	0.77	170	13%
78	Montlake Boulevard NE	N/O SR 520	NB	2,400	2,210	2,280	1.20	2275	0.95	2,535	1.11	260	11%
	Montlake Boulevard NE	N/O SR 520	SB	2,400	2,210	2,280	1.20	2290	0.95	2,280	1.00	-10	0%
Screenline 5.16 Total			Total	7700	8840	8420	1.20	6955	0.90	7,580	0.90	625	9%
			NB	3,850	4,420	4,210	1.20	3,340	0.87	3,805	0.90	465	14%
			SB	3,850	4,420	4,210	1.20	3,615	0.94	3,775	0.90	160	4%
Screenline 13.13													
2	NE 50th Street	E/O 7th Avenue NE	EB	1,450	1,540	1,507	1.00	820	0.57	870	0.58	50	6%
	NE 50th Street	E/O 7th Avenue NE	WB	1,450	1,540	1,507	1.00	1,290	0.89	1,070	0.71	-220	-17%
15	NE 45th Street	E/O 7th Avenue NE	EB	1,450	2,040	1,823	1.00	1070	0.74	1,135	0.62	65	6%
	NE 45th Street	E/O 7th Avenue NE	WB	1,450	2,040	1,823	1.00	975	0.67	1,095	0.60	120	12%
44	NE 42nd Street	E/O 7th Avenue NE	EB	800	770	781	1.00	285	0.36	245	0.31	-40	-14%
	NE 42nd Street	E/O 7th Avenue NE	WB	800	770	781	1.00	205	0.26	215	0.28	10	5%
51	NE 40th Street	E/O 7th Avenue NE	EB	800	770	781	1.00	375	0.47	470	0.60	95	25%
	NE 40th Street	E/O 7th Avenue NE	WB	800	770	781	1.00	500	0.63	585	0.75	85	17%
63	NE Pacific Street	E/O 6th Avenue NE	EB	1,600	1,010	1,227	1.00	695	0.43	790	0.64	95	14%
	NE Pacific Street	E/O 6th Avenue NE	WB	1,600	1,010	1,227	1.00	650	0.41	815	0.66	165	25%
Screenline 13.13 Total			Total	12,200	12,260	12,238	1.00	6,865	0.56	7290	0.60	425	6%
			EB	6,100	6,130	6,119	1.00	3,245	0.53	3,510	0.57	265	8%
			WB	6,100	6,130	6,119	1.00	3,620	0.59	3,780	0.62	160	4%

				Capacity				No Action to Alternative Comparison															
Int Ref #	Screenline	Location	Direction	2016	2035	2028	LOS Standard (V/C)	2028 Alternative 1 Volume	2028 Alternative 1 V/C Ratio	Change	Percent Change	2028 Alternative 2 Volume	2028 Alternative 2 V/C Ratio	Change	Percent Change	2028 Alternative 3 Volume	2028 Alternative 3 V/C Ratio	Change	Percent Change	2028 Alternative 4 Volume	2028 Alternative 4 V/C Ratio	Change	Percent Change
Screenline 5.16																							
58	University Bridge	N/O NE 40th Street	NB	1,450	2,210	1,930	1.20	1,304	0.68	34	3%	1,300	0.67	30	2%	1,306	0.68	36	3%	1,305	0.68	35	3%
	University Bridge	N/O NE 40th Street	SB	1,450	2,210	1,930	1.20	1,546	0.80	51	3%	1,539	0.80	44	3%	1,549	0.80	54	4%	1,546	0.80	51	3%
78	Montlake Boulevard NE	N/O SR 520	NB	2,400	2,210	2,280	1.20	2,711	1.19	176	7%	2,722	1.19	187	7%	2,700	1.18	165	7%	2,723	1.19	188	7%
	Montlake Boulevard NE	N/O SR 520	SB	2,400	2,210	2,280	1.20	2,551	1.12	271	12%	2,568	1.13	288	13%	2,545	1.12	265	12%	2,549	1.12	269	12%
Screenline 5.16 Tota			Total	7700	8840	8420	1.20	8,112	0.96	532	7%	8,129	0.97	549	7%	8,100	0.96	520	7%	8,123	0.96	543	7%
			NB	3,850	4,420	4,210	1.20	4,015	0.95	210	6%	4,022	0.96	217	6%	4,006	0.95	201	5%	4,028	0.96	223	6%
			SB	3,850	4,420	4,210	1.20	4,097	0.97	322	9%	4,107	0.98	332	9%	4,094	0.97	319	8%	4,095	0.97	320	8%
Screenline 13.13																							
2	NE 50th Street	E/O 7th Avenue NE	EB	1,450	1,540	1,507	1.00	939	0.62	69	8%	868	0.58	-2	0%	941	0.62	71	8%	935	0.62	65	7%
	NE 50th Street	E/O 7th Avenue NE	WB	1,450	1,540	1,507	1.00	1,169	0.78	99	9%	1,445	0.96	375	35%	1,170	0.78	100	9%	1,162	0.77	92	9%
15	NE 45th Street	E/O 7th Avenue NE	EB	1,450	2,040	1,823	1.00	1,283	0.70	148	13%	1,285	0.71	150	13%	1,283	0.70	148	13%	1,289	0.71	154	14%
	NE 45th Street	E/O 7th Avenue NE	WB	1,450	2,040	1,823	1.00	1,342	0.74	247	23%	1,338	0.73	243	22%	1,342	0.74	247	23%	1,352	0.74	257	23%
44	NE 42nd Street	E/O 7th Avenue NE	EB	800	770	781	1.00	257	0.33	12	5%	255	0.33	10	4%	257	0.33	12	5%	257	0.33	12	5%
	NE 42nd Street	E/O 7th Avenue NE	WB	800	770	781	1.00	228	0.29	13	6%	226	0.29	11	5%	230	0.29	15	7%	229	0.29	14	7%
51	NE 40th Street	E/O 7th Avenue NE	EB	800	770	781	1.00	470	0.60	0	0%	470	0.60	0	0%	470	0.60	0	0%	470	0.60	0	0%
	NE 40th Street	E/O 7th Avenue NE	WB	800	770	781	1.00	600	0.77	15	3%	598	0.77	13	2%	601	0.77	16	3%	600	0.77	15	3%
63	NE Pacific Street	E/O 6th Avenue NE	EB	1,600	1,010	1,227	1.00	966	0.79	176	22%	961	0.78	171	22%	974	0.79	184	23%	951	0.77	161	20%
	NE Pacific Street	E/O 6th Avenue NE	WB	1,600	1,010	1,227	1.00	1,000	0.81	185	23%	997	0.81	182	22%	1,000	0.81	185	23%	999	0.81	184	23%
Screenline 13.13 Tota			Total	12,200	12,260	12,238	1.00	8254	0.67	964	13%	8443	0.69	1,153	16%	8268	0.68	978	13%	8244	0.67	954	13%
			EB	6,100	6,130	6,119	1.00	3,915	0.64	405	12%	3,839	0.63	329	9%	3,925	0.64	415	12%	3,902	0.64	392	11%
			WB	6,100	6,130	6,119	1.00	4,339	0.71	559	15%	4,604	0.75	824	22%	4,343	0.71	563	15%	4,342	0.71	562	15%

				Capacity			LOS	Alternative to Cumulative Analysis Comparison													
Int Ref #	Screenline	Location	Direction	2016	2035	2028	Standard (V/C)	2028 Alternative 1 Cumulative Volume	2028 Alternative 1 V/C Ratio	Change	Percent Change	2028 Alternative 2 Cumulative Volume	2028 Alternative 2 V/C Ratio	Change	Percent Change	2028 Alternative 3 Cumulative Volume	2028 Alternative 3 V/C Ratio	Change	Percent Change	2028 Alternative 4 Cumulative Volume	2028 Alternative 4 V/C Ratio	Change	Percent Change
Screenline 5.16																							
58	University Bridge	N/O NE 40th Street	NB	1,450	2,210	1,930	1.20	1,344	0.70	40	3%	1,340	0.69	40	3%	1,346	0.70	40	3%	1,346	0.70	41	3%
	University Bridge	N/O NE 40th Street	SB	1,450	2,210	1,930	1.20	1,781	0.92	235	15%	1,774	0.92	235	15%	1,784	0.92	235	15%	1,784	0.92	238	15%
78	Montlake Boulevard NE	N/O SR 520	NB	2,400	2,210	2,280	1.20	2,701	1.18	-10	0%	2,712	1.19	-10	0%	2,690	1.18	-10	0%	2,690	1.18	-33	-1%
	Montlake Boulevard NE	N/O SR 520	SB	2,400	2,210	2,280	1.20	2,541	1.11	-10	0%	2,558	1.12	-10	0%	2,535	1.11	-10	0%	2,535	1.11	-14	-1%
Screenline 5.16 Tota			Total	7700	8840	8420	1.20	8,367	0.99	255	10%	8,384	1.00	255	11%	8,355	0.99	255	10%	8,355	0.99	232	10%
			NB	3,850	4,420	4,210	1.20	4,045	0.96	30	6%	4,052	0.96	30	6%	4,036	0.96	30	6%	4,036	0.96	8	6%
			SB	3,850	4,420	4,210	1.20	4,322	1.03	225	14%	4,332	1.03	225	15%	4,319	1.03	225	14%	4,319	1.03	224	14%
Screenline 13.13																							
2	NE 50th Street	E/O 7th Avenue NE	EB	1,450	1,540	1,507	1.00	789	0.52	-150	-16%	788	0.52	-80	-9%	791	0.52	-150	-16%	785	0.52	-150	-16%
	NE 50th Street	E/O 7th Avenue NE	WB	1,450	1,540	1,507	1.00	1,029	0.68	-140	-12%	1,027	0.68	-418	-29%	1,030	0.68	-140	-12%	1,022	0.68	-140	-12%
15	NE 45th Street	E/O 7th Avenue NE	EB	1,450	2,040	1,823	1.00	1,163	0.64	-120	-9%	1,165	0.64	-120	-9%	1,163	0.64	-120	-9%	1,169	0.64	-120	-9%
	NE 45th Street	E/O 7th Avenue NE	WB	1,450	2,040	1,823	1.00	1,217	0.67	-125	-9%	1,213	0.67	-125	-9%	1,217	0.67	-125	-9%	1,227	0.67	-125	-9%
44	NE 42nd Street	E/O 7th Avenue NE	EB	800	770	781	1.00	347	0.44	90	35%	347	0.44	92	36%	347	0.44	90	35%	347	0.44	90	35%
	NE 42nd Street	E/O 7th Avenue NE	WB	800	770	781	1.00	238	0.30	10	4%	238	0.30	12	5%	238	0.30	8	3%	238	0.30	9	4%
51	NE 40th Street	E/O 7th Avenue NE	EB	800	770	781	1.00	430	0.55	-40	-9%	430	0.55	-40	-9%	430	0.55	-40	-9%	430	0.55	-40	-9%
	NE 40th Street	E/O 7th Avenue NE	WB	800	770	781	1.00	510	0.65	-90	-15%	508	0.65	-90	-15%	511	0.65	-90	-15%	511	0.65	-89	-15%
63	NE Pacific Street	E/O 6th Avenue NE	EB	1,600	1,010	1,227	1.00	916	0.75	-50	-5%	911	0.74	-50	-5%	924	0.75	-50	-5%	924	0.75	-27	-3%
	NE Pacific Street	E/O 6th Avenue NE	WB	1,600	1,010	1,227	1.00	900	0.73	-100	-10%	897	0.73	-100	-10%	900	0.73	-100	-10%	900	0.73	-99	-10%
Screenline 13.13 Tota			Total	12,200	12,260	12,238	1.00	7,539	0.62	-715	-9%	7,524	0.61	-919	-11%	7,551	0.62	-717	-9%	7,553	0.62	-691	-8%
			EB	6,100	6,130	6,119	1.00	3,645	0.60	-270	-7%	3,641	0.60	-198	-5%	3,655	0.60	-270	-7%	3,655	0.60	-247	-6%
			WB	6,100	6,130	6,119	1.00	3,894	0.64	-445	-10%	3,883	0.63	-721	-16%	3,896	0.64	-447	-10%	3,898	0.64	-444	-10%

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